



Medicine and Cosmology in Classical Greece: First Principles in Early Greek Medicine

Citation

Camden, David Hayden. 2016. Medicine and Cosmology in Classical Greece: First Principles in Early Greek Medicine. Doctoral dissertation, Harvard University, Graduate School of Arts & Sciences.

Permanent link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:33840699>

Terms of Use

This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at <http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA>

Share Your Story

The Harvard community has made this article openly available.
Please share how this access benefits you. [Submit a story](#).

[Accessibility](#)

Medicine and Cosmology in Classical Greece: First Principles in Early Greek Medicine

A dissertation presented

by

David Hayden Camden

to

The Department of the Classics

in partial fulfillment of the requirements
for the degree of
Doctor of Philosophy
in the subject of
Classical Philology

Harvard University
Cambridge, Massachusetts

September 2016

© 2016 David Hayden Camden
All rights reserved.

Medicine and Cosmology in Classical Greece: First Principles in Early Greek Medicine

ABSTRACT

In the fifth and fourth centuries BCE, a number of “doctor-cosmologists” attempted to base the art of healing on the elements, laws, and fundamental forces that govern the universe as a whole. This study examines the major sources for this movement, with the primary goal of understanding how this movement came to be. Chapter 1 examines three second-hand reports: (1) the testimonies on Petron and Philistion in the *Anonymus Londiniensis*, (2) the speech of Eryximachus in Plato’s *Symposium*, and (3) *On Ancient Medicine*. Chapters 2–5 then examine the four most important works by doctor-cosmologists to have survived from the Classical period: *On the Nature of the Human Being*, *On Breaths*, *On Flesh*, and *On Regimen*. Over the course of this study, I argue that many of the same pressures that led to the production of works like *On Regimen in Acute Diseases* and the seven books of *Epidemics* can also be seen in the works of the doctor-cosmologists. All of these medical writers believed that individual variation constitutes a significant impediment to the art, and that the state of medical knowledge can be improved, even perfected, by focusing on what is “common” and “fixed,” that is, on what remains stable when other variables change. Other major conclusions include the observation that *On Ancient Medicine* is an unreliable witness to what the doctor-cosmologists were doing; that these doctors combined their first principles with more traditional models of pathogenesis; that many of their theories can be elucidated by considering specifically medical modes of thought; and that the author of *On Regimen* in particular develops a significant theory about the cosmos—a theory that is not only highly developed and internally consistent, but has many affinities with the fragments of Parmenides, Heraclitus, and Empedocles.

Table of Contents

Abstract	iii
Table of Contents	iv
Preface	v
Introduction	1
Chapter 1: Three second-hand reports	
1.1 <i>Anonymus Londiniensis</i>	9
1.2 Plato's <i>Symposium</i>	17
1.3 <i>On Ancient Medicine</i>	32
Chapter 2: <i>On the Nature of the Human Being</i>	52
Chapter 3: <i>On Breaths</i>	70
Chapter 4: <i>On Flesh</i>	135
Chapter 5: <i>On Regimen</i>	164
Conclusion	280
Bibliography	283

Preface

Abbreviations of Greek authors and their works are taken from Liddell, Scott, and Jones, hereafter LSJ. Works in the Hippocratic Corpus are first cited by their paragraph and section number, then by the volume and page number in Littré, hereafter L. The paragraph and section numbers are taken from the most recent editions, with preference given to the *Corpus Medicorum Graecorum*, Budé, and Loeb editions, in that order. For *Diseases of Unwed Girls*, I follow the divisions of Lami (2007). All Greek texts are based on these same editions, although I have occasionally found it preferable to adopt my own readings, the most significant of which are flagged in the footnotes. The fragments of early Greek cosmologists (Parmenides, Heraclitus, Empedocles, etc.) are cited in accordance with Diels-Kranz, hereafter DK. The fragments of Greek comedy are cited in accordance with Kassel and Austin, hereafter K.–A. Cuneiform texts are cited from various collections, including R. Campbell Thompson's *Assyrian Medical Texts* (hereafter AMT), Köcher's *Babylonisch-assyrische Medizin* (hereafter BAM), and Gurney and Finkelstein's *The Sultantepe Tablets* (hereafter STT).

This study is dedicated to my parents, Rodney and Betty Camden, and my wife, Elizabeth Engelhardt. Special thanks go to my two readers, Gisela Striker and Nancy Worman, and especially my dissertation advisor, Mark Schiefsky. It was Mark who first nurtured my budding interest in the Hippocratic Corpus. More than anyone else, he has shaped my thinking about what early Greek medicine is all about. I would also like to extend a heartfelt thanks to the faculty, staff, and students of Emory University. Their unflagging support during my year as a visiting lecturer was crucial to helping me see this project to the end.

Introduction

Cosmology is the study of the underlying order that structures and governs the universe as a whole. It can be defined more precisely as the combination of two activities: (1) the identification and description of the first principles of all things, and (2) the explanation of natural phenomena with reference to those principles. The following study concerns a group of physicians I will call, for lack of a better term, “doctor-cosmologists.” These physicians all lived in the Greek-speaking world during the fifth and fourth centuries BCE. What defines them as “cosmologists” is their attempt to base the art of healing on the first principles of all things in general (i.e., the elements, laws, and fundamental forces that govern the universe as a whole). For most students of Greek literature, the best known example of a “doctor-cosmologist” is the physician Eryximachus. His speech in Plato’s *Symposium* defines ἔρως (“love”) as a universal power, present “in the bodies of all animals, in the things that grow in the earth, and in practically all that is” (ὡς ἔπος εἰπεῖν ἐν πᾶσι τοῖς οὖσι, 186a). Eryximachus compares the role of ἔρως in six crafts—medicine, gymnastics, agriculture, music, astronomy, and divination—all in order to show that this principle “extends over everything, both human and divine” (ἐπὶ πᾶν ... τείνει, καὶ κατ’ ἀνθρώπινα καὶ κατὰ θεῖα πράγματα, 186b), and “has a great, a strong, nay an absolute power” (πολλὴν καὶ μεγάλην, μᾶλλον δὲ πᾶσαν δύναμιν ἔχει, 188d). The Hippocratic treatise *On Breaths* describes πνεῦμα (“breath, wind”) in similar terms. Πνεῦμα is “the greatest potentate in the universe and over the universe” (μέγιστος ἐν τοῖσι πᾶσι τῶν πάντων δυνάστης, *Flat.* 3.2, 6.94 L.), and it is the “origin and source” (ἀρχὴ καὶ πηγὴ, 1.4, 6.92 L.) of all diseases in the sick. Other texts in the Hippocratic Corpus further illustrate this trend. *On Regimen* asserts that all animals, including humans, are composed of fire and water. Fire has the “power” (δύναμις) to move all things, water the power to nourish all things, and these two substances are “sufficient in themselves, both for each other and for everything else” (αὐτάρκεά ἐστι τοῖσί τε ἄλλοισι πᾶσι καὶ

ἀλλήλοισιν, *Vict.* 3.1, 6.472 L.). Another text, *On Flesh*, presents anatomy in a framework of anthropogony. It begins by dividing the cosmos into the hot, the cold, and the wet, and it then explains how each part of the body, with the aid of the “fatty” (τὸ λιπαρόν) and the “glutinous” (τὸ κολλῶδες), arose from these three substances. Then there is the *Anonymus Londiniensis*, a first-century papyrus that summarizes earlier medical theories, which mentions several Greek doctors with an interest in cosmology. To cite just one example, Philistion of Locri is said to have held that humans are composed of four “forms” (ἰδέαι): fire, air, water, and earth. To each of these forms he assigned a “power” (δύναμις). To fire he assigned the hot, to air the cold, to water the wet, and to earth the dry (*Anon. Lond.* XX.25–37).

This list could be expanded with other known doctor-cosmologists, figures like Petron of Aegina, the unnamed opponents of *On Ancient Medicine*, and Polybus of Cos, the presumptive author of the treatise *On the Nature of the Human Being*. Together, they suggest that the Classical period was a time when many Greek doctors were interested in cosmology. It was a time when physicians were attempting to base the art of healing on a limited number of principles, generalized to the highest possible degree, while asserting that the same “powers” (δυνάμεις) that govern the universe in its entirety are also the “source” (ἀρχή) of all changes in the body. As the author of *On Ancient Medicine* succinctly notes, many doctors in this period were attempting to speak or write about medicine “after laying down a foundation for their account” (ὑπόθεσιν αὐτοὶ ἑωυτοῖσιν ὑποθέμενοι τῷ λόγῳ, *VM* 1.1, 1.570 L.). They were “narrowing down the primary cause of diseases and death for human beings” and making that cause “the same for all,” setting up “one or two” principles like “the hot, the cold, the wet, the dry—or whatever else they please” (*VM* 1.1, 1.570 L.).

The primary goal of this study is to understand how these doctor-cosmologists came to be. What led them to adopt such universalizing theories, and what can their theories tell us about the

priorities of Greek doctors in the fifth and fourth centuries BCE? These questions are not easy to answer, primarily because the intermixture of medicine with cosmology cannot be attributed to any single, centralized authority. There was no “school” of cosmological medicine, no one thinker to whom all of these doctors were responding. Nowadays, most scholars would agree that an important role was played by the “inquiry into nature” (περὶ φύσεως ἱστορία), the tradition of cosmological speculation that is commonly said to have begun with Thales, Anaximander, and Anaximenes of Miletus in the sixth century BCE. It is now generally agreed that this tradition lent authority and inspiration to the doctor-cosmologists. The precise nature of its contribution, however, has never been clearly defined.

In previous treatments of the doctor-cosmologists, scholars have tended to begin with the framework of medicine’s interactions with “philosophy.” Under this rubric, the doctor-cosmologists are presented as either aspiring participants in the “inquiry into nature” or as passive recipients of philosophy’s spreading influence. In the third volume of his *Paideia: The Ideals of Greek Culture* (1944), Jaeger exemplifies this approach when he describes a three-stage process of mutual influence between medicine and philosophy: first, philosophy influenced medicine, then medicine philosophy, and finally philosophy and medicine fell in danger of being confused. “It was entirely natural,” Jaeger concludes, “that, when the great concepts of natural philosophy were taken over into medicine, its cosmological ideas should enter along with them and disturb men’s minds.”¹ This characterization of cosmology as something that “entered into” medicine can be found in numerous accounts of the doctor-cosmologists. It has its roots in a modern tendency to distinguish “medicine” from “philosophy,” to separate “empirical” doctors, the supposed forerunners of positive science, from their more ambitious, “philosophical” colleagues.

¹ Jaeger (1944, 15–16).

As one scholar writes in reference to *On Flesh*, “it is difficult to see that π. σαρκῶν is typically a ‘medical’ treatise, in spite of its self-description in its first sentence. It is certainly not concerned practically with medicine.”² Another says of *On Regimen* and *On Flesh* that they were written by “un nouveau type de médecin, type très séduisant car il essaye de réaliser avant la lettre une sorte de symbiose entre la science positive et la pensée philosophique.”³ Many historians have described the doctor-cosmologists as sophists, rhetoricians—anything but real doctors. They were “under the influence of philosophy,” following its lead “to so great a degree as to interfere with and destroy the positive scientific outlook.”⁴ In other words, the doctor-cosmologists were not just non-medical; they were *antithetical* to medicine. Jones captures this sentiment when he writes that “During the fifth century B.C. philosophy made a determined effort to bring medicine within the sphere of its influence. ... Medicine was here face to face with a deadly enemy.”⁵

More recently, scholars have moved away from this narrative of a single, true “medicine,” struggling against its enemies. Instead, it has been pointed out that “medicine” and “philosophy” were fluid concepts in the Classical period, and that any boundary between these two disciplines was liable to be crossed by doctors and philosophers alike.⁶ In some cases, we see this overlap between “medicine” and “philosophy” explicitly mentioned in Classical Greek literature. In the *Phaedo*, Plato cites investigations into human physiology as an integral part of the “inquiry into nature” (*Phd.* 96a–c), while in the *Timaeus* he refers to Egyptians who study “everything concerning the cosmos down to divination and the art of healing that aims at health” (*Tim.* 24b–

² Peck (1936, 62).

³ Bourgey (1953, 124).

⁴ Miller (1949, 314).

⁵ Jones (1923, xlv). For another designation of philosophy as an “enemy” of medicine, see Ducatillon (1977, 89).

⁶ Cf. Thivel (1983, 221), Orelli (1998), Agge (2004, 13), van der Eijk (2005, 8–14). An early expression of this point can already be found in Heidel (1914, 153).

c). Aristotle twice notes that investigations “concerning nature” should conclude with the first principles of health and disease, while the best doctors tend to begin their inquiries with first principles derived from philosophy (*Sens.* 436a–b, *Resp.* 480b).

For my part, I prefer to avoid any reference to the doctor-cosmologists as practicing a “philosophical” brand of medicine. I do not object to this term on the grounds that these physicians should not qualify as “philosophers,” but simply because when we use the word “philosophy,” we tend to think of a discrete enterprise that is pursued for its own sake. When a doctor is said to combine medicine with “philosophy,” it is still generally supposed that he is either undermining the former for the sake of the latter, or else creating an amalgam in which the “philosophical” elements can easily be separated from the “medical.” What I would like to stress, however, is that a simple equation between cosmology and philosophy oversimplifies what it means to investigate first principles. On the one hand, many participants in the “inquiry into nature” were devoted cosmologists, by which I mean their primary objective was to understand and describe the universe as a whole. However, cosmology can also be a framework for organizing and explaining *other* sciences, a mode of high-level thinking that elucidates phenomena by referring to the fundamental nature of all things. A doctor might take some principle from his clinical experience (e.g., hot compresses draw fluids from the body), compare that principle with other, non-clinical phenomena (e.g., the sun draws water from the sea), and further generalize it so that it applies not only to the body, but to the universe as a whole (e.g., heat attracts all fluids). If the doctor then applies this new principle to other, related aspects of clinical decision-making, we would say that he is thinking in “cosmological” terms. That does not mean, however, that the doctor has necessarily departed from a specifically “medical” mode of thought.

By equating cosmology with “philosophy” and by assuming that cosmological speculations are the exclusive purview of “philosophers,” we run the risk of ignoring what the doctors

themselves might have brought to the table. Furthermore, if we assume that cosmology was simply “imported” into medicine, we are forced to choose between several unsatisfactory explanations for how the doctor-cosmologists came to be. It has often been asserted, for example, that the introduction of cosmology into medicine was *unavoidable* given the influence of the inquiry into nature. According to Festugière (1948, xix), “Il était inévitable que les médecins d’Ionie, dans leur enquête sur la cause des maux qui affligent la nature humaine, eussent recours aux théories élaborées par leurs compatriotes relativement à la Nature universelle.” Similarly, Lonie (1981, 56) writes that “Greek speculative medicine could hardly avoid being governed, to a very large extent indeed, by the concepts and the categories of pre-Socratic philosophy”—as if this movement was so transformative that Greek doctors could not help but be swept along with it. Other attempts to “explain” the doctor-cosmologists have simply listed all the benefits that come from cosmology: it is comprehensive, precise, persuasive, easy to teach, distinguishes one doctor from another, etc. The last of these explanations has been especially popular in modern scholarship, fostered by a heightened interest in the medical marketplace and in the physician’s basic need to persuade.⁷ I find it difficult, however, to understand how a full-blown cosmology is more persuasive than, say, a detailed theory of human physiology. If the doctor-cosmologists were simply looking for more students, more patients, or a higher place in society, why would they select such a controversial framework as “the things on high and under the earth” (τὰ μετέωρα καὶ τὰ ὑπὸ γῆς) for presenting their views on disease?

The greatest shortcoming in all of these explanations is that they can be made with little knowledge of early Greek medical thought. In fact, they all treat medicine as a blank slate upon which new systems could be imposed. Medicine, of course, was not a blank slate. Greek doctors

⁷ For a recent discussion that emphasizes this explanation, see Chang (2008). On the “medical marketplace” in general, see Nutton (1992).

had their own traditional views on the etiology of disease, and as we see most clearly in the seven books of *Epidemics*, they were engaged in elaborate programs of medical inquiry in which they categorized phenomena in terms of commonalities and differences, universals and particulars at the same time that they speculated about the universe as a whole. To the best of my knowledge, no one has ever considered how these pre-existing theories and methods of inquiry may have contributed to the rise of the doctor-cosmologists. In our haste to drive a wedge between medicine and “philosophy,” we have awkwardly separated the doctor-cosmologists from the rest of the medical tradition.

In this study, I will examine the doctor-cosmologists from a medical point of view. In particular, I will argue that if we want to understand how this movement came to be, we need to consider the changing priorities of medical thinking in the fifth and fourth centuries BCE. By taking this approach, I do not intend to minimize or otherwise downplay the influence of the inquiry into nature on the doctor-cosmologists. Without a pre-existing tradition of cosmological investigation, it is highly unlikely that this movement would have ever taken shape. What I am stressing in this study is not that we should completely separate the doctor-cosmologists from other thinkers who speculated about the nature of all things. Rather, I intend to show that a simple gesture toward the inquiry into nature is insufficient for explaining how this movement came to be.⁸

My analysis will be divided into five chapters and a conclusion. In Chapter 1, I will examine three second-hand reports: (1) the testimonies on Petron and Philistion in the *Anonymus*

⁸ On the need to show care when discussing lines of influence between the inquiry into nature and Greek medical texts, see Heidel (1914, 152–154), Orelli (1998), Laks (1998), (2008, 260–262), Schiefsky (2005, 2–3, 46–55). With these cautious discussions, one may contrast the bulk of work that has previously appeared on the doctor-cosmologists, much of which is replete with indiscriminate *Quellenforschung*. As I hope to show over the course of this study, we will ultimately arrive at more interesting conclusions if we ask why the doctor-cosmologists thought they *needed* to describe the first principles of all things before we consider their reliance on the theories of other thinkers.

Londiniensis, (2) the speech of Eryximachus in Plato's *Symposium*, and (3) *On Ancient Medicine*. In Chapters 2–5, I will then examine the four most important works by doctor-cosmologists to have survived from the Classical period: *On the Nature of the Human Being*, *On Breaths*, *On Flesh*, and *On Regimen*. For the sake of avoiding unnecessary distractions, I have chosen to omit any discussion of *On Sevens*. This text was once dated as early as the sixth century BCE, but Mansfeld (1971) has argued that it was actually composed half a millennium later, in the first century CE. Over the course of this study, I will argue that many of the same pressures that led to the production of works like *On Regimen in Acute Diseases* and the seven books of *Epidemics* can also be seen in the works of the doctor-cosmologists. All of these medical writers believed that individual variation constitutes a significant impediment to the art, and that the state of medical knowledge can be improved, even perfected, by focusing on what is “common” and “fixed,” that is, on what remains stable when other variables change. By situating the doctor-cosmologists within this broader narrative, it is my hope that this study will encourage other historians to take a closer look at their writings. For a long time, the doctor-cosmologists have been dismissed as amateurish imitators of the inquiry into nature, developing theories about the cosmos for no other reason than to impress (or deceive) their patients. If, however, we can show that these doctors were actually responding to pressures coming from *within* the medical tradition, then an understanding of their texts will become central to understanding Greek medicine as a whole.

Chapter 1: Three second-hand reports

1.1 *Anonymus Londiniensis*

The *Anonymus Londiniensis* is a Greek papyrus most commonly dated to the first century CE. It is divided into two parts, of which the first, sometimes called the *Menoneia*, draws on a Peripatetic source (perhaps the work of Menon, a collaborator of Aristotle) from the late fourth century BCE. This Peripatetic source was a collection of opinions on the etiology of disease. It was compiled under the direction of Aristotle, who saw the gathering and comparison of such opinions—a practice now known as “doxography”—as an important first step for the development of original theories. In addition to the work on medicine, Aristotle encouraged similar collections of opinions on mathematics, astronomy, and theology by Eudemus, as well as Theophrastus’ *On Sensation* and the same author’s widely influential *Opinions on Natural Philosophy*. Except for *On Sensation*, none of these collections have survived in their original form. Through intermediaries like the *Anonymus Londiniensis*, however, we can access much of their content, providing invaluable insight into the early history of Greek thought.⁹

For our purposes, two entries in the *Anonymus Londiniensis* are of special interest. These are the entries for Petron of Aegina and Philistion of Locri, both of whom lived in the Classical period, an era that spans from roughly 500 to 300 BCE.¹⁰ Petron is datable from the report that Ariston was his student.¹¹ Galen mentions this Ariston alongside Euryphon, Phaon, and Philistion as a

⁹ In the *Anonymus Londiniensis*, there are entries for over twenty medical writers, seven of whom were unknown before the discovery of the papyrus. On the history of this papyrus and its relationship with Aristotle, see Manetti (1999). For a modern edition, with bibliography, see Manetti (2011). The spelling *Londiniensis* (adopted by Manetti) is to be preferred over *Londinensis* (adopted by earlier commentators). On the adjectival form of *Londinium*, which was not confirmed by epigraphic evidence until the early 2000s, see Corcoran, Salway, and Salway (2002).

¹⁰ On Petron (who is also called “Petronas” in some sources), see Deichgräber (1937), Touwaide (2007), and Manetti (2008b). On Philistion, see Diller (1938), Nutton (2007a), and Manetti (2008c). The *Anonymus Londiniensis* also describes a third doctor-cosmologist, Polybus of Cos, whom we will discuss in Chapter 2.

¹¹ Anon. Paris. *De morbis acutis et chroniis* 10 (p. 72,3–12 Garofalo).

potential author of the treatise *On Regimen*, noting that all of these medical writers are “ancient” (παλαιοί), and that they are all either older than Hippocrates or contemporary with him.¹²

Philistion, for his part, can be dated by his alleged connections with Eudoxus, Chrysippus, and Dionysius II of Syracuse. He is said to have taught medicine to both Eudoxus (ca. 390–340 BCE) and Chrysippus (fl. mid–late 4th cent. BCE), while the Platonic *Second Letter* refers to Philistion’s service in the court of Dionysius II, who ruled from 367 to 357 BCE.¹³

Beyond these biographical reports, very little is known about either Petron or Philistion outside the *Anonymus Londinensis*. Petron is said to have administered the following treatment to fever patients: first, he covered them with blankets in order to encourage both heat and thirst; then, he administered a cold drink to purge the peccant humors through sweating and vomiting; and finally, he restored the patient’s strength with roast meat and dark wine—a bold treatment that drew the attention of Erasistratus, Celsus, and Galen.¹⁴ Philistion, meanwhile, is said to have described a machine for reducing dislocations (Orib. 4.344) and to have held a variety of opinions on anatomy and physiology. Among these opinions are the belief that respiration cools the body’s innate heat and that drinks pass to the lungs—both common assumptions in early Greek medicine.¹⁵ According to Rufus of Ephesus, Philistion gave the name “eagles” (ἄετοί) to

¹² Gal. *In Hp. Acut. comm.* 15.455–456 K. (πάντες ἐκεῖνοι τῶν παλαιῶν ἀνδρῶν εἰσιν, ἔνιοι μὲν Ἱπποκράτους πρεσβύτεροι, τινὲς δὲ συνηκμαότες αὐτῷ). See also Gal. *De alim. fac.* 6.473 K., *In Hp. Aph. comm.* 18a.8–9 K., *De ind.* 26. Jacques (2008) dates Ariston to 450–400 BCE, while Manetti (2008b) dates Petron to 500–400 BCE.

¹³ D.L. 8.86, 8.89, [Pl.] *Epist.* 2, 314d–e. Like Ariston, Philistion is included in Galen’s lists of “ancient” physicians; see Gal. *De alim. fac.* 6.473 K., *De meth. med.* 1.3.13, 10.27–28 K., *In Hp. Acut. comm.* 15.455–456 K. On the strength of these testimonies, Manetti (2008c) suggests a *floruit* of 370–340 BCE, although it is conceivable that he was active for several decades before this range.

¹⁴ Gal. *In Hp. Acut. comm.* 15.435–437 K., 15.451 K., [Gal.] *De opt. secta ad Thras.* 14, 1.144 K., Cels. 3.9.2, *schol.* T in *Il.* 11.624. See also Gal. *De comp. medic.* 13.642 K.

¹⁵ Gal. *De util. resp.* 1, 4.471 K., Plu. *Quaest. conv.* 7.1, 699b–d, *De stoic. repugn.* 1047c–d, Gell. *NA* 17.11.6. On the use of respiration to cool the body’s innate heat, cf. *Cord.* 3, 9.82 L., 5, 9.84 L., Pl. *Tim.* 70c–d. On the passage of drinks to the lung, cf. *Cord.* 2, 9.80–82 L., *Oss.* 1.2, 9.168 L., 13.2, 9.184–186 L., Alc. fr. 347a.1 L.–P., Eup. fr. 158 K.–A., Pl. *Tim.* 70c, 91a, and note the arguments against this view at *Morb.* IV 56, 7.604–608 L., Arist. *PA* 3.3, 664b–665a.

the temporal vessels (Ruf. *De corp. hum. appell.* 200–201), perhaps referring to their resemblance to outspread wings.¹⁶ The term ἀετοί could have also referred to the use of these vessels as diagnostic “omens” (LSJ s.v. ἀετός II)¹⁷ or simply to the critical position of these vessels in the body,¹⁸ while another, if less likely, explanation is that Philistion originally wrote something like ἀηταί (“blasts of air”) and attributed throbbing temples to the movement of πνεῦμα through these vessels.¹⁹ To later generations, Philistion was especially famous as an authority on dietetics, which may explain his identification as a potential author of the treatise *On Regimen*.²⁰ According to Pliny, he recommended foodstuffs like parsnips, cabbage, and basil for a variety of diseases, including strangury, dropsy, tetanus, pleurisy, epilepsy, jaundice, phrenitis, and cholera.²¹ He is

¹⁶ The term ἀετός was in fact applied to architectural gables for precisely this reason (LSJ s.v. ἀετός IV). When the temporal artery becomes visible in patients with temporal arteritis, it displays a distinctive v-shape.

¹⁷ For the use of throbbing temples as a diagnostic sign, see *Acut.* 30.2 (= 9 L.), 2.288 L., *Epid.* V 60, 5.240 L., *Epid.* VI 2.6, 5.280 L., *Epid.* VII 3, 5.368 L., 5, 5.374 L., 25, 5.394 L., 32, 5.402 L., 39.408 L., 84, 5.442 L., *Coac.* 125, 5.608 L., *Morb.* II 25.1, 7.38 L., *Morb.* III 1, 7.118 L., 3, 7.120 L. Note also the references to pain in the temples at *Prog.* 21, 2.172 L., *Epid.* III 1.3, 3.38 L., *Epid.* IV 19, 5.156 L., *Epid.* V 83, 5.250 L., *Epid.* VII 88, 5.444 L., *Coac.* 156, 5.618 L., *Morb.* II 15.1, 7.26–28 L., 16.1, 7.28 L., 17.1, 7.30 L., 19.1, 7.32 L., *Int.* 48, 7.284 L. (= *Dieb. Judic.* 3, 9.300 L.), *Prorrh.* II 18, 9.46 L., 35, 9.66 L., 42, 9.72 L., to heaviness in the temples at *Epid.* I 12 (= 6 L.), 2.636 L., to inflammation in the temples at *Morb.* III 1, 7.118 L., to heat in the temples at *Epid.* II 2.24, 5.96 L., *Epid.* VII 10, 5.382 L., to sweating around the temples at *Epid.* V 73, 5.246 L., to tightness in the temples at *Acut.* App. 44.2 (= 18 L.), 2.482 L., to the elevation of the temporal vessels at *Epid.* II 2.24, 5.96 L., *Epid.* VI 7.1, 5.330–336 L., to “collapsed” temples at *Prog.* 2, 2.114 L., *Epid.* IV 46, 5.188 L., *Epid.* VII 80, 5.436 L., *Coac.* 209, 5.630 L., to “quiet” in the temples at *Epid.* VII 7, 5.378 L., and to fevers that can only be detected in the temples at *Epid.* VII 1, 5.364 L., 2, 5.366–368 L., 5, 5.374 L.

¹⁸ In *On Head Wounds*, the author notes that each temple contains a “hollow and powerful vessel” (*VC* 2.4, 3.190 L.) and that one may safely incise any vessel in the head *except* the temporal vessels, for their incision will produce spasms on the opposite side of the body (*VC* 13.5, 3.234 L.). This observation is repeated at *Art.* 30, 4.142 L., *Coac.* 184, 5.624 L., 488, 5.696 L., *Prorrh.* I 121, 5.550–552 L., and it is supported by the vascular anatomy of *Nat. Hom.* 11.3, 6.58–60 L. (= *Oss.* 9.3, 9.174–176 L.), where each temporal vessel is said to pass to the opposite side of the body. On the general importance of the temporal vessels, see also *Morb.* II 20.3, 7.34 L., *Cam.* 5.3, 8.590 L., *Oss.* 12.1, 9.182 L.

¹⁹ For the attribution of throbbing temples to the presence of πνεῦμα, see *Flat.* 8.7, 6.102–104 L. (πέπληνται γὰρ αἱ φλέβες ἡέρος). At *Anon Lond.* XX.43–50 (quoted below, pp. 14–15), Philistion is said to have discussed the movement of πνεῦμα through the vessels. Contrast this with *Loc. Hom.* 3.2, 6.280 L., where the constant throbbing of the temples is attributed to two streams of blood that flow in opposite directions and collide with one another.

²⁰ For Philistion’s status as an authority on dietetics, see Athen. 12.12, 516c, [Gal.] *De succ. lib.* 19.721 K. For his identification as a potential author of the treatise *On Regimen*, see Gal. *In Hp. Acut. comm.* 15.455–456 K., *De alim. fac.* 6.473 K., *In Hp. Aph. comm.* 18a.8–9 K., *De ind.* 26.

²¹ Plin. *HN* 20.xxxi.31 (parsnips), 20.xxxiv.86 (cabbage), 20.xlviii.122 (basil).

also said to have drawn fine distinctions between different varieties of bread, noting their powers to affect the body in accordance with their ingredients and modes of preparation.²² The specific powers that Philistion attributed to bread include the encouragement of either good or bad humors and the production or repression of *πνεῦμα*. He also appears to have been very interested in digestion, noting how different varieties of bread are easier or more difficult to digest, more or less nourishing, and either relax or constrict the bowels.²³

It is notable that none of these reports about Petron and Philistion say anything about their interests in cosmology.²⁴ Outside the *Anonymus Londiniensis*, the closest hint at their cosmological theories comes in a single passage from Galen. In this passage, Galen includes Philistion in a list of authorities who claimed that “the bodily parts of all animals are governed by the hot, the cold, the dry, and the wet, the one pair being active the other passive, and that among these the hot has most power in connection with all functions, but especially with the genesis of the humors” (*Nat. fac.* 2.8, 2.110–111 K., trans. Brock, modified). It is possible that Galen cites Philistion in this passage because he actually wrote something to this effect. The testimony is extremely vague,

²² Athen. 3.83, 115d–e (quoted below, pp. 41–42). This affinity for division and classification (albeit not uncommon in the Hippocratic Corpus) may have inspired the reports in antiquity that Philistion was somehow connected with Plato’s Academy. See [Pl.] *Epist.* 2, 314d–e, where Plato is said to have invited Philistion to Athens, and Epicr. fr. 10 K.–A., where a Sicilian doctor (unnamed but generally assumed to be Philistion) is said to be present in Plato’s Academy. There is also a modern tradition of detecting the influence of Philistion in Plato’s *Timaeus*. In general, however, these discussions have not pointed out much that is uniquely “Philistionic,” and they often invoke a supposed “Sicilian school” of medicine that modern historians of medicine are now finding increasingly difficult to accept (see below, nn. 31, 33).

²³ For Philistion’s general interest in anatomy and physiology, see also Gal. *De meth. med.* 2.5.11, 10.110–111 K., *De anat.* 2.900–901 K. At Gal. *Adv. eos qui de typis scrips.* 7.488 K., the reference to those who divide the year into seven seasons needing someone like Philistion to mock them probably refers to the Augustan-era writer of mimes rather than our doctor. Similarly, *pace* Smith (1867, 295), the reference to a Philistion at M. Aurel. 6.47 probably does not refer to Philistion of Locri, but rather to the mimographer or else to a recently deceased slave of the emperor; cf. Hadot (1998, 276), Hard and Gill (2011, 154), Gill (2013, 192). It is unclear what we should make of the two references to “Philistion’s brother” at Cael. Aur. *Morb. chron.* 3.8.147, 5.1.22. One possibility is that Philistion belonged to a family of doctors, and that he attributed certain treatments to an unnamed brother in his writings.

²⁴ One source even identifies Philistion as a potential founder of the Empiricist sect (Gal. *De subfig. empir.* 1), although this report may have arisen through a confusion of his name with that of Philinus of Cos.

however, and it groups Philistion with such a wide range of authorities (Hippocrates, Diocles, Praxagoras, Plato, Aristotle, and Theophrastus) that its usefulness for reconstructing the views of Philistion is dubious to say the least.²⁵ It was not until Diels' publication of the *Anonymus Londiniensis* in 1893 that the cosmological interests of Petron and Philistion first came to the attention of modern scholars.²⁶ In this text, the author divides all medical writers into two camps, with one camp supposedly claiming that digestive "residues" (περιττώματα) are the primary cause of disease, while the other claims that "elements" (στοιχεῖα) are responsible for human illness. The first camp includes Euryphon, Herodicus, Hippocrates, Dexippus, and at least twelve other medical writers. The second includes Plato and Philolaus, as well as four practicing doctors: Polybus, Menecrates, Petron, and Philistion. To judge from these reports, "residues" (περιττώματα) denote any substance, either liquid or vapor, that arises from nutriment left to stagnate in the belly. "Elements" (στοιχεῖα), meanwhile, are the fundamental building blocks of human beings, identified as either bodily compounds (blood, phlegm, bile, and πνεῦμα) or cosmological principles (earth, air, fire, and water; the hot, the cold, the dry, and the wet). Of the four doctors who are said to have focused on "elements," Petron, Philistion, and Polybus are all said to have identified cosmological principles as the basic constituents of human beings, while

²⁵ On the limited usefulness of this passage, see van der Eijk (2001, 51–53). For similar passages that include Philistion among a list of physicians who all hold the same view, see Gal. *De meth. med.* 1.3.13, 10.27–28 K., 2.5.11, 10.110–111 K., *On Medical Terms* p. 18,29–19,5 Meyerhof–Schacht. In these passages, Philistion is included among physicians who (1) distinguished the ways in which diseases resemble and differ from one another, (2) claimed that there are many types of disease and that each of these types requires a different treatment, (3) believed that nothing can be known or discovered about disease types without first knowing about the nature of human beings, and (4) said that fire (πῦρ) prevails in the body in cases of fever (πυρετός). Galen cites too many authorities alongside Philistion for us to reconstruct what the latter actually wrote about these topics. The division of diseases into various types, however, recalls Philistion's interest in drawing fine distinctions between different classes of foodstuffs.

²⁶ Compare, for example, the entries on Petron and Philistion in Smith (1867, 215, 295) with the entries in *RE* and *DNP* (cited above, n. 10).

Menecrates, their near contemporary, focused on bodily compounds.²⁷

The entries on Petron and Philistion provide a good starting point for studying the doctor-cosmologists. In these entries, we are told that the elements are just one of several factors that can bring about disease. Petron is said to have attributed diseases to *either* residues or elements, while Philistion reportedly identified three causes of disease: (1) the elements, (2) the physical condition of the body, and (3) external causes (*Anon. Lond.* XX 1–50, trans. Jones, modified):

Petron of Aegina says that our bodies are composed of a pair of elements, the cold and the hot, and to each of these he assigns a partner, to the hot the dry and to the cold the wet, and out of these are our bodies composed. He says that diseases may arise through the residues of nutriment (διὰ τὰς περιπτώσεις τῆς τροφῆς): whenever the belly, (taking in ?) nutriment not commensurate with it (ἄσύμμετρα), cannot digest it, the result is that diseases occur. He also derives diseases from the aforesaid elements, when they are disproportionate (ἄνώμαλα). But about the different kinds of diseases he gives no details. As to bile, he expresses a peculiar view, saying that it is produced as the result of diseases. For whereas the others say that diseases come from bile, he says that bile comes from diseases. This thinker is in virtual agreement with Philolaus,²⁸ in that he thinks that the presence of bile is abnormal. In this respect he agreed with Philolaus, in all other respects he has views of his own.

Philistion thinks that we are composed of four “forms” (ἰδέαι),²⁹ that is, of four elements—fire, air, water, earth. Each of these too has its own power (δύναμις); of fire the power is the hot, of air it is the cold, of water the wet, and of earth the dry. According to him diseases occur in many ways (πολυτρόπως), but speaking quite generally and in outline we may call them three: (1) because of the elements; (2) because of the condition (διάθεσις) of our bodies; (3) because of external causes. The elements cause disease when the hot and the wet are in excess, or when the hot becomes less and weak. External causes are of three kinds: (1) injuries and wounds; (2) excess of heat, cold, and so on; (3) change of heat to cold, or of cold to heat, or of nutriment to what is unsuitable or corrupt. The condition of the body is a cause of disease in the following way. When, he says, the whole body breathes well and the breath passes through unhindered, health is the result. For breathing takes place not only by way of mouth and nostrils, but also over all the body. When the body does not breathe well, diseases

²⁷ Polybus is almost certainly to be identified as the author of *On the Nature of the Human Being* (on which, see below, pp. 53–54). In this text, he claims that our bodies contain blood, phlegm, yellow bile, and black bile, which are themselves composed of the hot, the cold, the dry, and the wet. Menecrates, meanwhile, is said to have claimed that humans are composed of four elements, two hot (blood and bile) and two cold (πνεῦμα and phlegm) (*Anon. Lond.* XIX.19–XX.1). For more on Menecrates, see Squillace (2012).

²⁸ On the medical interests of Philolaus, see Lloyd (1963), Huffman (1993, 289–306), Manetti (1990), (1999).

²⁹ For this use of the term “form” (ἰδέαι), cf. *VM* 15.1, 1.604 L., 19.6, 1.618 L., *Genit.-Nat. Puer.* 3.1, 7.474 L., 11.1, 7.484 L., *Morb. IV* 32.1, 7.542 L., *Cam.* 13.3, 8.600 L. The underlying idea is one of classification: fire, air, water, and earth are the four “types” or “classes” of matter. Cf. Gillespie (1912, esp. 201) *contra* Taylor (1911, 250). In the *Timaeus*, Plato uses similar terminology to describe fire, air, water, and earth as the four “kinds” or “forms” of matter.

occur, and in different ways (διαφόρως). For when breathing is checked over all the body a disease ... (*text breaks off*)

We cannot assume that all the details in these reports go all the way back to Petron and Philistion. These testimonies have passed through at least two filters—the author of the *Anonymus Londiniensis* and his Peripatetic source—and given what we know about the rest of this doxography, there is a good chance that these reports contain at least a moderate amount of distortion.³⁰ That said, it is nevertheless possible to use these testimonies to draw some conclusions about their systems. It is worth noting, for example, that Petron and Philistion are both said to have held that diseases arise “in many ways” (πολυτρόπως), and that only one of these methods relates to an imbalance of elemental principles. Petron is said to have claimed that humans are composed of two elements, the hot and the cold, and that diseases can arise when these two elements are “disproportionate” (ἄνώμαλα). Philistion, meanwhile, is said to have claimed that humans are composed of the so-called “Empedoclean” elements: fire, air, water, and earth.³¹ Each of these elements has a “power” (δύναμις)—fire the hot, air the cold, water the

³⁰ See, for example, Manetti (1990), (1992b) on the entries for Philolaus and Plato. A distortion can also be found in the entry for Polybus. In *On the Nature of the Human Being*, Polybus identifies the hot, the cold, the dry, and the wet as the first principles of all things, while the *Anonymus Londiniensis* only lists two principles, the hot and the cold, as the basic constituents of human beings (*Anon. Lond. XIX.1–18*). This distortion is particularly significant for the entry on Petron. Did he really place the hot and the cold above their “partners,” the dry and the wet, or is this detail merely a reflection of the doxographer’s own preference to view the hot and the cold as more important than the dry and the wet? We should also be wary of the alleged “debate” (cited in the entry on Petron) on the question of whether bile comes from diseases or diseases come from bile. Ancient doxographers are notorious for invoking “debates” where no such debates existed, for retrospectively applying the concerns of later thinkers onto the opinions of their predecessors, and for overemphasizing the notions of “agreement” (συμφωνία) and “disagreement” (διαφωνία) when comparing one thinker with another. In the Classical period, it was generally agreed that diseases are manifested by the “separating out” (ἀπόκρισις) of one humor from the rest. This concentrated humor can in turn stagnate, grow hot, and produce further complications, and so the doxographer could have read a passage in which Petron simply refers to an ἀπόκρισις of bile and extracted from this his position in a “debate” that, for Petron at least, did not actually exist.

³¹ This report has tended to be accepted without question, inspiring discussions of a “Sicilian” tradition of medicine with Empedocles at its head; cf. Wellmann (1901), Diller (1938), Bidez and Leboucq (1944), Longrigg (1993, 104–148), Michler (2003), Primavesi (2009). We must bear in mind, however, that the *Anonymus Londiniensis* is Peripatetic in origin, and that Aristotle himself believed that everything is composed of fire, air, water, and earth. Since we have no other reports to corroborate this testimony, we must leave open the possibility that we are dealing with yet another distortion on the part of the doxographer. For a modern example of misattributing a four-element theory to

wet, and earth the dry—and diseases can arise when some (but not all?) of these powers fall above or below some standard line: “when the hot and the wet are in excess, or when the hot becomes less and weak.”³² In addition to pointing to imbalances in the hot, the cold, the dry, and the wet, Petron and Philistion are also said to have attributed diseases to other causes.

Interestingly, one of these causes is “the residues of nutriment” (τὰς περιπτώσεις τῆς τροφῆς), suggesting that the division between “residues” and “elements” was not, in fact, as rigid as the *Anonymus Londinensis* implies. Petron is also said to have discussed the process by which bile is produced, while Philistion described the flow of πνεῦμα through the body.³³ These references to humors and πνεῦμα recall the above-quoted testimonies on Petron and Philistion, in which they are said to have discussed the powers of certain foods to promote humors and πνεῦμα, and to have given treatments that transform, purge, or otherwise target bodily fluids.

When read alongside these other testimonies, the *Anonymus Londinensis* suggests that both Petron and Philistion used cosmological principles as a supplement to, rather than a replacement of, more traditional views of disease. On the one hand, they thought that diseases could arise from the excess, deficiency, or incommensurability of elemental powers. At the same time, they also devoted significant attention to the humors, πνεῦμα, and the “powers” of food and drink. As

a doctor-cosmologist, see below, pp. 137–139. Galen also famously tried to extract a four-element theory from *On the Nature of the Human Being*.

³² The restriction of this imbalance to the hot and the wet is especially interesting. If these are in fact the only “powers” that Philistion cited as causes of disease, then he would have prioritized the same two elements (fire and water) as the author of *On Regimen*.

³³ On Philistion’s belief that “breathing takes place not only by way of mouth and nostrils, but also over all the body” (i.e., through the skin), cf. *Aph.* 5.63, 4.556 L., *Epid.* VI 6.1, 5.322 L., *Vict.* 64.3, 6.580 L., *Hebd.* 52, 8.672 L., *Alim.* 28, 9.108 L., *Emp.* DK 31 B100, *Pl. Tim.* 79c–e, *Thphr. Sud.* 2, *Anon. Lond.* VI.20–21, *Gal. In Hp. Aph. comm.* 1.15, 17b.420 K., *Anon. Bruxell.* 17. Scholars used to believe that skin-breathing was a hallmark of “Sicilian” medicine, passed down from Empedocles to Plato via Philistion (cf. Wellmann 1901, 71; Jaeger 1938, 214; Harris 1973, 17–18). Furley and Wilkie (1984, 3–9) have stressed, however, that this belief in skin-breathing was not restricted to southern Italy, while van der Eijk (2001, xxxv–xxxvi) suggests that the entire notion of a “Sicilian school” of medicine may simply be a doxographical construct, similar to the now debunked division of the Hippocratic Corpus into “Coan” and “Cnidian” texts.

we move ahead in our investigation, it will be useful to keep these observations in mind. Petron and Philistion both developed their own theories about the elements, placing special emphasis on the hot, the cold, the dry, and the wet. At the same time, they also studied topics that are more conventionally identified as “medical,” apparently believing that a knowledge of first principles is important, but not necessarily the only thing that a doctor should bear in mind.

1.2 Plato’s *Symposium*

Let us now turn to the second indirect source for the doctor-cosmologists: the speech of Eryximachus in Plato’s *Symposium*. Composed in the early fourth century BCE (most scholars suggest ca. 385–380 BCE), the *Symposium* has a dramatic date of 416 BCE.³⁴ In the set-up to the dialogue, we are told that Agathon, a tragic poet, has just won first place at a local festival. To celebrate his victory, Agathon has invited a veritable who’s who of Athenians to his home: Phaedrus, a young aristocrat and an avid student of the sophists; Pausanias, Agathon’s lover and an apparent expert in laws and customs; Aristophanes, a comic poet; Eryximachus, a doctor; and Socrates, a philosopher. The dialogue centers around six speeches (a seventh by Alcibiades is appended at the end), each of which is delivered by a different participant in the symposium. All six speeches are in praise of ἔρως, the divine embodiment of “love” or “desire,” and in a manner befitting the topic and setting, all but the speech of Socrates is delivered in a playful, semi-serious manner. The speech of Eryximachus is the third in the sequence. It follows the speeches of Phaedrus and Pausanias, both of whom define ἔρως as the attraction between two human beings. Phaedrus praises ἔρως because it spurs us to act nobly when under the scrutiny of our lovers. Pausanias, meanwhile, claims that there are in fact two ἔρωτες, one “heavenly” and one

³⁴ On the evidence for the *Symposium*’s date of composition, see Bury (1932, lxvi–lxviii), Dover (1980, 10). The reference to Agathon’s victory at the Lenaia confirms a dramatic date of 416 BCE.

“vulgar,” of which the heavenly ἔρως involves the noble attraction one feels toward intelligent young men, while the vulgar ἔρως lacks any claim to nobility, as it focuses on the body in preference to the mind. At the conclusion of Pausanias’ speech, Aristophanes is slated to speak next. He comes down with a case of the hiccups, however, and must cede his turn to Eryximachus.³⁵

From what we can tell, Eryximachus was an actual person who flourished toward the end of the fifth century BCE. He was a doctor, the son of a doctor, and perhaps the grandson of one as well,³⁶ and he has the distinction of being the only physician to be dramatically portrayed in Plato’s dialogues. Both he and his father Acumenus seem to have travelled in elite circles. In the *Protagoras*, whose dramatic date is usually set between 430 and 420 BCE,³⁷ Eryximachus is present in the house of Callias, a wealthy aristocrat and admirer of the sophists. In this dialogue, Eryximachus briefly appears alongside Phaedrus, Andron, and a number of non-Athenians, all of whom are asking Hippias, a famous sophist, questions about “astronomical matters concerning nature and the things on high” (περὶ φύσεώς τε καὶ τῶν μετεώρων ἀστρονομικὰ ἄττα, *Prt.* 315c). In the *Phaedrus*, we learn that Eryximachus and Phaedrus are good friends (268a) and that

³⁵ Many scholars have commented on this unusual detail, which suggests a pun on Eryximachus’ name (“Belch-fighter”). Some think the scene is meant to ridicule Eryximachus’ speech, either because Aristophanes will supposedly be hiccuping, sneezing, and holding his breath while Eryximachus is talking (although no such interruptions are actually mentioned in the text), or because the swapping of turns between Aristophanes and Eryximachus emphasizes an unflattering juxtaposition between the speech of Eryximachus and that of Aristophanes, who does in fact appear to lampoon the specifically Empedoclean aspects of the doctor’s account. If Eryximachus is supposed to remind us of Empedocles, however, we should just as much emphasize the juxtaposition between the speech of Pausanias and that of Eryximachus. In Eryximachus’ speech, Pausanias plays the role of a wayward thinker who must be shown the true nature of things. In precisely the same way, Empedocles had earlier addressed another thinker, also named Pausanias, who likewise needed to extend his thinking to the “whole” as distinct from the “parts.” If, as I will later suggest (pp. 264–275), Empedocles’ approach to knowledge had a great deal in common with the methods of a doctor-cosmologist, then the repositioning of the speech of Eryximachus just after that of Pausanias would draw our attention to this similarity between Eryximachus and Empedocles, making Eryximachus not simply the butt of a joke, but a stand-in for one of Plato’s most important intellectual predecessors.

³⁶ On his father, see Nails (2002, 1–2, s.v. “Acumenus”). The name Acumenus literally means “Healer” (< ἀκέομαι) and may suggest that medicine was already the family profession at the time of his birth.

³⁷ On the dramatic date of the *Protagoras*, see Denyer (2008, 66).

Phaedrus also knows Eryximachus' father (227a). In the *Symposium*, Eryximachus is again identified as Phaedrus' friend (176d–177d), and he is greeted by a drunken Alcibiades as “the noblest son of the noblest and soberest father” (βέλτιστε βελτίστου πατρὸς καὶ σωφρονεστάτου, 214b). Such familiarity with members of the Athenian elite suggests a high status for both Eryximachus and his father. It may have also led to their downfall, however, as we learn in Andocides' *On the Mysteries* (399 BCE). In this speech, we are told that a certain Eryximachus (almost certainly our doctor) was among those accused in 415 BCE of mutilating the herms (And. 1.35), while an Acumenus (again, almost certainly his father) joined Phaedrus and Alcibiades among those accused of profaning the Eleusinian mysteries (And. 1.17–18).

For our purposes, we cannot take anything that Eryximachus says in the *Symposium* as a reliable record of what the real-life doctor actually believed. Not only is his speech a literary creation, but it is also presented, within the framework of the dialogue, as a light-hearted response to what initially takes the form of a rhetorical game.³⁸ It is unknown whether the real-life Eryximachus ever wrote anything of his own, or even whether he propounded original theories. The doxographical tradition has nothing to say about him, save the claim, elsewhere attributed to Hippocrates and Democritus,³⁹ that “sexual intercourse is a minor seizure” (τὴν συνουσίαν μικρὰν ἐπιληψίαν, Stob. 3.6.44). Although the speech of Eryximachus cannot provide direct evidence for the personal views of the real-life physician, it is nevertheless invaluable insofar as it purports to mimic the arguments of a doctor-cosmologist. The choice of ἔρως as the first principle of all things is almost certainly to be taken as absurd, but the specific attributes that Eryximachus assigns to this principle, as well as the methods he uses to argue his points, would

³⁸ On the rhetorical exercise whereby a speaker composes a eulogy on some mundane, undeserving, or otherwise paradoxical subject, see Burgess (1902, 157–66), Pease (1926), Nightingale (1995, 100–102).

³⁹ Hippocrates: Macr. 2.8.15. Democritus: DK 68 B32.

have reminded Plato's audience of actual doctors, doctors who must have been fairly well known for the parody to have any effect.

Eryximachus begins his speech by accepting Pausanias' division of ἔρως into two types. The good, "heavenly" ἔρως is healthy (186b, 188a), well-ordered (187d, 188a, 188c), temperate (188a, 188d), just (188a, 188d), and pious (188d), while the bad, "vulgar" ἔρως is diseased (186b, 187e, 188b), disorderly (188b), undisciplined (186c, 187e), insolent (188a), unjust (188a), and impious (188c). Eryximachus differs from Pausanias in terms of the scope of his encomium, claiming that ἔρως "exists not only in the souls of human beings toward beautiful people, but also toward many other things and in other things, in the bodies of all animals, in what grows in the earth, and in practically all that is" (ὥς ἔπος εἰπεῖν ἐν πᾶσι τοῖς οὖσι, 186a). He also differs in his emphasis on the τέχναι, the "arts" or "crafts" in which expert knowledge is applied to some practical end. Eryximachus begins with medicine "so that we may venerate the art" (186b), and he then describes the role of ἔρως in music, astronomy, and divination. For each of these crafts, he claims that it is the duty of the craftsman to know the difference between good and bad ἔρως and to be able to "diagnose" them correctly (διαγιγνώσκειν, 186c, 187c). Where possible, the craftsman must also gratify (χαρίζεσθαι) the good ἔρως while rebuffing (ἀχαριστεῖν) the bad (186c–d, 187d, 188c), in the same way that a beloved might either "gratify" or "rebuff" a lover.

In his section on medicine, Eryximachus discusses the extent to which ἔρως guides his professional thinking. Beginning with the φύσις ("constitution, nature") of human beings, he notes that the double ἔρως is to be found in the bodies of all people. "It is generally agreed," he says, "that what is healthy in the body is different and dissimilar from what is sick, and what is dissimilar longs for and desires dissimilar things" (186b). To put it another way, he claims that in any given patient, there are some substances that are healthy and others that are diseased, and that these substances are encouraged by different things. This discussion of healthy substances

that “desire” good things and unhealthy substances that “desire” bad things has never been adequately explained.⁴⁰ In all likelihood, it relates to a pair of beliefs that are frequently invoked in Classical Greek medicine. The first is the belief that nutritive juices are distributed through the body by a principle of “like to like.” Nutrition occurs when each part of the body, through some inherent power, literally *attracts* its appropriate humor to itself. The author of *On Regimen* describes this process in general terms: “When the body has been dried out and foods of all sorts fall upon it, it draws to itself (ἔλκει ... αὐτὸ ἑωυτῷ) what is fitting for each part from each of the several foods” (*Vict.* 66.8, 6.588 L.). A similar description of “like to like” attraction can be found in *On Flesh*, where the “thinnest and wettest” humors are said to be drawn into the vessels and then distributed to each part of the body (*Carn.* 13.2–3, 8.600 L.):

The vessels from the intestines’ belly (τῆς νηδύος τῶν ἐντέρων, a pre-Herophilean term for the duodenum⁴¹),⁴¹ into which the food and drink are collected and then heated, draw (ἔλκουσι) the thinnest and the wettest part. ... When the nutriment arrives to each part, it renders the particular form of that part. For it is through being irrigated by the nutriment that everything increases.⁴²

The second belief that Eryximachus seems to be referencing in this passage is the notion that diseases are normally manifested in the form of concentrated humors, and that these humors can spontaneously grow hot and thereby attract further moisture to themselves. The end result of this

⁴⁰ For some attempts, see Konstan and Young-Bruehl (1982), Rowe (1999), Hunter (2004, 57).

⁴¹ On Herophilus’ renaming of the duodenum, see von Staden (1989, 165). For the phrase “intestines’ belly,” a significant repetition of this phrase can be found at *Cord.* 11, 9.90 L. (νεμομένη ὥσπερ ἐκ νηδύος τῶν ἐντέρων τὴν τροφήν). Although editors tend to emend both passages (cf. Duminil 1998, 256, n. 53), it is unlikely that the same error would have occurred in both texts. The duodenum does in fact look like a smaller stomach, and the Greeks at this time were well aware of the fact that the first section of the small intestine tends to contain food while the second, the jejunum, is found empty. The Greek term for the jejunum is νήστις, which literally meaning “fasting.” At *Carn.* 13.2, 8.600 L., the author refers to vessels that draw food from “the intestines above the jejunum” (τῶν ἐντέρων τῶν ἄνωθεν τῆς νήστιος), while Galen also writes about vessels that extend to the duodenum in *On Anatomical Procedures* (13.1). Cf. also Marc. Emp. 28,45 (*dolor et contractio intestinorum ventris orietur*) and the common designation of the calf as the “leg’s stomach” (γαστροκνημία) in the Hippocratic Corpus.

⁴² For other references to this principle of nutrition by “like to like,” see *Morb. I* 12, 6.160 L., *Vict.* 7.1–2, 6.480 L., *Morb. IV* 33–34, 7.544–546 L., *Carn.* 13.2–3, 8.600–602 L., Emp. DK 31 B90, Pl. *Tim.* 81a, and the comprehensive study of Müller (1965a). On the application of this principle to botany and embryology, see *Nat. Hom.* 6.3, 6.44–46 L., *Vict.* 9.1, 6.482 L., *Genit.-Nat. Puer.* 17, 7.496–498 L., 22–23, 7.514–518 L.

attraction is to “feed” the fires of disease, just as nutritive juices are said to “feed” a healthy body. In *Diseases I*, we are told about an ailment in which the concentrated humor “produces severe pains, becomes heated, and, because of its heat, attracts to itself (ἄγει ἐφ’ ἑωυτό) phlegm and bile from the nearby vessels and flesh” (*Morb. I* 26, 6.192 L., trans. Potter, modified). A similar case appears in *Diseases II*, where the blood in the head is said to be heated by bile and phlegm, after which “the head, in consequence of its being overheated, attracts to itself (ἔλκει ἐφ’ ἑωυτήν) bile that has been set in motion in the body, and the thickest part is vomited up, while the thinnest part is drawn to itself” (*Morb. II* 3.2, 7.10 L., trans Potter, modified). In both of these passages, a specific substance within the body possesses an inherent, attractive force that literally *draws* nutritive fluids to itself.

On their own, these parallels provide a good explanation for Eryximachus’ invocation of two forms of ἔρως, one “healthy” and one “diseased,” that exist within the body and are encouraged by different things. The healthy parts use an inherent, attractive force to acquire the necessary fluids for nutrition and growth, while a concentrated humor uses a similar force to feed the fires of disease.⁴³ The parallel is strengthened even more, however, when we observe that the “nourishment” of the body and the “nourishment” of morbid humors were frequently considered *side by side* in the therapeutic process. This is because the practicing doctor tended to think about disease in terms of a battle between the body and the disease.⁴⁴ In this conceptual framework,

⁴³ For other references to the attractive force of concentrated humors, see *Flat.* 10.3, 6.106 L., *Morb. I* 13, 6.160 L., 15, 6.166 L., 20, 6.176–178 L., 26, 6.192 L., 27, 6.194–196 L., 29, 6.198–200 L., *Haem.* 1.1, 6.436 L., *Morb. II* 10.1, 7.18 L., *Int.* 47, 7.282 L., and compare *Morb. II* 8.2, 7.16 L., 11.1, 7.18 L. On the parallelism between the “nourishment” of the body and the “nourishment” of disease, see *VM* 6.1, 1.582 L., 14.6, 1.604 L., *Aph.* 7.66, 4.598 L., *Flat.* 7.1, 6.98 L., *Morb. I* 6, 6.150 L., 23, 6.188 L., *Aff.* 50, 6.260 L., *Loc. Hom.* 38.2, 6.328 L., 43.1–2, 6.336 L., *Morb. IV* 35–38, 7.548–556 L., *Morb. Sacr.* 18.2, 6.394 L., *Morb. IV* 46.3, 7.572 L., 46.5, 7.574 L., 49.3–4, 7.580 L., 51.4–9, 7.586–588 L., *Carn.* 16.3, 8.604 L., *Hebd.* 19, 8.643 L., 24, 8.649 L.

⁴⁴ For some explicit references to this struggle, see *VM* 3.4–5, 1.576–578 L., 14.3–6, 1.602–604 L., *Acut. App.* 5.1 (= 3 L.), 2.402 L., 33.2 (= 11 L.), 2.464 L., *Aff.* 16, 6.224 L., 22, 6.232–234 L., *Morb. IV* 46.3, 7.572 L., 46.5, 7.574 L., *Morb. II* 8.2, 7.16 L. At *Vict.* 2.4, 6.472 L., the two combatants are specifically identified as the “healthy” and the “diseased,” closely matching Eryximachus’ language.

both the body and the concentrated humor were thought to have a certain “strength” (ἰσχύς). The patient’s outcome, meanwhile, depended on whether the healthy parts or the humor ultimately “gained the upper hand” (κρατεῖν, ἐπικρατεῖν). In the Hippocratic Corpus, it is often said that doctors must strengthen the “healthy parts” (τὰ ὑγιεινά) in order to give the body the nourishment it needs to win the battle against concentrated humors. If a patient’s body is strong (ἰσχυρός), it is more likely that the patient will recover. If a patient’s body is weak (ἀσθενής), it is more likely that the patient will succumb. In addition to strengthening the body, Greek doctors also instructed their colleagues to avoid any treatments that might strengthen the disease. This is especially clear in the many passages where doctors are told to prescribe foods of certain qualities while carefully avoiding others. “Have the patient eat all the acidic and salty foods and drink harsh Coan wine, as dark as possible,” writes the author of *Internal Affections*, “but have him abstain from the foods that are sweet” (*Int.* 25, 7.232 L.). In another text (*Acut. App.* 1.1–3, 2.394–396 L.), a patient suffering from “pungent and bilious serums” (δριμέας καὶ χολώδεας ἰχώρας) is specifically told to avoid food that is “pungent” (δριμύ), presumably because the pungent food will nourish the equally pungent humor. In *On Ancient Medicine*, the author stresses that one must distinguish foods that nourish the body from foods that nourish the disease, writing that “those of the sick to whom gruels are not suited, but rather opposed (οὐ συμφέρει ἀλλ’ ἄντικρυς), see their fever and pains become more acute if they take them, and it is clear that what they have taken provides nourishment and growth for the disease, but wasting and weakness for the body” (*VM* 6.1, 1.582 L., trans. Schiefsky, modified). The so-called “appendix” to *On Regimen in Acute Diseases* also contains a passage that refers to this struggle between what is “healthy” and what is “diseased” (*Acut. App.* 5 (= 3 L.), 2.402 L., trans. Potter, modified):

Those who undertake to resolve swellings at the beginning of diseases, by using purgative medications, draw off nothing of what is stretched and swollen—for the affection does not go

away as long as it is raw—but consume the healthy elements that are resisting the disease (τὰ δ' ἀντέχοντα τῷ νοσήματι καὶ ὑγιεινὰ συντήκουσιν). The body weakens and the disease gains the upper hand (ἀσθενέος δὲ τοῦ σώματος γινομένου τὸ νόσημα ἐπικρατεῖ), and when the disease wins out over the body, such a thing is incurable.

In this passage, the author explicitly refers to a conflict between the disease (τὸ νόσημα) and the healthy parts (τὰ ὑγιεινὰ), in which the weakening of the healthy parts will cause the disease to “gain the upper hand” (ἐπικρατεῖ). The disease can only be defeated when its concentrated humor is no longer “raw” (ὠμόν), a process that occurs when the healthy parts acquire enough strength to initiate “coction” (πέψις) and literally “cook” the humor’s power away. On the basis of these parallels, we can provide a reasonable explanation for Eryximachus’ claim that there are two forms of ἔρως, one healthy and one diseased, that exist within the body and are encouraged by different things. If his contemporaries were to hear this statement, they would have assumed that Eryximachus is thinking about doctors who “gratify” (i.e., nourish) the healthy parts of the body at the same time that they “rebuff” (i.e., starve) a disease. Since the nourishment of both healthy and morbid parts involves the spontaneous attraction of humors through a principle of “like to like,” the parts themselves may be viewed as possessing either a healthy or a diseased form of ἔρως.

It is the job of the doctor, Eryximachus continues, to increase what is healthy and to diminish what is diseased, gratifying the former while rebuffing the latter. Whoever can differentiate good and bad ἔρως is a master of the art (ιατρικώτατος, 186c–d), while whoever knows how to implant ἔρως when it is absent and take it away when it is present is a good craftsman (ἀγαθὸς δημιουργός, 186d). Eryximachus then appears to switch gears, mentioning another instance in which medicine depends on ἔρως. It is necessary, he says, for the practicing physician to establish “love” (ἔρως) and “unanimity” (ὁμόνοια) between natural opposites: “cold and hot, bitter and sweet, dry and wet, and all things of such a sort” (186d). In this case, Eryximachus no longer

distinguishes between a good and bad ἔρως but associates the *absence* of ἔρως with the production of disease. In this way, he resembles Petron and Philistion insofar as he associates health with the right balance between pairs of opposing powers, while diseases arise when one of these powers falls above or below some standard line. The testimonies on Petron and Philistion limit these powers to the hot, the cold, the dry, and the wet, while Eryximachus adds the bitter, the sweet, and “all things of such a sort.” It was by knowing how to balance such opposites, he claims, that Asclepius first composed the art of medicine. Eryximachus then draws an analogy with two other crafts, noting that “all of medicine is governed by this god (sc. ἔρως), as too is gymnastics and agriculture” (186e–187a).

This sudden shift in Eryximachus’ definition of ἔρως from “desire” to a sort of “friendship” has long puzzled modern scholars. In the first instance, ἔρως is divided into the healthy and the sick, while in the second, ἔρως is always healthy, representing the wholesome equilibrium between two opposing powers.⁴⁵ In their discussion of this passage, Konstan and Young-Bruehl (1982, 42) suggest that these two definitions of ἔρως might be combined along the following lines: “Healthy bodies have desires for things which tend to preserve the proper concord of their elements, while sick bodies will find pleasure in the consumption of foods or other substances that are harmful to their disposition.” It should be noted, however, that Konstan and Young-Bruehl do not cite any parallels from the Hippocratic Corpus to support this interpretation. Their explanation also conflicts with the everyday observation that healthy people are fully capable of desiring unhealthy foods, while sickness tends to lead to an aversion to *any* food, not an increased

⁴⁵ I borrow the terms “desire” and “friendship” from Konstan and Young-Bruehl (1982), who employ the Greek terms ἐπιθυμία and φιλία. Dover (1980, 105) views the shift as typical of Eryximachus’ incoherence, while Rowe (1999, 55–60) tries to show that no actual shift occurs.

appetite for rich, unhealthy foods.⁴⁶ If we want to give some sense to this passage, I suggest that we read the shifting definition of ἔρως as an attempt to incorporate two distinct aspects of treatment:⁴⁷ it is the disharmony between the opposites that *creates* the diseased ἔρως, while treatment should involve (1) the purging of this diseased ἔρως and (2) the restoration of the opposites to their initial state of harmony. To translate this abstract language to physiological terms, consider the following case. A patient falls ill after excessive drying creates a “separating out” (ἀπόκρισις) of bile within the body. This concentration of bile then stagnates, grows hot, and attracts further humors to itself. To cure the patient, the doctor must purge the concentrated bile, since this is the primary cause of the patient’s discomfort. At the same time, the doctor must also prescribe a moistening regimen, as the illness was initially set in motion by a case of over-drying. In this example, note how the two-pronged treatment maps onto Eryximachus’ description of ἔρως. The bile contains the bad, diseased ἔρως that can draw even more humors to itself. The over-drying, meanwhile, is the disharmony between the opposites. Both senses of ἔρως are essential to the healing process, with one embodying the illness itself and the other the initiating cause.⁴⁸

Another, almost certainly simultaneous explanation for this shifting definition of ἔρως is that

⁴⁶ In the Hippocratic Corpus, “loss of appetite” (ἀποσιτία, ἀσιτία) is frequently cited as a symptom of disease. See, for example, *Epid. I* 2, 2.608 L., 3, 2.610 L., 8 (= 4 L.), 2.626–628 L., 27.6 (= 13.6 L.), 2.698 L., *Epid. III* 1.2, 3.36 L., 1.6, 3.52 L., 3, 3.70 L., 9, 3.90 L., 13, 3.94 L., 17.1, 3.106–108 L., 17.2, 3.110–112 L., 17.11, 3.134 L. A variation on Konstan and Young-Bruehl’s interpretation can be found in Hunter (2004, 57), who writes that “a body which is too cold (i.e., in which ‘cold’ has encroached on the space of ‘warm’ and thus caused unhealthy imbalance) will want more cold and reject the warmth which it needs for health. A good doctor can reconcile the two opposed qualities (186d1–5), can make them ‘love each other.’” Like Konstan and Young-Bruehl, Hunter does not cite any parallel from the Hippocratic Corpus to support this interpretation. He also relies on an oversimplified model of pathology that is not attested for any Greek doctor of the Classical period.

⁴⁷ Note that Eryximachus is specifically talking about treatment in this passage.

⁴⁸ As we will see in later chapters, this two-tiered model of pathogenesis was commonplace in Greek medicine. For its appearance in *On the Nature of the Human Being*, see below, pp. 61–63.

Eryximachus divides the humors into opposing pairs, much like the traditional polarity in which bile is described as hot and dry, while phlegm is cold and wet.⁴⁹ As we will see in our discussion of *On Ancient Medicine*, Greek doctors tended to believe that the body enjoys health when the humors maintain an even blending (κρᾶσις), while diseases arise from the “separating off” (ἀπόκρισις) of one humor from the rest. Thus, the very act of “separating off” could be envisioned as a sort of disharmony between opposites, while an even blending would be defined as a harmonious mixture between substances that, when taken separately, appear to be fundamentally at odds.⁵⁰ A theory of opposing humors would in fact explain why Eryximachus invokes the sweet and the bitter alongside the hot, the cold, the dry, and the wet, as the Greeks typically viewed flavors like the sweet and the bitter as biological “juices” (χυμοί, χυλοί), locating them in animals as well as plants.⁵¹ That is not to say, of course, that the sweet and the bitter could not have also acted as triggering causes, implanting diseased ἔρως in the same way that the hot, the cold, dry, and wet can give rise to an ἀπόκρισις. Eryximachus might have thought, for example, that whenever we consume food and drink that contains an excessive concentration of either the sweet or the bitter, these humors will create a disturbance in the belly that will eventually give rise to an ἀπόκρισις.

In the rest of his speech, Eryximachus discusses the role of ἔρως in music, astronomy, and divination. In each section, he comes back to medicine as the standard for viewing these other

⁴⁹ For the polarity between bile and phlegm, see below, p. 58. Note also *Anon. Lond.* IV.40–V.34, where Herodicus of Cnidos is said to have attributed all diseases to a polarity between the “acid” (τὸ ὀξύ) and the “bitter” (τὸ πικρόν).

⁵⁰ Cf. Empedocles’ theory that the elements separate off and mix together under the influence of “love” and “strife.” In the verbatim fragments, Empedocles uses the same terms for “separating off” (ἀποκρίνεσθαι, DK 31 B9.4) and “mixing together” (κρήσις, DK 31 B21.14) that Greek doctors applied to the humors.

⁵¹ Cf. *Nat. Hom.* 6.3, 6.44–46 L., *Morb. IV* 30.5, 7.534 L., 34.4–5, 7.546–548 L., and the humoral system of *On Ancient Medicine*. Note also *Nat. Hom.* 2.2, 6.34 L., where the humors are said to have the properties of being “sweet, bitter, white, black, and so on,” and *Vict.* 56.2, 6.566 L., where bitter foods are said to lose their “power” (δύναμις) and “strength” (ἰσχός) when mixed with foods that are sweet.

crafts. In the same way that medicine is governed by ἔρως, he says, so too is music (ὥσπερ ἐκεῖ ἡ ἰατρική, 187c; πάλιν γὰρ ἦκει ὁ αὐτὸς λόγος, 187d; ὥσπερ ἐν τῇ ἡμετέρᾳ τέχνῃ, 187e). He again invokes medicine in his transition to celestial matters, noting that “in music, in medicine, and in all other things, both human and divine, we must, insofar as it is permitted, be on the watch for either sort of ἔρως” (187e). His interest in “astronomy” extends only to the question of what seasons produce health and what engender disease (188a–b), and even religion comes to resemble medicine, as Eryximachus observes that the interactions between humans and gods “concern nothing other than the preservation and healing (ἴασις) of ἔρως” (188c).⁵² In the section on astronomy, Eryximachus makes some interesting remarks about the pathogenic qualities of the hot, the cold, the dry, and the wet (188a–b):

When the things I have just mentioned—the hot and the cold, both dry and wet—hit upon the orderly ἔρως and acquire harmony (ἁρμονίαν) and a temperate mixture (κρᾶσιν ... σῶφρονα), they come bearing prosperity and health to human beings, to the other animals, and to plants, and they commit no injustice. But when the insolent ἔρως gains the upper hand (ἐγκρατέστερος ... γένηται) regarding the seasons of the year, they inflict much destruction and injustice. For pestilences tend to arise from such things, as do many other diseases, not like one another (ἀνόμοια), both for animals and for plants.

In this passage, Eryximachus describes the effects of the seasons on all living things, including animals, plants, and human beings. When the hot, the cold, the dry, and the wet are in balance, the seasons promote health, while an imbalance in these qualities will give rise to a disease. Eryximachus describes the resulting diseases as “not like one another” (ἀνόμοια), which suggests that he is interested in how a wide range of phenomena can spring from a limited number of causes—a topic that we will discuss more fully in Chapter 3. Another noteworthy aspect of this passage is that it contains the same double definition of ἔρως that we have already seen in Eryximachus’ discussion of the body, combining a notion of ἔρως as form of “desire,” which can

⁵² Note also Eryximachus’ assertion that the task of the seer is to keep watch over ἔρως and to “doctor” it when necessary (ἰατρεύειν, 188c).

be either good or bad, healthy or diseased, with a notion of ἔρως as a form of “friendship,” which is *always* healthy, since diseases are produced by its absence. In his discussion of medicine, Eryximachus had already implied that the body acquires a diseased form of ἔρως from the loss of “love” and “unanimity” between natural opposites. This loss of “love” and “unanimity” is presumably to be understood as both the “separating off” (ἀπόκρισις) of one humor from the rest and as an imbalance in external factors like the hot, the cold, the dry, and the wet, which can in turn give rise to an ἀπόκρισις. In his discussion of the seasons, the unhealthy ἔρως “gains the upper hand” (ἐγκρατέστερος ... γένηται) when the harmonious mixture (κρᾶσις) of the hot, the cold, the dry, and the wet is disrupted. As a result, there is a concentration in the hot, the cold, the dry, or the wet that can in turn give rise to a disease. The major difference between this passage and Eryximachus’ earlier comments on human φύσις is that whereas the unhealthy ἔρως is said to be contained within the *body* in the section on medicine, it is now said to be found within the *seasons*. Presumably, Eryximachus views the “blending” of the seasons as analogous to humoral κρᾶσις. The hot, the cold, the dry, and the wet can become concentrated and “gain the upper hand” in the same way that diseases arise when one of the body’s humors becomes more concentrated and thereby “gains the upper hand” over the rest.⁵³

In his discussion of health and disease, Eryximachus assumes that his audience is familiar with such concepts as like-to-like attraction, the “mixture” (κρᾶσις) and “separating out” (ἀπόκρισις) of humors within the body, and the need for doctors to nourish the healthy parts while simultaneously starving peccant humors. These notions were shared by virtually every Greek doctor of the Classical period, and they suggest that what makes Eryximachus stand out

⁵³ For a similar analogy between the seasons and the humors, see *Hum.* 13, 5.492–494 L., where the author notes that the seasons, like the humors, can experience both crises and relapses. As we will see in Chapter 2, an analogy between the humors and the seasons can also be found in *On the Nature of the Human Being*, whose author similarly claims that an imbalance in the hot, the cold, the dry, and the wet will ultimately give rise to an ἀπόκρισις.

from his contemporaries is not his understanding of human physiology, but rather his interest in interpreting this framework through a principle that applies to the universe as a whole. Indeed, it cannot be stressed enough that Eryximachus' entire speech is driven by a single goal: to prove that ἔρως is a universal principle. As he notes in his opening remarks (185e–186b):

Well, since Pausanias made a fine beginning to his speech but did not satisfactorily finish it off, I think it is necessary that I should try to append a conclusion to his account. For I think he did well to divide ἔρως in two, but that ἔρως exists not only in the souls of human beings toward beautiful people, but also toward many other things and in other things, in the bodies of all animals, in what grows in the earth, and in practically all that is (ὥς ἔπος εἰπεῖν ἐν πᾶσι τοῖς οὐσι), I think I have seen from medicine, our art, how great and wonderful is the god, and how he extends over everything both human and divine.

Eryximachus repeatedly emphasizes the universality of ἔρως (the adjective πᾶς appears thirteen times over the course of his speech). He reprises this thesis in his concluding remarks, noting that “the undivided ἔρως, taken as a whole, has a wide, a strong, nay an absolute power” (πολλὴν καὶ μεγάλην, μᾶλλον δὲ πᾶσαν δύναμιν ἔχει, 188d). It is this emphasis on the universal power of ἔρως that defines Eryximachus as a cosmologist. Interestingly, he claims to have acquired this insight “from medicine, our art” (καθεωρακέναι μοι δοκῶ ἐκ τῆς ἰατρικῆς, τῆς ἡμετέρας τέχνης, 186a), suggesting that he views the search for first principles as a natural pursuit for the practicing doctor.

To “prove” that ἔρως is a universal principle, Eryximachus constructs what amounts to an argument from induction. He compiles a list of (seemingly disparate) cases in which ἔρως can be found, and he then argues that the apparent differences between medicine, gymnastics, agriculture, music, astronomy, and divination, coupled with the parallelism in how ἔρως is manifested in each, qualifies as sufficient proof that ἔρως “extends over everything both human and divine” and is present “in animals, in plants, and in practically all that is.” As we will see, this mode of argument from induction, whereby universal principles are “proven” by drawing analogies across a wide range of cases, was very popular among the doctor-cosmologists. It can

be found in the Hippocratic treatises *On Breaths*, *On Flesh*, and *On Regimen*, and it suggests that even though the speech of Eryximachus advances a thesis that is not meant to be taken seriously, his style of argumentation would have nevertheless been recognizable to Greek readers of the fourth century BCE.

At this point, I would like to draw one final comparison between the speech of Eryximachus and the testimonies on Petron and Philistion. As we have already noted, all three doctors show an interest in pairs of opposites (the hot and the cold, the dry and the wet, the sweet and the bitter, etc.), and they all hold that diseases can arise when one of these opposites is incommensurate with the other. At the same time, none of these physicians seems to have reduced the art of medicine to a simple opposition between elemental forces. Petron and Philistion are said to have devoted a good deal of attention to anatomy and physiology, discussing the production and transformation of both humors and πνεῦμα within the body. In his treatment of fever patients, Petron does not treat “opposites with opposites,” but he actually begins by *warming* the patient up. Afterwards, he purges the peccant humors and then restores the patient’s strength, removing what is harmful and increasing what is beneficial. Similarly, Eryximachus claims that doctors must increase what is healthy and diminish what is diseased (186c–d). In this passage, he specifically says that doctors should “take away” (ἐξελεῖν) bad ἔρως and “implant” (ἐμποιῆσαι) good ἔρως, using language that could easily be applied to the traditional method of purging diseased matter and then restoring the patient’s strength. As we noted above, this method of removing bad ἔρως and implanting good ἔρως is qualitatively different from Eryximachus’ subsequent discussion of how doctors must establish “love” (ἔρως) and “unanimity” (ὁμόνοια) between natural opposites. For Eryximachus, the balance between opposites is essential to maintaining health, but it is not the only factor that doctors should bear in mind. When dealing with the “separating out” of one humor from the rest, the goal of medical treatment is not to

combine it with its opposite, but rather to remove the diseased matter in its entirety.

1.3 *On Ancient Medicine*

As we will see in later chapters, Petron, Philistion, and Eryximachus were not the only Greek doctors to combine cosmological principles with a more traditional model of pathogenesis. *On the Nature of the Human Being*, *On Breaths*, *On Flesh*, and *On Regimen* all combine speculations about the cosmos with theories about humors and πνεῦμα. Before we turn to these texts, however, I would like to discuss one more second-hand report: the treatise *On Ancient Medicine*. Preserved in the Hippocratic Corpus, *On Ancient Medicine* has usually been dated to around 420–400 BCE. Maucolin (2009, 8–12) has rightly observed, however, that it could have conceivably been written as much as fifty years after this point. Even more so than the texts of the doctor-cosmologists themselves, *On Ancient Medicine* has long guided our assumptions about what this movement is all about. As we will soon see, however, this text provides at best an incomplete picture of what the doctor-cosmologists were doing, and an over-reliance on its testimony will ultimately hinder our understanding of how this movement came to be.

Our first hint that *On Ancient Medicine* may be less than reliable is the fact that the author is openly hostile to the doctor-cosmologists. In particular, he claims that their theories about human φύσις—theories that resemble the work of “Empedocles or others who have written, concerning nature, what a human being is from the beginning, how it originally came to be, and from what it was compounded” (*VM* 20.1, 1.620 L.)—“tend toward philosophy” (τείνει ἐς φιλοσοφίην, 20.1, 1.620 L.), and that their emphasis on ὑποθέσεις like the hot, the cold, the dry, and the wet is unnecessary for a genuine τέχνη like medicine, although such principles may be required for discussing obscure and irresolvable matters like “the things on high or under the earth” (τῶν μετεώρων ἢ τῶν ὑπὸ γῆν, 1.3, 1.572 L.). According to the author of *On Ancient*

Medicine, it is important to separate the practical, falsifiable knowledge of the τέχνη from the impractical, unfalsifiable speculations of “philosophy.” To make the former depend on the latter, the author argues, not only combines two fundamentally incompatible modes of thought, but it also runs the risk of destroying any progress that doctors have already made.

A great deal of attention has been paid to what this author means by ὑποθέσεις. The etymological sense of the word is “basis” or “foundation,” in the sense of something that is “established at the beginning of a process ... and which underlies and guides all subsequent activity” (Schiefsky 2005, 112). In *On Ancient Medicine*, the term seems to carry two basic meanings: (1) a “foundational principle” and (2) an unproven “assumption.” Ὑποθέσεις are “foundational principles” insofar as they underlie all aspects of a medical system. According to the author of *On Ancient Medicine*, some medical theorists reduce the entire art to a small number of principles like the hot, the cold, the dry, and the wet. These theorists claim that all diseases arise from these principles, and they treat them by opposing the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry. In addition to functioning as “foundational principles,” ὑποθέσεις are also unproven “assumptions.” They are merely postulated for the sake of constructing explanations, and they cannot be subjected to any test to either confirm or reject their validity.⁵⁴

Whereas Petron, Philistion, and Eryximachus all combine their first principles with a more traditional model of pathogenesis, the author of *On Ancient Medicine* directly contrasts the use of ὑποθέσεις with a humoral model of disease. He points out that there is no such thing as the hot, the cold, the dry, and the wet that exists purely in itself (αὐτό τι ἐφ’ ἑωυτοῦ, 15.1, 1.604 L.). What the human body actually contains are “humors” (χυμοί) like the sweet, the acid, the salty, the

⁵⁴ *VM* 1.3, 1.572 L. On the arbitrariness of ὑποθέσεις, note also *VM* 1.1, 1.570 L.: “having laid down as a foundational principle hot, cold, wet, dry, or anything else they want (ἢ ἄλλο τι ὃ ἂν θέλωσιν).”

bitter, and “myriad other things having powers of all kinds” (14.4, 1.602 L.). When one of these humors is “separated out” (ἀποκρίνεσθαι), the patient becomes diseased. Health is restored when the concentrated humor is either purged from the body or is blended with other humors.⁵⁵ For the author of *On Ancient Medicine*, it is not the hot, the cold, the dry, or the wet that harms human beings. Instead, it is “the strength of each thing and that which is more powerful than the human constitution, ... the strongest of the sweet being the sweetest, of the bitter the bitterest, of the acid the most acidic, and of each one of all the things present, the extreme degree” (14.3, 1.602 L., trans. Schiefsky, modified). The body has its own “power” (δύναμις) that normally keeps these humors mixed together. When one of these humors becomes too concentrated, however, its own strength overcomes that of the body.⁵⁶ What happens when one of these humors “separates out” depends on the nature of the humor and its location in the body, as well as the constitution of the individual patient. In many cases, the concentrated humor produces pain, heat, and inflammation (ὀδύναι, καῶμα, φλογμός),⁵⁷ and it can also eat away the flesh and give rise to ulceration.⁵⁸ Sometimes, the humors do not stay in one place but rather flow to other parts of the body. This movement of humors is called a “flux” (ῥεῖσμα), and it produces different complaints depending on the place to which it flows.⁵⁹ The author of *On Ancient Medicine* holds that diseases can be cured only when the concentrated humor is either purged from the body or is blended

⁵⁵ For the definition of health as an even blending (κράσις) of the humors, see *VM* 14.3–6, 1.600–604 L., 16.1, 1.606–608 L., 18.2, 1.614 L., 18.4, 1.616 L., 19.1–3, 1.616–618 L., 19.5–7, 1.618–620 L. For the view that flavors like the sweet, the acid, the salty, and the bitter are humors, see above, p. 27.

⁵⁶ On this struggle between opposing powers, in which either the body or the concentrated humor “gains the upper hand” (κρατεῖν, ἐπικρατεῖν), see *VM* 3.5, 1.578 L., 4.2, 1.580 L., 5.4, 1.582 L., 7.2, 1.584 L., 11.1, 1.594 L. This is the same theory that appears to be reflected in the speech of Eryximachus (see above, pp. 22–24).

⁵⁷ *VM* 19.1, 1.616 L.; cf. *VM* 18.2, 1.614 L., 19.5, 1.618 L.

⁵⁸ *VM* 18.2, 1.614 L., 19.1, 1.616 L.

⁵⁹ *VM* 18.2, 1.614 L., 19.1–3, 1.616–618 L.

with other humors. Both remedies are assisted by a process known as “coction” (πέψις), a form of “cooking” or “ripening” whereby the peccant humor grows thicker (παχύτερον) and better mixed (μεμιγμένον μᾶλλον), and which parallels the “cooking” and “ripening” of meat, fruits, and other foods.⁶⁰ The author holds that just as cooking involves more than a simple replacement of the cold with the hot, the dry with the wet, so too is the process of coction irreducible to these four ὑποθέσεις. “All these (sc. humors) at first send forth salty and moist and acrid discharges (and in such things diseases have their strength), but when they become thicker and more ripe and free of all acridness, then and only then do the fevers cease as well as the other things that harm the human being” (19.2, 1.616 L., trans. Schiefsky).

For the author of *On Ancient Medicine*, there are many different types of humors, and so there must also be many different types of treatment. When it comes to ὑποθέσεις, however, the author assumes that the doctors who make use of these principles can only think in terms of the hot, the cold, the dry, and the wet. With each food, they identify one as “hot,” another “cold,” another “dry,” and another “wet.” “But if one hot thing happens to be astringent,” the author writes, “another insipid, and yet another causes disturbance—for there are also many other hot things, which have many other powers opposed to one another—surely it will make a difference which of them is administered: the hot and astringent, or the hot and insipid, or that which is at once cold and astringent (for there is also such a thing), or cold and insipid” (15.3, 1.606 L., trans. Schiefsky). In each of these cases, the hot and the cold are merely “present as an auxiliary (συνπάρεστι), having strength in accordance with the strength of the leading factor (ῥώμης μετέχον, ὡς ἂν τὸ ἡγεύμενον)” (17.3, 1.612 L., trans. Schiefsky). When treating patients who suffer from a fever, it will do no good to simply oppose the fever with cooling agents. Instead, the

⁶⁰ *VM* 18.2, 1.614 L.; cf. *VM* 19.1–2, 1.616 L., 19.6, 1.618 L.

doctor must purge, concoct, or otherwise transform the humor that is at the root of these symptoms, since it only by removing the concentration of what is “both bitter and hot, acid and hot, salty and hot, and myriad other combinations” (17.2, 1.612 L., trans. Schiefsky) that the patient will return to a state of health.⁶¹

To judge from the testimony of *On Ancient Medicine*, the proponents of ὑποθέσεις do nothing but treat the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry. As Schiefsky (2005, 112–113) observes, “At the beginning of chapter 13 the author remarks that the opponents, who ‘pursue the τέχνη from a ὑπόθεσις,’ are committed to the assumptions that the cause of any disease is one of the ὑποθέσεις (hot, cold, wet, or dry) and that the proper therapy is to treat the cause with its opposite (13.1, 133.7–13 J.). Hence any disease may be treated *simply* by determining which of the ὑποθέσεις is its cause and attempting to counteract it by its opposite” (my emphasis). In chapter 17, the author argues that fevers are not due *simply* to the hot (οὐ διὰ τὸ θερμὸν ἀπλῶς, 17.2, 1.612 L.) and that the hot is not the *only* cause of this condition (οὐδὲ τοῦτ’ εἶη τὸ αἴτιον ... μόνον, 17.2, 1.612 L.; cf. ὑπὸ ψύχους ... μόνου, 18.3, 1.614 L.), again implying that his opponents discard the traditional cornerstones of humoral theory (i.e., ἀπόκρισις, flux, coction, and crisis) in favor of a radically simplified method of arriving at diagnoses and treatments. As we have already noted, however, such radical reductionism is not attested for either Petron or Philistion, and it is also incompatible with the speech of Eryximachus in Plato’s *Symposium*. In fact, as we will see in later chapters, the doctor-cosmologists actually *agreed* with this author, claiming that diseases are primarily manifested in the form of concentrated humors, and that these humors need to be “ripened” or “concocted”

⁶¹ On this section, compare the similar remarks about cooling agents at *Morb. III* 17, 7.156 L.

before they can be adequately purged from the body.⁶²

Because the author of *On Ancient Medicine* presumes that his opponents simply treat the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry, he presents several objections to the use of ὑποθέσεις that his opponents would not have found particularly difficult to rebut. Consider, for example, the following passage, in which the author constructs a scenario that he thinks his opponents will be unable to explain (13.1–3, 1.598–600 L., trans. Schiefsky, modified):

But I wish to return to the account of those who pursue their researches in the art according to the new method, from a foundational principle (ἐξ ὑποθέσεως). For if it is something hot or cold or dry or wet that harms the human being, and if the one who treats correctly must render aid with the hot against the cold, the cold against the hot, the dry against the wet, and the wet against the dry, give me a person whose constitution is not strong, but rather weak. Let this person eat wheat he picks up from the threshing floor, raw and unprepared, and raw meats, and let him drink water. If he follows this regimen I know very well that he will suffer many terrible things: for he will experience pains, his body will be weak, his cavity will be ruined, and he will not be able to live for long. Now what assistance should be prepared for a person in such a state? Hot or cold or dry or wet? One of these, clearly: for if what causes the harm is one or another of these, it must be removed by its opposite, as their account has it. In fact the surest and most obvious remedy is to do away with the regimen he was following and to give wine to drink. These changes must restore him to health, at least if his condition has not been completely ruined by following the bad regimen for a long time. What then are we to say? That his suffering was due to the cold and they helped him by administering these hot things, or the reverse? I think I have created a fine dilemma for the one who is asked this question.

Before we consider the potential rebuttals to this argument, I would like to point out that the doctor-cosmologists were fully capable of attributing certain ailments to indigestion. We have already seen the testimonies in which Petron is said to have held that diseases arise “whenever the belly, (taking in?) nutriment not commensurate with it, cannot digest it” (ὅταν ἀσύμμετρα ἢ κοιλία ... μὴ κατεργάσῃται αὐτά, *Anon. Lond.* XX.10–12, trans. Jones, modified), while Philistion is said to have attributed some diseases to nutriment that is “unsuitable or corrupt” (ἀνοίκειον καὶ

⁶² On the extent to which ἀπόκρισις, flux, coction, and crisis formed the conceptual basis of all Greek medicine, see Lonie (1981), Langholf (1990), Gundert (1992), Craik (1998), (2001a), (2009a).

διεφθορός, *Anon. Lond.* XX.42) and to have classified different varieties of bread on the basis of whether they are easier or more difficult to digest. In *On Regimen*, digestibility is a central concern in the author’s food catalogue.⁶³ At one point, he even writes specifically about foods that are “raw” (ἔνωμα), noting that “raw things cause colic and belching, because what ought to be digested by the fire is dealt with by the belly, which is too weak for the substances that enter it” (*Vict.* 56.8, 6.570 L., trans. Jones). There is also a passage from *On the Nature of the Human Being* that not only deals with indigestion, but actually prescribes the same remedies that we find in *On Ancient Medicine*. After noting that patients whose stools contain undigested matter (ἄπεπτα) are not adequately “cooking” the food in their bellies, the author writes that “the food of such should be well baked bread crumbled into wine, and their drink should be as undiluted and as little as possible” (*Nat. Hom.* 22.2, 6.82 L., trans. Jones)—the same prescriptions of undiluted wine and well baked bread that we see in *On Ancient Medicine*.⁶⁴

The main problem with the above-quoted passage is that it discounts any overlap between ὑποθέσεις and humoral theory. The author assumes that causal reductionism is the same as therapeutic reductionism, and that anyone who prioritizes the hot, the cold, the dry, and the wet must simultaneously be rejecting such notions as ἀπόκρισις, flux, coction, and crisis. It is important to note, however, that ὑποθέσεις and humoral theory do not have to be mutually exclusive. A doctor could claim that the hot, the cold, the dry, and the wet engender diseases by *initiating* the separating out of one humor from the rest. If a Greek doctor adopts such a theory, there is nothing to prevent him from assuming that a patient can get sick from eating something

⁶³ E.g., *Vict.* 40.2, 6.536 L. (barley bread passes easily because it is quickly digested), 46.1, 6.544 L. (beef is difficult to digest because it has thick and abundant blood), 54.2, 6.558 L. (radishes stagnate in the belly and are hard to digest), 55.2, 6.562 L. (sweet apples are difficult to digest, acidic and ripe apples less so). Cf. also the cases of indigestion at *Vict.* 74.1, 6.614–616 L., 75.1, 6.616 L., 79.1, 6.624 L.

⁶⁴ A similar remedy can be found at *Vict.* 79.2, 6.624 L., where the author is also discussing indigestion.

that already contains a concentrated humor, as would be the case in the above-quoted passage. Even if an ancient doctor were to make the stronger claim that *all* diseases, without exception, are caused by the hot, the cold, the dry, or the wet, he could still find a way to apply this theory to the scenario described above. One might claim, for instance, that raw food requires a longer period of digestion, since “what ought to be digested by the fire is dealt with by the belly.” As the raw food takes more time to digest, the contents of the belly grow hotter than normal, and this heat then initiates the separating out of one humor from the rest.⁶⁵

The author of *On Ancient Medicine* would have made a stronger case if he had used the above-quoted argument to oppose the claim that the hot, the cold, the dry, and the wet are the material elements from which all things are composed. Even on this point, however, his opponents would not have lacked a response. Consider, for example, the following two passages, in which the author of *On Ancient Medicine* stresses the inability of ὑποθέσεις to account for two forms of “cooking” (trans. Schiefsky):

Has the person who prepares bread [i.e., the person who transforms raw, unprocessed wheat into edible bread] removed from wheat the hot, the cold, the dry, or the wet? For that which has been given over to fire, moistened with water, and treated in many other ways, each of which has its own power and nature, has lost some of its properties but gained others through blending and mixing. (13.3, 1.600 L.)

But undergoing coction, changing, thinning, or thickening into a kind of humor through kinds many and varied—for which reason both crises and the reckoning of time are of great importance in such diseases—such modifications hot and cold are the least likely of all these things to undergo: for in this case there could be neither putrefaction nor thickening. How then can we say that there are blends of them that are different, the one from the other, each

⁶⁵ On the heating that arises from stagnant moisture in the belly, see *Hum.* 11, 5.490 L., *Vict.* 46.3, 6.546 L., and cf. the reference to “those things that produce heat when they are digested” at *Genit.-Nat. Puer.* 26.2, 7.526 L. On the power of heat to initiate an ἀπόκρισις, see *Aër.* 9.4, 2.38 L., *Epid.* VI 6.1, 5.322 L., *Nat. Hom.* 12.6, 6.62 L., *Morb. I* 25, 6.190–192 L., *Vict.* 62.2, 6.576 L., 70.2, 6.608 L., *Int.* 30, 7.244 L., *Nat. Fem.* 15, 7.332 L., *Genit.-Nat. Puer.* 1.2, 7.470 L., 30.12, 7.538 L., *Morb. IV* 51, 7.584–590 L., *Mul. II* 119, 8.258 L. In *On Affections* the consumption of food and drink “in too great an amount and too *strong* (ἰσχυρότερα)” appears in a list of factors that are explicitly said to create diseases by heating, cooling, drying, or moistening bile and phlegm (*Aff.* 1, 6.208 L.). This same author also claims that bile and phlegm create problems when they “separate out” and become concentrated (e.g., *Aff.* 16, 6.224 L.), clearly showing that an emphasis on the hot, the cold, the dry, and the wet does not have to be at odds with traditional theories about the humors.

with its own power, since the hot will not lose its heat except when mixed with the cold, nor indeed will the cold lose its coldness except when mixed with the hot? (19.6, 1.618 L.)

In these passages, the author assumes that his opponents can only *replace* one ὑπόθεσις with its opposite (i.e., they can only exchange the hot for the cold, the cold for the hot, the dry for the wet, or the wet for the dry). In the first passage, they can only explain the baking of bread as the *removal* of the hot, the cold, the dry, or the wet, while in the second, they can only explain coction and putrefaction by replacing the hot with the cold or the cold with the hot. Such simple exchanges are easy to refute, but they do not exhaust the options that would have been available to the author's opponents. The proponents of ὑποθέσεις could have claimed, for example, that coction occurs when a "passive" substance (e.g., moisture) is altered by an "active" substance (e.g., heat). Aristotle in fact defines coction as "what happens to everything when its constituent moisture is mastered (sc. by the hot)" (*Mete.* 4.2, 379b), while *On the Nature of the Human Being* reports that some doctors postulated a unitary substance that "changes its form (ἰδέην) and power (δύναμις) under the compulsion of the hot and the cold, becoming sweet, bitter, white, black, and so on" (*Nat. Hom.* 2.2, 6.34 L.). The author of *On Flesh* gives a similar explanation for putrefaction, claiming that the "fatty" (τὸ λιπαρόν) and the "glutinous" (τὸ κολλῶδες) arose when the hot "putrefied" the cold that is contained within the earth (*Carn.* 3, 8.584–586 L.).⁶⁶ Such passages clearly show that coction and putrefaction could be incorporated into a system that postulates nothing more than the hot, the cold, the dry, and the wet. The author of *On Ancient Medicine* deserves credit for seeing the weakness in these theories, but his opponents would not have found his objections particularly compelling, primarily because he discounts the range of

⁶⁶ On the ability of heat to initiate putrefaction, see also *Aēr.* 15.1, 2.60 L., *Acut.* 66.2 (= 18 L.), 2.368 L., *Aph.* 5.22, 4.538 L., *Liqu.* 6.5, 6.134 L., *Int.* 10, 7.190 L., *Genit.-Nat. Puer.* 24.2, 7.520 L., *Morb. IV* 51.7, 7.586–588 L. Similar explanations of qualitative change appear in the *Anonymus Londinensis*; cf. *Anon. Lond.* XI.42–XII.8 (Thrasymachus of Sardis), XI.22–42 (Hippocriton of Croton, quoted below, p. 146).

interactions that one might attribute to “active” and “passive” substances.

The author of *On Ancient Medicine* oversimplifies the theories of his opponents, assuming that they do nothing but replace the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry. The net effect of this oversimplification is that this text is an unreliable witness to what the doctor-cosmologists were doing. If we follow its testimony too closely, we will get a distorted picture of what this movement is all about. For a good example this author’s unreliability, consider the following passage. In this passage, the author implies that the proponents of ὑποθέσεις ignore the fine distinctions that exist between different varieties of bread (14.1–2, 1.600 L., trans. Schiefsky):

Now I know this too, of course, that it makes a difference to the human body whether bread is made from pure or unsifted flour, from unwinnowed or winnowed wheat, whether it is kneaded with much water or with little, thoroughly kneaded or not kneaded at all, well-baked or undercooked, and myriad other differences in addition to these. The same holds for barley cake as well; the powers (δυνάμεις) of each kind are great and no power is at all like any other (οὐδὲν ἢ ἑτέρη τῇ ἑτέρῃ ὅμοιον). But how could the person who has not examined these matters, or who despite his examination is ignorant of them, have any knowledge of the affections that come upon the human being? For by each one of these things the human being is affected and altered in one way or another, and a person’s whole life depends on them, whether he is healthy, recovering from illness, or sick.

This passage is especially ironic if we compare it with the above-mentioned testimonies on Philistion. Philistion was widely recognized as an authority on dietetics, and Athenaeus even provides a detailed summary of the fine distinctions that he drew between different varieties of bread (Athen. 3.83, 115d–e, trans. Olson, modified):

Philistion of Locri says that bread made with top-quality flour promotes physical strength more than bread made of coarse-ground flour does; he ranks bread made with coarse-ground flour second, and bread made with ordinary flour after that. Bread made with very fine meal produces worse χυλός (“juice, humor”) and is less nourishing. Warm bread of all sorts is more easily digested and more nourishing than bread that has cooled, and produces better χυλός; it also promotes the production of πνεῦμα and is easily distributed through the body. Bread that is quite old and very cold is less nourishing, arrests the movement of the bowels, and produces bad χυλός. Bread baked within the coals is heavy and difficult to digest because it is baked unevenly. Oven bread and kiln bread are difficult to break down and digest. Brazier bread and bread made in a frying-pan are easier to excrete, because oil has been mixed into

them, but are harder on the stomach because of their greasiness. Baking-shell bread is rich in good characteristics of all sorts, for it produces good χυλός, is easy on the stomach, and is easily digested, broken down, and distributed through the body, because it neither arrests the movement of the bowels nor distends them.

In this passage, Philistion does not simply assert that one variety of bread is “hot,” another “cold,” another “dry,” and another “wet.” Instead, he observes that certain types of bread are easier or more difficult to digest, more or less nourishing, and either relax or constrict the bowels. He also refers to breads that produce good or bad humors and breads that promote and repress πνεῦμα, clearly showing that a theory of first principles can coexist with a more traditional model of pathogenesis. Similar observations can be made about two other texts, *On Regimen* and *On Affections*, both of whose authors give a central role to the hot, the cold, the dry, and the wet. These authors also write about different varieties of bread (*Vict.* 40–44, 6.536–542 L., *Aff.* 52, 6.260–262 L.), and like Philistion, they describe the “powers” of food and drink in such a way that they clearly have more complex understandings of health and disease than *On Ancient Medicine* would lead us to believe.

So why does the author of *On Ancient Medicine* misrepresent the systems of his opponents? Why does he write as if they rejected more traditional approaches to pathogenesis and thought exclusively in terms of the hot, the cold, the dry, and the wet? Part of the explanation comes from the author’s tendency to favor a highly restricted definition of what it means to be a “cause.” In chapter 19, the author contrasts the use of ὑποθέσεις with his own general theory of human φύσις. While describing how humors create problems when they “separate out” and then move throughout the body, the author notes, “One must of course consider these fluxes to be the cause (αὔτιον) of each condition, since their presence is necessarily accompanied by that condition in a certain form, while when they change into another blend it ceases” (19.3, 1.616–618 L., trans. Schiefsky). In this passage, the author describes two criteria that allow him to say that humoral

fluxes are the “cause” of a disease. First, these fluxes *necessarily* produce a disease whenever they are present. Second, their removal *always* leads to the removal of the disease. When the author writes about the use of ὑποθέσεις, he presumes that his opponents adopt this same definition of a cause. They assume that diseases *necessarily* arise when the hot, the cold, the wet, and the dry are in excess, and that the removal of these excesses will *always* lead to the removal of the disease. The author ignores the possibility that his opponents could have viewed their ὑποθέσεις as procatactic causes, that is, as remote causes that initiate a process but whose effects are not always stopped by their removal. He also ignores the possibility that they may have invoked accessory causes in conjunction with their ὑποθέσεις, causes which ensure that a disease will be produced only when the hot, the cold, the dry, and the wet interact with the body under a specific set of circumstances.⁶⁷ *On Ancient Medicine*’s treatment of causation is reminiscent of a position later endorsed by Erasistratus, who preferred to describe the “cause” of a fever as whatever necessarily produces a fever whenever it occurs (*On Fevers* fr. 211 Garofalo, trans. Allen 2000):

Most people both now and earlier have sought the causes of fevers by wishing to hear and learn from the ill whether their illness had its origin in being chilled or exhausted or in repletion or some other cause of this kind, in this way neither truly (*vere*) nor profitably (*conferenter*) investigating the causes of disease. For if cold were a cause of fever, then those who have been chilled the more would suffer the greater fever. But this is not what happens: rather there are some who have faced extreme danger from freezing, and when rescued have remained unaffected by fever. The same thing happens in regard to exhaustion and repletion: many people who experience far worse exhaustion and repletion than when some people have come down with a fever none the less escape the illness.

Galen wrote an entire treatise *On Procatactic Causes* to challenge this position,⁶⁸ although he is probably mistaken in his belief that Erasistratus rejects *all* procatactic causes, as Allen (2000, 86)

⁶⁷ For “accessory and contributing causes” (συναίτια καὶ μεταίτια), see below, pp. 91–92. On the various levels of causation in Greek medicine, see Hankinson (1998), (2001), Vegetti (1999), Pelling (2000, 84–85), Allen (2000).

⁶⁸ On Galen’s treatise, see the translation and commentary of Hankinson (1998) with the notes of Allen (2000).

observes in his analysis of this fragment:

Erasistratus is complaining about physicians who, on his view, put forward an item—one of the so called procatactic causes—as if it furnished a complete explanation when it manifestly fails to do so. Erasistratus could also believe that there is an especially important factor in the explanation of fevers which deserves to be privileged as the cause because it explains, or plays the principal part in explaining, why fevers arise when and as they do, something that his opponents' causes signally fail to do. ... Erasistratus may also have been moved by the not unreasonable thought that without a deeper understanding of the aetiology of fevers we shall not be in a position to evaluate claims made on behalf of heating, chilling, repletion and the like.

Although the author of *On Ancient Medicine* does not address the issue as directly as Erasistratus, he may have been motivated by a similar set of concerns, believing that doctors should prioritize internal processes over external triggers. Not only are the internal processes *directly* relevant to treatment, but an excessive emphasis on external triggers can lead the doctor astray. In chapter 21, the author complains about the *post hoc, propter hoc* reasoning of doctors who think that whatever their patients did before falling ill must be the “cause” of their affection (*VM* 21.2–3, 1.624–626 L., trans. Schiefky):

I know that the majority of doctors, like lay people, if patients happen to have done anything unusual on a particular day, either by bathing or walking or eating something different—whether all these things are better done or not—none the less assign the responsibility to one of them, not knowing the cause (τὸ αἴτιον) and perhaps depriving the patient of what is most beneficial. One must not do this, but rather know what will be the effect of an additional bath taken at the wrong time or of fatigue. For the same suffering never arises from either of these, nor indeed from repletion nor from food of one kind or another. Whoever does not know how each of these things stands in relation to the human being will be able neither to recognize their effects nor to make correct use of them.

Just after this passage, the author claims that what doctors should really consider is “which affections come upon the human being from powers (δυναμίων) and which from structures (σχημάτων). What do I mean by this? By ‘power’ I mean the acuity and strength (ἰσχύον) of the humors; by ‘structures’ I mean all the parts inside the human being, some hollow and tapering from wide to narrow, others also extended, others solid and round, others broad and suspended, others stretched, others long, others dense, others loose in texture and swollen, others spongy and

porous” (22.1, 1.626 L., trans. Schiefsky). In other words, the doctor should pay more attention to what is happening *inside* the body than to what affects it from the outside, since it is only by thinking about internal physiology that the doctor will know what must be done. The same external trigger will not always have the same effect, but the same internal state will always demand the same action. By rebutting the proponents of ὑποθέσεις *as if* their principles performed the same functions as the humors, the author demonstrates that any discussion of disease must consider what is happening within the body.

On the one hand, then, the author of *On Ancient Medicine* misrepresents his opponents because he assumes that their discussions of the hot, the cold, the dry, and the wet must follow the same strong definition of what it means to be a “cause” that he attributes to the humors. At the same time, the author also mischaracterizes his opponents because he is committed to another hard and fast distinction that is not, in fact, as inviolable as he thinks. This distinction concerns two strategies for advancing the medical art: (1) by making it more complex and (2) by making it simpler. In his opening remarks, the author complains that the proponents of ὑποθέσεις oversimplify the medical art, narrowing down the causes of disease to “one or two” principles like the hot, the cold, the dry, or the wet (1.1, 1.570 L.). In response, the author claims that ὑποθέσεις are unnecessary because medicine has long had its own “starting point and method” (ἀρχὴ καὶ ὁδός, 2.1, 1.572 L.). This method can be traced back to the earliest period of human civilization, and it is responsible for all discoveries that doctors have ever made. “The art of medicine would never have been discovered,” the author writes, “nor would anyone have sought for it—for there would have been no need for it—if it were beneficial for the sick to follow the same regimen and diet as the healthy, taking the same foods and drinks and following the same regimen in other respects, and if there were not other things better than these” (3.1, 1.574 L., trans. Schiefsky, modified). Just as Eryximachus observes that “what is dissimilar longs for and desires dissimilar

things” (τὸ δὲ ἀνόμοιον ἀνομοίων ἐπιθυμεῖ καὶ ἐρᾷ, Pl. *Smp.* 186b), so the author of *On Ancient Medicine* stresses that different types of patients require different modes of treatment. Medicine has advanced, the author asserts, as doctors have made finer and finer distinctions between different classes of patients, recognizing that a doctor’s success rests primarily on his ability to distinguish one type of patient from another. The first discovery came when it was realized that the “constitution” (φύσις) of human beings requires different forms of nutriment than the constitution of animals (3.3–6, 1.576–578 L.). Animals eat food that is “raw, unblended, and possessing great powers” (ὠμά τε καὶ ἄκρητα καὶ μεγάλας δυνάμιας ἔχοντα, 3.4, 1.576 L.), while humans are too weak to overcome the strength of such foods. Early humans therefore “boiled and baked and mixed and blended the strong and unblended things with the weaker, molding everything to the constitution and power of the human being” (πλάσσοντες πάντα πρὸς τὴν τοῦ ἀνθρώπου φύσιν τε καὶ δύναμιν, 3.5, 1.578 L., trans. Schiefky). The author considers this initial distinction between food that is appropriate for animals and food that is appropriate for humans to be an early form of medicine.⁶⁹ He goes on to say, however, that “the acknowledged art of medicine” (τὴν ὁμολογουμένως ἱατρικὴν, 5.1, 1.580 L.) began when doctors first made distinctions between different classes of human beings. The most obvious distinction is between the healthy and the sick. Medicine would never have been invented, the author writes, “if the same regimen were suitable for both the sick and the healthy” (εἰ ταῦτα διαιτήματα τοῖσι τε κάμνουσι καὶ τοῖσιν ὑγιαίνουσιν ἥρμοζεν, 5.1, 1.580 L., trans. Schiefky). The sick and the healthy react to the same foods in different ways, and so doctors must give different foods to the sick than they would give to the healthy. In general, the sick should be given foods that are weaker than those that are given to the healthy. The first doctors therefore simply decreased the amount of

⁶⁹ *VM* 3.6–4.2, 1.578–580 L., 7.1–8.3, 1.584–588 L.

food that was given to the sick. They soon observed, however, that this treatment “sufficed for some patients, but not for all” (πρὸς τινὰς τῶν καμνόντων ἤρκεσε ... οὐ μέντοι πᾶσί γε, 5.4, 1.580–582 L.). For this latter group, they needed to find other forms of treatment, giving some of them gruels and others only drinks, “taking care that these should be moderate in both blend and quantity, and making prescriptions that were neither excessive in quantity nor too unblended, nor indeed too deficient” (5.5, 1.582 L., trans. Schiefsky).

The author of *On Ancient Medicine* presents ὑποθέσεις as an attempt to replace this method of advancing the medical art by dividing and subdividing patients into different groups. For as long as can be remembered, doctors have always made discoveries by drawing finer and finer distinctions between different classes of individuals: humans differ from animals, the sick from the healthy, and specific categories of the sick from those with different “constitutions” (φύσεις) and “physical states” (διαθέσεις).⁷⁰ Each of these groups requires a different mode of treatment, and medicine has grown more effective as doctors have determined what is “fitting” (ἁρμόζων) for each class.⁷¹ With the introduction of “foundational principles,” by contrast, the author implies that some doctors are now trying to move medicine in the opposite direction. Instead of increasing the complexity of the art, they are “narrowing down (ἐς βραχὺ ἄγοντες) the primary cause of diseases and death for human beings, laying down the same one or two things as the cause in all cases” (πᾶσι τὴν αὐτὴν ἐν ἧ δύο ὑποθέμενοι, 1.1, 1.570 L., trans. Schiefsky, modified). Such reductionism, the author holds, runs counter to the interest of doctors in identifying the

⁷⁰ On the distinctions between patients with different “constitutions” (φύσεις) and “physical states” (διαθέσεις), see *VM* 3.4, 1.576 L., 3.5, 1.578 L., 5.4, 1.580–582 L., 6.2, 1.582–584 L., 7.2, 1.584 L., 8.2, 1.586 L., 12.1, 1.596 L., 13.1, 1.598 L. Generally speaking, the author uses the term φύσις to refer to a physical condition that is always present, while διάθεσις denotes a condition that is only temporary (e.g., an illness). Hence, we would say that humans differ from other animals in terms of their φύσεις, while the healthy differ from the sick in terms of their διαθέσεις.

⁷¹ *VM* 3.4, 1.576 L., 5.1, 1.580 L.

differences between individual patients. Medicine has always improved by growing more complex, and there is no reason to reject this time-tested method in favor of “foundational principles” that are the same in every case.

This emphasis on dividing patients into groups, and then adapting treatments to the particular needs of each group, carries over into the author’s second polemic, in which he takes issue with accounts of human φύσις that focus on the genesis and elemental constitution of human beings. In chapter 20, the author writes that there are some doctors and “sophists” who claim that anyone who intends to practice medicine correctly must first have a knowledge of what a human being is. In particular, they claim that doctors should know “what a human being is from the beginning, how it originally came to be, and from what it was compounded” (20.1, 1.620 L.), even though such accounts have no practical purpose but rather “tend toward philosophy” (τείνει ἐς φιλοσοφίην, 20.1, 1.620 L.).⁷² Doctors should know about human φύσις, the author writes, but only in terms of how the same things, administered in the same way, will have different effects on different constitutions. To illustrate this point, the author observes that a single foodstuff could simultaneously be harmful to some patients and beneficial to others, as we see in the case of cheese (20.5–6, 1.624 L., trans. Schiefsky, modified):

Cheese ... does not harm all human beings in the same way (οὐ πάντας ἀνθρώπους ὁμοίως λυμαίνεται): there are some who can eat their fill of it without being harmed at all, and it even provides a wondrous strength to those whom it benefits; but there are others who have difficulty coping with it. Hence the natures of these people differ (διαφέρουσιν οὖν τούτων αἱ φύσεις), and the difference concerns the very thing in the body that is hostile to cheese and is stirred up and set in motion by it. Those in whom such a humor happens to be present in greater quantity and to exert more power in the body will naturally suffer more. But if cheese were bad for human nature in general, it would harm all people (εἰ δὲ πᾶσι τῇ ἀνθρωπίνῃ φύσει ἦν κακόν, πάντας ἂν ἐλυμαίετο).

The author’s hostility to cosmological accounts of human φύσις is similar to his hostility toward

⁷² Here, the term “philosophy” is used in its basic sense of “wisdom-loving,” the idea being that such knowledge has no practical use, but is merely pursued for its own sake.

ὑποθέσεις. Broadly understood, this author’s approach to medicine consists of dividing and subdividing patients into groups, and then considering how treatments should be adapted to each. When his opponents introduce a small set of principles that apply to all patients, to all diseases, and to all things in general, the author suggests that they are simultaneously rejecting the fine distinctions that exist between individual cases.

A good parallel to this author’s complaint about ὑποθέσεις can be found in the treatise *On Fractures*. In this text, the author warns against “wisdom-mongering doctors” (οἱ ἱητροὶ σοφιζόμενοι; cf. *On Ancient Medicine*’s ἱητροὶ καὶ σοφισταί, 20.1, 1.620 L.) who indiscriminately apply the same treatment in every case (*Fract.* 1–2, 3.412–422 L., trans. Withington, modified):

Indeed, those who have no preconceived idea (οἳ μὲν οὖν μηδὲν προβουλεύονται) make no mistake as a rule, for the patient himself holds out the arm for bandaging in the position impressed on it by conformity with nature (φύσις). The wisdom-mongering doctors (οἱ ἱητροὶ σοφιζόμενοι) are just the ones who go wrong. In fact the treatment of a fractured arm is not difficult, and is almost any practitioner’s job, but I have to write a good deal about it because I know practitioners who have got credit for wisdom by putting up arms in positions which ought rather to have given them a name for ignorance. And many other parts of this art are judged thus: for they praise what seems outlandish (ξеноπρεπές) before they know whether it is good, rather than the customary (σύνηθες) which they already know to be good; the bizarre (ἀλλόκοτον) rather than the obvious (εὐδηλον). ... [One such doctor made his patient hold a broken arm] as the archers do when they bring forward the shoulder, and he put it up in this posture, persuading himself that this was its natural position (τὸ κατὰ φύσιν). He adduced as evidence the forearm bones, and the surface also, how it has its outer and inner parts in a direct line, declaring this to be the natural disposition of the flesh and tendons (οὕτω δὲ ἔφη καὶ τὰς σάρκας καὶ τὰ νεῦρα πεφυκέναι), and he brought in the art of the archer as evidence. ... But there is nothing in common between putting up fractures and archery (ἐπιδέσει δὲ καὶ τοξικῇ οὐδὲν κοινόν).

Like the author of *On Ancient Medicine*, the author of *On Fractures* advocates treatments that are “in accordance with the nature” (κατὰ φύσιν) of the patient. This procedure will change from one case to the next, but the patient will hold his arm in such a way as to show what is needed in each case. The “wisdom-mongering” doctors, on the other hand, make use of preconceived notions (προβουλεύονται; cf. *On Ancient Medicine*’s ὑποθέσεις). They simply formulate some universal

principle about the “nature” (φύσις) of human beings (cf. οὕτω δὲ ἔφη καὶ τὰς σάρκας καὶ τὰ νεῦρα πεφυκέναι) and then appeal to this principle when applying the same treatment in every case. Like the author of *On Ancient Medicine*, the author of *On Fractures* complains that his opponents are dispensing with a methodology that has been proven over time (σύνηθες) and whose principles are open to the senses (εὐδηλον), replacing this methodology with treatments that are outlandish and bizarre (ξενοπρεπές, ἀλλόκοτον). Adding insult to injury, these “wisdom-mongering” doctors draw on fields of learning that have nothing to do with medicine. The author of *On Fractures* criticizes a doctor who invokes the art of archery when setting broken bones. In response, he observes that “there is nothing in common between putting up fractures and archery” (ἐπιδέσει δὲ καὶ τοξικῇ οὐδὲν κοινόν), a phrase that recalls *On Ancient Medicine*’s assertion that “whatever has been said or written about ‘nature’ by a sophist or doctor pertains less to the art of the doctor than to that of the painter” (ἥσσον νομίζω τῇ ἰατρικῇ τέχνῃ προσήκειν ἢ τῇ γραφικῇ, 20.2, 1.620 L.).⁷³

Of course, if there really *were* doctors who insisted on setting every broken arm in the position of an archer, then the author of *On Fractures* would be justified in criticizing such doctors for not adapting their treatments to fit the needs of individual patients. Similarly, if there really *were* doctors who did nothing but treat the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry, then the author of *On Ancient Medicine* would be right to criticize these doctors for oversimplifying the medical art. It should be noted, however, that beyond the polemic in *On Ancient Medicine*, we have no evidence that any Greek doctor from the Classical

⁷³ The idea seems to be that just as it would be ridiculous for the τέχνη of the painter to rely on cosmological theories, so too is it unnecessary for medicine, another τέχνη, to be rooted in “philosophy.” For a different interpretation of this sentence, see Schiefky (2005, 306–310), who follows Müller (1965b) in interpreting ἡ γραφικὴ τέχνη as “the art of writing treatises.” It seems impossible, however, for ἡ γραφικὴ τέχνη to be translated in this way, as (1) the τέχνη are traditionally named for their practitioners (cf. ἰατρικὴ < ἰατρός, μαντικὴ < μάντις, ῥητορικὴ < ῥήτωρ), and (2) a “writer of treatises” is not a γραφεύς but a συγγραφεύς.

period actually simplified medicine to this extent. Such radical reductionism cannot be found in the testimonies on Petron and Philistion, in the speech of Eryximachus, nor, as we will see, in the surviving works of the doctor-cosmologists. In fact, as I will argue in Chapter 2, the doctor-cosmologists actually *agreed* with this author when it came to dividing patients into groups, considering the “nature” of each group, and adapting their treatments to fit the needs of individual situations. Far from replacing one system with another, the doctor-cosmologists were building on the very approach to clinical decision-making that *On Ancient Medicine* claims they are rejecting.

Chapter 2: *On the Nature of the Human Being*

In Chapter 1, we examined three indirect sources for the doctor-cosmologists: (1) the *Anonymus Londiniensis*, (2) the speech of Eryximachus in Plato's *Symposium*, and (3) *On Ancient Medicine*. We observed that Petron and Philistion speculated about the elemental constitution of human beings, that they attributed some diseases to an imbalance in the hot, the cold, the dry, and the wet, and that they also cultivated more traditional theories regarding the humors, πνεῦμα, and the “powers” of food and drink. We also saw that Eryximachus uses an argument from induction to demonstrate that ἔρως is a universal principle, and like Petron and Philistion, he seems to combine a theory of opposites with a more traditional model of pathogenesis. Finally, we noted that *On Ancient Medicine* is an unreliable witness to what the doctor-cosmologists were doing. The author writes as if these doctors were exclusively treating the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry, when in fact they seem to have *agreed* with this author, at least insofar as they recognized the importance of concocting and then purging peccant humors from the body.

At this point, it is difficult to say much more about the doctor-cosmologists. None of these sources give us detailed information concerning the structure of their systems, let alone any indication as to why these doctors would have created such systems in the first place. We would like to know, for example, why the doctor-cosmologists thought they *needed* to combine the first principles of the universe with a humoral model of disease. What limitations did they think they were addressing by constructing such systems, and what might their systems tell us about the priorities of Greek doctors in the fifth and fourth centuries BCE? Fortunately, the Hippocratic Corpus contains four texts that can help us answer these questions. These are *On the Nature of the Human Being*, *On Breaths*, *On Flesh*, and *On Regimen*. Over the next four chapters, I will examine each of these texts, providing a general outline of their systems. I will also consider what these

texts can tell us about the doctor-cosmologists as a group. I will begin with *On the Nature of the Human Being*, a text whose system is presently the best understood of those expounded by a doctor-cosmologist. I will start by summarizing this author's beliefs about the elements, the humors, and the role of the doctor in both treating and preventing disease. I will then show how this text is incompatible with the two central complaints in *On Ancient Medicine*: (1) that the doctor-cosmologists dispensed with humoral theory in favor of exclusively treating the hot with the cold, the cold with the hot, the dry with the wet, and the wet with the dry, and (2) that these same doctors rejected the division and subdivision of patients into groups in favor of a handful of ὑποθέσεις that are the same in every case.

There is a strong case to be made that *On the Nature of the Human Being* was written by Polybus of Cos, a famous doctor who flourished around 400 BCE. Polybus was the son of a certain Apollonius, but he was better known in antiquity as the student and successor of Hippocrates. According to Galen, Polybus stayed on Cos for his entire life, eventually taking over leadership of Hippocrates' school.⁷⁴ Other sources claim, with varying degrees of believability, that he married Hippocrates' daughter,⁷⁵ that he provided his mentor with seven books on medicine from the Egyptian city of Memphis,⁷⁶ that Hippocrates sent him to provide treatment to Greek cities during the plague,⁷⁷ and that he was the author not only of *On the Nature of the Human Being*, but also of the treatise *On the Eight Months' Child*.⁷⁸ We do not know the criteria that ancient editors

⁷⁴ Gal. *Quod opt. med. sit etiam philos.* 3, 1.58 K., *In Hp. Nat. Hom. comm.* 15.11–12 K., *De sept. partu* 2, p. 344, 59–64 Walzer.

⁷⁵ *Thess. orat.* 9.420 L., Gal. *De diff. resp.* 7.960 K.

⁷⁶ *Vita Hippocratis Bruxellensis* 39–40.

⁷⁷ *Thess. orat.* 9.420 L. Contrast Gal. *Quod opt. med. sit etiam philos.* 3, 1.58 K.

⁷⁸ *On the Nature of the Human Being*: Gal. *In Hp. Nat. Hom. comm.* 15.11, 171–172 K. *On the Eight Months' Child*: Gal. *De sept. partu* 2, p. 344, 49–59 Walzer, *In Hp. Epid. II* 5.118 L., p. 300 Pfaff, Clem. Alex. *Strom.* 6.16.139, ps.-Plu. *Placit.* 908A–B, ps.-Gal. *De hist. phil.* 122, 19.331 K. Galen mentions two further treatises, *On Affections* and *On the Nature of*

used when attributing *On the Nature of the Human Being* to Polybus. Galen, for his part, argued that chapters 1–8 were by Hippocrates, 9–15 by an anonymous interpolator, and only 16–22 by Polybus. It is important to remember, however, that Galen had a professional interest in attributing chapters 1–8 to Hippocrates, while his arguments for identifying chapters 9–15 as an interpolation no longer stand up to critical scrutiny.⁷⁹ The modern case for identifying Polybus as the author of this text depends on two pieces of evidence. First, Aristotle quotes chapter 11 of *On the Nature of the Human Being* in his *History of Animals*, attributing it to Polybus (*HA* 3.3, 512b–513a). Second, the *Anonymus Londiniensis*, which draws on a Peripatetic source, summarizes chapters 1–4 in its entry on Polybus (*Anon. Lond.* XIX.1–18). Since only a few decades separate Aristotle from Polybus, it is reasonable to assume that the physician from Cos was indeed the author of this text. Few authorities, in fact, would have been better positioned to identify this author, as Aristotle was himself the son of a doctor and deeply interested in medical science. In light of these testimonies, I will refer to the author of *On the Nature of the Human Being* as “Polybus” from this point forward. Although my arguments will not rely on this identification, the name “Polybus” will provide a useful shorthand for denoting the author of this text.

Like the other doctor-cosmologists we have encountered so far, Polybus places the hot, the cold, the dry, and the wet at the center of his medical system. In chapter 3, he claims that all things are composed of these four substances, referring to their interactions as “the nature of

the Child, as the work of “either Hippocrates or Polybus” (Gal. *In Hp. Aph. comm.* 18a.8 K., *De foet. form.* 1.4, 4.653 K.). This may, however, simply reflect his interest in claiming that these texts are “at least Hippocratic, if not by Hippocrates himself.” See *De diff. resp.* 7.959–960 K. and *In Hp. Nat. Hom. comm.* 15.11–12 K. for Galen’s belief that Polybus did not deviate from the teachings of Hippocrates, and Gal. *In Hp. Off. comm.* 18b.666 K. for a similar reference to “either Hippocrates or Thessalus” as the author of *In the Workshop*. On the attribution of *On the Eight Months’ Child* to Polybus, see Grensemann (1968), who argues for its acceptance. For a rebuttal, see Jouanna (1969). For more on Polybus’ life, see Nutton (2007b) and Manetti (2008d).

⁷⁹ On the unity of *On the Nature of the Human Being*, see Jouanna (2002, 22–38). This unity persists even if we assume, with Langholf (2004), that some parts of this text were adapted from other sources.

humans/animals and of all other things” (τῆς φύσιος ... καὶ τῶν ἄλλων πάντων καὶ τοῦ ἀνθρώπου, 3.2, 6.38 L.; τῶν ζώων ... ἡ φύσις καὶ τῶν ἄλλων πάντων, 3.4, 6.38 L.). Because these four elements are neither created nor destroyed, Polybus does not believe in generation or destruction in the usual sense of these terms. Instead, he describes “generation” as a form of mixture (κρήσις, 3.1, 6.38 L.; cf. μίσγεται, 3.1, 6.38 L.), while “destruction” is merely dissolution. In chapter 3, Polybus writes that “each must return to its own nature when a human body dies, wet to wet, dry to dry, hot to hot, and cold to cold” (3.3, 6.38 L.). He also observes that “to the same thing from which each was composed, that is where it departs” (ἐς τὸ αὐτὸ ὅθεν περ συνέσθη ἕκαστον, ἐνταῦθα οὖν καὶ ἀπεχώρησε, 3.4, 6.38 L., trans. Jones). This belief that all things are composed of four primary substances, which both mix together and separate from one another, is strongly reminiscent of Empedocles. Polybus differs from Empedocles insofar as he does not select fire, water, earth, and air but rather the hot, the cold, the dry, and the wet as the first principles of all things, but the general framework of his system closely mirrors Empedocles’ assertion that everything is composed of four elements.

Polybus takes an unusual turn, however, when he sets the following requirement for generation (3.1, 6.38 L., trans. Jones, modified):

If the combination of hot with cold and of dry with wet be not tempered and equal, but the one constituent is much in excess of the other, and the stronger is much stronger than the weaker, generation will not take place.

With this statement, Polybus seems to assert that, for generation to occur (i.e., for the elements to come together and form a stable compound), all four elements must be present *simultaneously*, and that these four elements must also be present in roughly equal proportions. Now, Polybus cannot be claiming that all four elements be *exactly* proportionate, for otherwise there would be no means of distinguishing one object from another. Note the careful wording of this passage: “if the one constituent is *much* (πολλόν) in excess of the other, and the stronger much stronger than the

weaker, generation will not take place.” Polybus apparently allows for slight deviations in the hot, the cold, the dry, and the wet. He does not, however, think that compounds can arise when there is a significant imbalance in one direction or another.

This insistence that all four elements be present at all times, and that no one element be much stronger than the rest, is difficult to reconcile with the system of Empedocles. Empedocles explicitly notes, in fact, that different ratios of elements will create different substances, as bones, for example, are comprised of two parts earth, two parts water, and four parts fire (DK 31 B96). To understand Polybus’ stipulation, we must turn to the realm of medicine. We may recall, for example, *On Ancient Medicine*’s definition of disease (above, pp. 33–35). In this text, the author defines health as a balanced mixture of the humors, while diseases arise when any one humor has more “power” than the rest. If such a notion lies behind Polybus’ theory, then our author has taken an intriguing stance regarding the relationship between medicine and cosmology. Without any explicit argument to support his theory, Polybus has taken a requirement for *health* and made it a requirement for *being*.

In chapter 4, Polybus identifies the specific “nature” (φύσις) of human beings as the combination of four humors: blood, phlegm, yellow bile, and black bile. Like the universe, animals, and human beings in general, each of these humors is composed of four substances—the hot, the cold, the dry, and the wet—and they each acquire a particular “aspect” (ἰδέα) and “power” (δύναμις) from minor imbalances in their elemental mixture (5.2, 6.40–42 L.). Polybus believes that diseases arise when there is a “separating out” (ἀπόκρισις) of one humor from the rest. As he writes in the opening of chapter 4 (4.1–3, 6.38–40 L., trans. Jones, modified):

The body of the human being has in itself blood, phlegm, yellow bile, and black bile; these make up the nature of his body, and it is on account of these that he feels pain or enjoys health. Now he enjoys the most perfect health when these are duly proportioned to one another in respect of power (δύναμις) and quantity (πλήθος), and when they are most perfectly mixed together. Pain is felt when one of these, in a smaller or greater quantity, is

isolated in the body without being blended with all the others.

Yet again, we should be reminded of *On Ancient Medicine*'s definition of disease. In both texts, diseases are attributed to a "separating out" of peccant humors whereby the "power" or "strength" of one humor overpowers that of the rest.⁸⁰ *On Ancient Medicine* counts these humors as "myriad" (*VM* 14.4, 1.602 L.) and defines them primarily by their taste. Polybus, meanwhile, reduces the humors to four, defining them as blood, phlegm, yellow bile, and black bile. There are some passages, however, in which Polybus seems to associate the humors with tastes. In chapter 2, he describes different humors as being "sweet or bitter, white or black" (2.2, 6.34 L.), while in chapter 6, he compares the purgation of humors to the process by which plants draw from the earth "the acid, the bitter, the sweet, the salt, and so on" (6.3, 6.44–46 L.).

In chapter 7, Polybus describes the tendency of each humor to increase and diminish during the year. Phlegm is cold and wet, and it increases during the winter. Blood is hot and wet, and it increases during the spring. Yellow bile is hot and dry, and it increases during the summer. Black bile is cold and dry, and it increases during the fall. Polybus claims to have come this conclusion after observing the cyclical nature of disease: "It is in winter that the sputum and nasal discharge of human beings is fullest of phlegm; at this season mostly swellings become white, and diseases generally phlegmatic" (7.3, 6.46 L., trans. Jones, modified). "It is chiefly in spring and summer," meanwhile, "that humans are attacked by bloody stools and by hemorrhage from the nose, and they are then hottest and red" (7.4, 6.48 L., trans. Jones, modified). Finally, it is in the summer and autumn that "humans vomit bile without an emetic, and when they take purges the discharges are most bilious" (7.5, 6.48 L., trans. Jones, modified; cf. *Nat. Hom.* 15.5, 6.68 L.).

⁸⁰ On the "power" (δύναμις) and "strength" (ἰσχύς) of concentrated humors, see also *Nat. Hom.* 8.1, 6.52 L.

Connections between winter and phlegm, summer and bile are very common in the Hippocratic Corpus.⁸¹ The association of blood with spring and black bile with autumn is less common, though not unparalleled.⁸² Most scholars now agree that Polybus built his four-humor system on top of a traditional polarity between bile and phlegm. Within this polarity, bile could be associated with the hot, the dry, summer, fire, youth, and the male, while phlegm could be associated with the cold, the wet, winter, water, old age, and the female.⁸³ In *On the Nature of the Human Being*, Polybus explicitly refers to oppositions between fire and water (5.2, 6.42 L.), summer and winter (5.4, 6.42 L., 7.5, 6.48 L., 8.1, 6.50 L., 16–18, 6.72–76 L., 20, 6.78–80 L., 22.1, 6.82 L.), youth and old age (9.3, 6.52–54 L., 17.3–4, 6.74–76 L.), and the male and the female (9.3, 6.54 L., 21.2, 6.82 L.). In all but the reference to fire and water, he explicitly associates the first member of each pair with the hot and the dry, the second with the cold and the wet.

Polybus frequently relies on analogies to draw connections between disparate phenomena. The number four is especially important in his system, as it connects the four elements, the four humors, and the four seasons of the year. Toward the end of chapter 7, he asserts that just as all objects must contain a simultaneous blending of the hot, the cold, the dry, and the wet, so too must the body contain a simultaneous blending of blood, phlegm, yellow bile, and black bile. Even though the four humors ebb and flow, all four must be present at all times. Polybus justifies

⁸¹ Cf. *Aër.* 7.2, 2.26 L., *Aph.* 3.21, 4.494–496 L., 3.23, 4.496 L., *Epid.* V 71–72, 5.246 L., *Epid.* VII 82, 5.438 L., *Hum.* 14, 5.496 L., *Aff.* 14, 6.220–222 L., *Int.* 28, 7.240 L., 30, 7.244 L., 35, 7.252 L., 38–39, 7.260–262 L.

⁸² Blood in spring: *Epid.* I 14–17 (= 8 L.), 2.640–650 L., *Aph.* 3.20, 4.494 L., *Hum.* 14, 5.496 L.; cf. *Epid.* III 4, 3.76 L., *Int.* 32, 7.248 L. Black bile in autumn: *Epid.* IV 16, 5.154 L., *Epid.* VI 1.11, 5.272 L., *Aph.* 3.22, 4.496 L.

⁸³ On the history of humoral systems and their various schematizations, see Vogel (1956), Schöner (1964), Flashar (1966), Jouanna (2002). A scheme of blood, phlegm, bile, and black bile is also suggested by *Epid.* III 14, 3.96–98 L., and *Epid.* VI 5.8, 5.318 L. For a possible reference to humoral polarities in the speech of Eryximachus, see above, pp. 26–27. In all, bile and phlegm are cited side by side in over twenty different Hippocratic works. I will provide my own thoughts about bile and phlegm in my discussion of *On Flesh* (below, pp. 151–157).

this principle by claiming that the hot, the cold, the dry, and the wet are mutually dependent: “none in fact of these would last for a moment without all the things that are present in this cosmos, but if one were to fail all would disappear, for by the same necessity all things are constructed and nourished by one another” (ἀπὸ γὰρ τῆς αὐτῆς ἀνάγκης πάντα συνέστηκε τε καὶ τρέφεται ὑπ’ ἀλλήλων, 7.8, 6.48–50 L.). Polybus does not elaborate on this point, but he seems to believe that opposite principles depend on one another. The hot, for example, would depend on the cold, the dry on the wet, and so on. As we will see, this principle of opposite-interdependence can also be found in *On Regimen*. It explains the cyclical dominance of each element (for it would be impossible for any one element to sustain perpetual dominance without running out of fuel), and it also implicitly demands that a single element not exist on its own.

Polybus’ insistence that all four humors must be present at all times, and that these four humors mirror the four roots of all things, ultimately leads him to oppose all thinkers who claim that the body is constructed of a single element. He begins his treatise with a two-part polemic, in which he first dismisses those who assert that humans are composed entirely of “air, fire, water, earth, or anything else not obviously present in human beings” (1.1, 6.32 L.). Polybus’ rebuttal of this group is reminiscent of *On Ancient Medicine*’s criticisms of “philosophy.” Because these theorists speculate about matters that are invisible and ultimately unprovable, it is impossible to tell which (if any) of their theories are correct. “Each cites for his own account evidence and proofs that amount to nothing,” while “given the same debaters and the same audience, the same man never wins in the discussion three times in succession, but now one is victor, now another, now he who happens to have the most glib tongue in the face of the crowd” (*Nat. Hom.* 1.2–3, 6.32–34 L., trans. Jones). In sharp contrast with the author of *On Ancient Medicine*, Polybus assumes that such substances as the hot, the cold, the dry, and the wet are open to perception and well within the limits of medicine. Some scholars (e.g., Jouanna 2002, 24–25) have

overlooked this empirical distinction and have thus downplayed the role of cosmological principles in Polybus' system. After dismissing those who assert that humans are composed entirely of air, fire, water, or earth, Polybus then turns to a second group: those who claim that humans are composed of a single humor. In response to these theorists, whom Polybus identifies as "doctors" (ἰητροί, 2.1, 6.34 L.), he offers two rebuttals. First, he claims that a one-humor theory cannot be reconciled with the existence of pain, which, as we have already seen, Polybus attributes to the "separating out" (ἀπόκρισις) of one humor from the rest. Even if a one-humor theory could account for pain, he adds, there would be no variation in either diseases or their treatments. Instead, all cures would be one and the same, whereas experience shows us that "there are many forms of diseases and also many modes of treatment" (πολλὰ μὲν ἰδέαι τῶν νοσημάτων, πολλὴ δὲ ἡ ἱησις, 2.3, 6.34–36 L., trans. Jones). Polybus' second rebuttal of one-humor theories draws on his observation that the humors ebb and flow in unison with the seasons. If humans were composed of a single humor, he contends, then there should be a single season in which the body is entirely blood, bile, or phlegm (2.4, 6.36 L.). No such season exists, however, so the humors cannot be one.

Polybus' general discussion of human φύσις extends through the end of chapter 7. In the second part of this text, chapters 8–15, he offers a series of precepts on pathology and treatment.⁸⁴ One key concept that arises from this section is the notion of humoral flux. Polybus defines the origin of disease as the "separating out" (ἀπόκρισις) of one humor from the rest. Once a humor separates out, however, it does not necessarily stay in one place. Instead, the humor can move throughout the body, eventually becoming stuck in one part or another. In chapter 10, Polybus observes that a disease which originates and then flows from a stronger part of the body

⁸⁴ On the continuity of this section with the rest of *On the Nature of the Human Being*, see Jouanna (2002, 22–38).

is more difficult to treat than one that originates and then flows from a weaker part. In chapter 11, he describes four pairs of vessels that descend from the head, noting how they extend to the eyes, the ears, the spine, the hips, the lungs, the spleen, and other parts—all places to which humors were commonly thought to flow and get stuck.⁸⁵ In chapter 12, he describes three fluxes that originate in the flesh and produce different ailments depending on the place to which they flow, while in chapter 13, he observes that “diseases which originate from a scanty flux and whose causes are easily diagnosed offer the surest prognoses” (13.1, 6.64 L.). Finally, in chapter 14, Polybus offers advice on how to determine the starting point of a flux that terminates in the bladder. The presence of blood in the urine will mark an affection that originates in the vessels, while small pieces of flesh will indicate that the affection has started in the kidneys (14.2–3, 6.66 L.).

Polybus repeatedly stresses the importance of tracing diseases to their source. In chapter 13, he observes that patients should be treated “by opposing the cause (πρόφασις) of the disease, for in this way you will remove that which is providing the disease to the body” (οὕτω γὰρ ἂν λύοιτο τὸ τὴν νοδσον παρέχον τῷ σώματι, 13.1, 6.64 L.). A similar emphasis on tracing diseases to their source can be found in *On Places in the Human Being* (31, 6.324 L., trans. Craik, modified):

One should treat ailments from their source (ἀπ’ ἀρχῆς). In all cases which arise from flux, first arrest the flux. In all cases from another cause, arrest the source of the illness, and treat it. Then draw off the matter which has flowed together, if it is copious; if it is slight, restore the patient by regimen.⁸⁶

For Polybus, the “cause” (πρόφασις) of a disease denotes any factor that can initiate the

⁸⁵ On the typical destinations of humoral fluxes, see *Loc. Hom.* 10, 6.294–296 L., *Gland.* 11–14, 8.564–570 L.

⁸⁶ For similar assertions that doctors should treat diseases at their “source,” see *Acut.* 43–44 (= 11 L.), 2.314–318 L., *Epid. II* 4.5, 5.126 L., *Epid. VI* 3.20, 5.302 L., *Aff.* 25, 6.236 L., *Loc. Hom.* 1.3, 6.276–278 L., *Mul. I* 62, 8.126 L., *Pl. Tim.* 88a.

“separating out” (ἀπόκρισις) of one humor from the rest. Such causes include the changes in the seasons, the consumption of food and drinks, and either idleness or physical activity.⁸⁷ In chapter 8, Polybus observes that diseases which arise during one part of the year tend to depart in the season with opposite qualities. He then generalizes this principle in chapter 9, noting that all factors that can initiate an ἀπόκρισις are cured by applying their opposite (9.1–2, 6.52 L., trans. Jones, modified):

Furthermore, one must know the following: that diseases due to repletion are cured by evacuation, and those due to evacuation are cured by repletion; those due to exercise are cured by rest, and those due to idleness are cured by exercise. To know the whole matter (τὸ δὲ σύμπαν γινῶναι), the physician must set himself against what is established (τοῖσι καθεστηκόσι)—diseases, constitutions, seasons, and ages; he must relax what is tense and make tense what is relaxed. For in this way the diseased part would rest most, and this, in my opinion, constitutes treatment.

It is important to note that even though Polybus claims that the “cause” of a disease should be treated by applying its opposite, he never reduces all cures to a simple opposition between the hot, the cold, the dry, and the wet. Instead, Polybus actually agrees with the author of *On Ancient Medicine*, stressing the importance of concocting and then purging peccant humors from the body. In chapter 5, he refers to the use of drugs to purge phlegm, yellow bile, and black bile (5.3, 6.42 L.). In chapter 11, he gives instructions on the practice of venesection (11.1, 6.58 L., 11.2, 6.58 L., 11.6, 6.60 L.). In chapter 15, he refers to the need to wait for a “crisis” (κρίσις), that is, the period at which a concentrated humor has ripened to the point that it can be removed all at once. Some diseases reach their crises more quickly than others. They do this, he says, because their fevers are continuous and thus “cook” the humors more rapidly (15.2, 6.66 L.), while other diseases last for a longer period of time because their fevers are interrupted by periods of

⁸⁷ On the history of the term πρόφασις, which sometimes (but not always) denotes not simply a “cause” in the general sense, but more specifically an external, visible, or initiating cause, see Deichgräber (1933) and Rawlings (1975). In *On the Nature of the Human Being*, Polybus may well be drawing on this more specialized sense of πρόφασις as an “initiating” or “triggering” cause.

intermission, and because the humor at the root of the affection is “very sticky” (γλισχροτάτον, 15.5, 6.68 L.) and thus more difficult to remove. In the above-quoted passage, Polybus says that the doctor should oppose the cause of a disease “for in this way the diseased part would rest most” (οὕτω γὰρ ἂν μάλιστα τὸ κάμνον ἀναπαύοιτο, 9.2, 6.52 L.). In other words, the doctor should put a stop to whatever is causing the humors to “separate out.” By taking away the source of the ἀπόκρισις, the doctor will create a situation in which the offending humor is no longer being nourished. This starving of the disease will in turn allow the strength of the body to surpass that of the humor, eventually reaching a state of “dominance” (ἐπικράτεια) that is a prerequisite for concocting peccant humors.⁸⁸

When coction and crisis are the keys to restoring health, treatment cannot be reduced to a simple opposition between the hot, the cold, the dry, and the wet. In fact, if the doctor’s primary goal is to concoct and then purge peccant humors from the body, it will sometimes make more sense to treat “fire with fire,” just as Petron is said to have covered fever patients with blankets so as to encourage the production of heat. We should note, however, that these principles of coction and crisis only apply *after* a humor has separated out. Before a concentration arises, Polybus seems more than happy to treat opposites with opposites, as we see in chapters 16–22. In this third and final section, Polybus provides general precepts on how to adapt a patient’s regimen to ward off disease. He begins by giving instructions on how to respond to changes in the seasons: in winter, patients should consume food and drinks that will make them both dry and hot, while in summer, they should make themselves as wet and as cold as possible. Spring and autumn, meanwhile, are transitional periods. During these seasons, one should gradually replace the

⁸⁸ On the view that humors are overcome by means of coction, and that the body must have more “strength” than the humor before such coction can occur, see above, p. 24. “Rest” (ἀνάπαυσις) is also mentioned as a prerequisite for coction at *VM* 11.1, 1.594 L., *Morb. III* 16, 7.152 L.

previous regimen with its opposite, slowly moving from hot to cold, from cold to hot, from dry to wet, or from wet to dry. In addition to counteracting the effects of each season, Polybus also gives prescriptions for different ages and constitutional types. Those whose constitution is soft and fleshy should employ a drier regimen for most of the year, “for the nature of these constitutions is wet” (ὕγρὴ γὰρ ἡ φύσις τῶν εἰδέων τούτων, 17.1, 6.74 L.), while those whose constitution is compact and thin should adopt a moister regimen, since their bodies are naturally dry. Polybus offers further prescriptions for the young and the old, women, and athletes. All of these groups have certain predispositions toward the hot, the cold, the dry, and the wet, and they should each counteract their individual imbalances by adopting a regimen with opposite qualities.

Toward the end of chapter 17, Polybus writes in general terms about this mode of disease prevention: “When prescribing regimens, one should do so with an eye to the age, the season, the year, the district, and the physical constitution, opposing whatever is established (τοῖσι καθισταμένοις), be it heat or cold” (17.5, 6.76 L.). According to Polybus, all diseases arise from a separation of the humors, but the humors are themselves separated by heat, cold, dryness, or moisture, which can in turn come from a variety of sources, including the climate, physical activity, and the consumption of food and drinks. For a similar model of pathogenesis, we may compare the following passage from *On Affections* (1, 6.208 L., trans. Potter, modified):

All diseases arise in human beings from bile and phlegm; the bile and phlegm provide diseases when, inside the body, one of them becomes too wet, too dry, too hot, or too cold; the bile and phlegm suffer these things from foods and drinks, from exertions and wounds, from smell, sound, sight, and sexual intercourse, and from the hot and the cold; this happens when any of the things mentioned are applied to the body at the wrong time, against custom, in too great amount and too strong, or in insufficient amount and too weak.

As I argued in Chapter 1, a similar definition of disease informs the systems of both Petron and Philistion, and it can also be seen in the speech of Eryximachus in Plato’s *Symposium*. For all of these doctors, diseases are manifested by the “separating off” (ἀπόκρισις) of one humor from the

rest. This separation, in turn, arises when the humors are disturbed in some manner, and in the speech of Eryximachus, it most notably coincides with the changes in the seasons, as the shifts in both temperature and precipitation can cause the humors to be heated, cooled, dried, or moistened to an excessive degree (see above, pp. 28–29).

Contrary to what we read in *On Ancient Medicine*, the choice between ὑποθέσεις and humoral theory was never mutually exclusive. Instead of replacing one system with the other, the doctor-cosmologists actually combined these two systems into one, targeting both the humors themselves and the various factors that could set these humors in motion. What allowed them to do this was their distinguishing between what we might term the proximate cause of a disease (i.e., an ἀπόκρισις of the humors) and its remote cause (i.e., the heating, cooling, drying, or moistening of the humors). The doctor-cosmologists only treated opposites with opposites when they targeted the remote cause. The proximate cause, meanwhile, was treated by concocting and then purging peccant humors from the body. When a patient was already ill, it was necessary to treat both the remote and proximate causes. Not only did this remove the offending humor, but it also removed the external trigger that might otherwise threaten a relapse. When a patient was still healthy, on the other hand, the job of a doctor was much simpler. He only needed to maintain a healthy state by opposing remote causes with their opposites.

To conclude this discussion of *On the Nature of the Human Being*, I would like to address one final misconception about the doctor-cosmologists that arises from *On Ancient Medicine*. As we noted in Chapter 1, this author opposes the doctor-cosmologists because he thinks they reject the time-tested method of dividing and subdividing patients into different groups. This method is necessary, he asserts, because the same treatments, administered in the same way, will have different effects on different patients—as we see in the case of cheese. There are some who have a φύσις that is amenable to cheese, and others whose φύσις is not. The proponents of ὑποθέσεις, by

contrast, are trying to do away with such distinctions. They merely speculate about the common φύσις of all human beings, focusing on “foundational principles” that are the same in every case.

The author of *On Ancient Medicine* writes as if the doctor-cosmologists emphasize universal principles at the expense of particular details. Polybus, however, combines these two emphases in one and the same system. He not only describes the common nature of all human beings, but he also stresses the importance of considering the age and physical constitution of each patient, as well as the season of the year and the geographical location. In chapters 16–22, he gives instructions on how to adjust a patient’s regimen in order to ward off disease. In this section, he divides patients into different classes, and then assigns to each class a “constitution” (εἶδος). This method of dividing patients into groups, and then assigning to each group a “constitution,” is the same procedure that is endorsed in *On Ancient Medicine*. Polybus also writes in chapter 9 about the importance of adapting one’s treatments to fit the needs of individual situations. In this chapter, he begins by describing diseases that are caused by the πνεῦμα that we breathe. When a disease afflicts all patients indiscriminately, “both younger and older, men as much as women, those who drink wine as much as those who drink water, those who eat barley cake as much as those who live on bread, those who take much exercise as well as those who take little,” then the cause must be the πνεῦμα that we breathe, since this is “most common” (κοινότατον) to all groups (9.3, 6.52–54 L., trans. Jones). “But when diseases of all sorts occur at one and the same time,” he continues (9.4, 6.54 L., trans. Jones, modified),

it is clear that in each case the particular regimen is the cause, and that the treatment carried out should be that opposed to the cause of the disease, as has been set forth by me elsewhere, and should be by change of regimen. For it is clear that, of the regimen the patient is wont to use, either all, or the greater part, or some one part, is not suited to him (οὐκ ἐπιτήδεια). This one should learn and change, and carry out treatment only after examination of the patient’s age, constitution, the season of the year, and the fashion of the disease (τὴν τε ἡλικίην καὶ τὸ εἶδος καὶ τὴν ὥρην τοῦ ἔτους καὶ τῆς νόσου τὸν τρόπον), sometimes taking away and sometimes adding, as I have already said, and so making changes in drugging or in regimen to suit the several conditions of age, season, constitution, and disease (πρὸς ἕκαστα τῶν

ἡλικιῶν καὶ τῶν ὥρέων καὶ τῶν εἰδέων καὶ τῶν νούσων).

In this passage, Polybus refers to regimens that are “suited” or “unsuited” to particular individuals. He claims that doctors should classify patients according to a wide range of variables, and that they should consider these variables when adapting their treatments to fit the needs of each particular case. The same idea is expressed at 9.1–2, 6.52 L. (quoted above, p. 62), in which Polybus notes that the doctor must set himself against “what is established” (τοῖσι καθεστηκόσι). In this passage, he defines “what is established” as “diseases, constitutions, seasons, and ages,” and he also writes that the doctor should “relax what is tense and make tense what is relaxed.” In these two passages, Polybus is specifically talking about what the doctor should bear in mind *after* a humor has separated out. With these two lists, we may compare the list that appears in chapter 17 (quoted above, p. 64), in which Polybus describes the adaptations that must be made *before* a disease has occurred. These lists contain overlapping elements, specifically the patient’s age and constitution and the season of the year, with the only major difference being that when a doctor is treating a patient in whom one of the humors has separated out, he must also consider “the fashion of the disease” (τῆς νούσου τὸν τρόπον, 9.4, 6.54 L.; cf. νοσήμασι, 9.2, 6.52 L.), a factor that would presumably include the identity of the morbid humor, its quantity and quality, the specific part it has overpowered, and any secondary events like fluxes and ulceration.

Contrary to what *On Ancient Medicine* implies about the doctor-cosmologists, Polybus puts significant emphasis on the differences between individual patients. This concern for individualization can even be found when he writes about the shared nature of all human beings (2.5, 6.36 L., trans. Jones, modified):

I for my part will prove that what I declare to be the constituents of a human being are, according to both convention and nature, always alike the same, whether the patient be young or old, or whether the season be cold or hot.

In this passage, Polybus stresses that blood, phlegm, yellow bile, and black bile are “always alike

the same” (αἰεὶ ταῦτὰ ἔόντα ὁμοίως). It makes no difference “whether the patient be young or old, or whether the season be cold or hot” (καὶ νέου ἔόντος καὶ γέροντος, καὶ τῆς ὥρης ψυχρῆς ἐούσης καὶ θερμῆς), a phrase that illustrates a simultaneous concern for both commonality and difference. Contrary to what *On Ancient Medicine* might lead us to believe, the investigation of high-level commonalities is not incompatible with a concern for individual differences. Rather, it is to say that there are some deep similarities across all human beings, similarities that persist even when all other variables change.

Polybus is not merely concerned with the differences between individual cases. He also tries to find *commonalities* that transcend these various differences. We have already seen this interest in commonality in his discussion of diseases that arise from the πνεῦμα that we breathe. It does not matter whether a patient is young or old, male or female, a drinker of water or a drinker of wine, an eater of barley cake or an eater of bread, one who exercises much or one who only exercises a little. When πνεῦμα is the cause of an epidemic, all patients will suffer the same disease because they all breathe the same body of air (9.3, 6.52–54 L.). A similar interest in commonality and difference can be seen in chapter 12. In this chapter, Polybus describes three affections that appear to be very different, but in fact have a common ἀρχή. When a male patient who used to be active stops exercising and puts on weight, his flesh will eventually melt, and this melting releases humors. These humors, in turn, will produce a different affection depending on the place to which they flow. If they flow into the intestines, the patient’s stools will become bloody. If they flow into the chest, the patient will cough up pus. If they flow into the bladder, they will turn into a white sediment and be expelled with the urine. In all three cases, the symptoms are very different, but the ἀρχή remains the same. The doctor is not actually dealing with three different diseases, but there is in fact one and the same “source” that can be targeted with medical treatment.

The greatest commonality of all, of course, is the shared nature of everything in the universe. Just a few steps below this, we find the shared nature of all human beings. As we will see in the following chapters, the authors of *On Breaths*, *On Flesh*, and *On Regimen* all show a similar interest in commonality and difference. They all emphasize the differences between individual cases, as well as the high-level commonalities that transcend these various differences.

Chapter 3: *On Breaths*

The next text that I would like to consider is unusual among the works of the doctor-cosmologists. What makes this text unusual is not its author's views on human physiology, nor even his theory about the cosmos. Instead, what sets *On Breaths* apart is the simple fact that many scholars have doubted both its seriousness and the possibility that it could have ever been written by a practicing doctor. *On Breaths* makes use of Gorgianic rhetoric, including end-rhyme, antithesis, and carefully balanced phrases, all of which would place it within the short period of time when such embellishments had been devised but were not yet dismissed as excessive (by a generous estimation, between 430 and 370 BCE).⁸⁹ Many scholars familiar with the works of Gorgias, especially his *Encomium to Helen* and *On What Is Not*, have assumed that just as Gorgias concludes the *Helen* by calling it "an amusement for myself" (ἐμὸν δὲ παίγνιον, *Hel.* 21), so the goal of *On Breaths* is not to make a serious contribution to medical knowledge, but rather to illustrate the author's ability to sustain an unusual and paradoxical thesis. Jones (1923, 222) writes that the author of *On Breaths* "shows no genuine interest in medicine, nor do his contentions manifest any serious study of physiology or pathology." Nelson (1909, 100) concedes that the author's medical knowledge is "not to be underestimated" (*nicht zu unterschätzenden*), but he also thinks the author is more likely to have been a sophist than a practicing doctor. More recently, Jouanna (1988) and Thomas (1993) have both pushed back against the tendency to view *On Breaths* as little more than a rhetorical *jeu d'esprit*. They maintain that the author could well be a serious doctor, working in a period when doctors and laymen publicly debated both the nature of the cosmos and the foundations of the medical art. Other scholars have either contended or at

⁸⁹ So Jouanna (1988, 48–49); cf. Nelson (1909, 98–99, 103). Cicero (*Orat.* 175–176) claims that these stylistic embellishments were first restrained by Isocrates, who opened his first school of rhetoric on Chios around 393 BCE.

least conceded that *On Breaths* may be the work of a doctor, although many still find it hard to believe that this text could have ever been written by a physician, let alone to have belonged to the “mainstream” of Greek medicine.⁹⁰ Before I discuss this text in depth—after which I think it will become clear that *On Breaths* is not the intellectual outlier that many scholars have supposed—let me begin with a few general observations that will help us put this work in perspective.

First, I think it is fair to say that much of the hesitance to view *On Breaths* as the serious work of a practicing doctor has not been motivated by a careful study of this text, but is rather the product of a gut reaction, fueled in no small part by an implicit hostility toward the doctor-cosmologists and toward their perceived intellectual inferiority. Modern scholars have long been embarrassed by this movement, labeling its participants as “confused” and even detrimental to the medical art. It cannot be denied, however, that many Greek doctors in the Classical period were genuinely interested in cosmology, and that they were serious in their attempts to isolate a small number of principles that might be considered the “cause” of all diseases. If other doctors from this period could trace all diseases back to fire and water, to the hot and the cold, or to a single humor like blood, bile, or phlegm, there is no reason for us to assume, *a priori*, that a practicing physician could not have identified πνεῦμα as the root cause of all diseases. If we put aside our modern bias against the doctor-cosmologists, we are in fact left with very little to suggest that *On Breaths* is not supposed to be taken seriously. The language, arguments, and structure of this text are all strongly reminiscent of other works in the Hippocratic Corpus, especially those that combine an interest in “making the invisible visible” with a sophisticated

⁹⁰ For the continued resistance to view *On Breaths* as the serious work of a practicing doctor, see Lloyd (1979, 88), (1987, 15–16), (1991, 136), Kerferd (1981, 58), Smith (1983, 282), Lichtenthaeler (1991), Longrigg (1993, 93), López Férez (1997, 122–123), Cooper (2004, 21, n. 24).

approach to evidence and argument (e.g., *Diseases I*, *On the Sacred Disease*, *Diseases IV*, *On the Seed-Nature of the Child*, *On Diseases of Unwed Girls*, *On the Art*). *On Breaths* also has much in common with the speech of Eryximachus in Plato's *Symposium*, which employs techniques that must have been fairly representative of contemporary doctors for Plato to have included them in his dialogue.⁹¹ Like Eryximachus, the author of *On Breaths* does not present his first principle as the material substance from which all things are composed, but rather frames it as a causal principle that has more “power” (δύναμις) than anything else.⁹² The author's penchants for end-rhyme, antithesis and carefully balanced phrases also find parallels in Eryximachus' speech—as does his unabashed confidence in the validity of his argument—and like Plato's doctor, the author supports his thesis with an argument from induction, illustrating the supremacy of πνεῦμα in every class, type, or “tribe” (ἔθνος, 6.1, 6.96 L.) of disease. As we have already noted, arguments from induction were very popular among the doctor-cosmologists. In addition to the speech of Eryximachus, two passages from *On Flesh* and *On Regimen* are especially illuminating when compared with this text. In the final chapter of *On Flesh*, the author claims that all aspects of human life are governed by the number seven. In support of this thesis, he simply lists all the scenarios in which this number can be found: the embryo is fully articulated by the seventh day after conception (19.1, 8.608–610 L.), abstention from food and drink leads to death after seven days (19.2, 8.610 L.), the seven months' child tends to live while the eight months' child tends to

⁹¹ See above, pp. 19–20. On the question of whether Plato was familiar with *On Breaths*, see Jouanna (1988, 38–39, and 105, n. 1). *On Regimen* is usually cited as the most likely “model” for Eryximachus' speech, but the structural parallels are not nearly as close as what can be found in *On Breaths*.

⁹² *Flat.* 3.2, 6.94 L., 4.1, 6.96 L., 15.1, 6.114 L.; cf. *Pl. Smp.* 188d. Incidentally, *On Breaths*' silence regarding the elemental constitution of human beings speaks against the claim, very common in modern scholarship, that the author reworks the doctrines of either Anaximenes or Diogenes. For a rebuttal of the assumption that *On Breaths* was written by a follower of Diogenes, see Orelli (1998), Laks (1998), (2008, 260–262). A similar observation vitiates the claim that the author of *On Breaths* would have fallen within the category of material monists whom Polybus attacks in *On the Nature of the Human Being*.

die (19.3, 8.610 L.), diseases reach their crises on days that are multiples of seven, plus or minus half-seven, i.e., 4, 7, 11, 14, 18, 21, etc. (19.4–5, 8.610 L.), and children acquire all their teeth by the time they have reached their seventh year (19.7, 8.610 L.). A similar argument from induction can be found in *On Regimen*. After describing the nature of fire and water and the process by which our bodies are formed, the author chides his fellow humans for failing to ascertain a divinely inspired analogy between the arts (τέχναι) and the body, according to which everything that we do in our daily occupations has some parallel in human physiology (*Vict.* 10, 6.484–486 L.). To “prove” the existence of this universal principle,⁹³ the author simply catalogues the many ways in which the principle can be applied, all in the belief that the more parallels he cites the more confidence we should place in the validity of his generalization (*Vict.* 11–24, 6.486–496 L.). Throughout this section, the author of *On Regimen* writes in a riddling, Heraclitean style—a style far more peculiar than the rhetorical embellishments that appear in *On Breaths*. Nowadays, few scholars would assert that *On Regimen* could not have been the work of a practicing doctor, and so there seems to be even less of a reason to deny this possibility to *On Breaths*.

Since the general thesis of *On Breaths* and its argument from induction can both be paralleled in other works by doctor-cosmologists, we are only left with the author’s style as a potential marker of his lack of seriousness. On this point, however, we should bear in mind that public lectures on medical topics are well attested in the Classical period,⁹⁴ and that the same question that is addressed in *On Breaths*, “whence *all* diseases arise in human beings” (ἀφ’ ὧν αἱ νοῦσοι γίνονται τοῖσιν ἀνθρώποισι πᾶσαι), is the first entry in a list of subjects that the author of *Diseases I*

⁹³ On the universality of this principle, note the author’s concluding sentence: “In this way, *all* the arts (αἱ τέχναι πᾶσαι) have something in common with human nature” (*Vict.* 24.3, 6.496 L.).

⁹⁴ On medical ἐπιδείξεις in the Classical period, see Lloyd (1979, 59–125), Thomas (1993), Demont (1993), Schiefky (2005, 36–46).

says anyone who intends to debate correctly should bear in mind (*Morb. I* 1, 6.140 L.). Given the importance of rhetoric in Classical Greece—not to mention the ever-changing nature of taste—we should be wary of assuming that a florid style must necessarily indicate a lack of seriousness. The author of *On Ancient Medicine* employs a rhyming doublet at *VM* 2.2, 1.572 L. (ἐξηπάτηται καὶ ἐξαπατᾶται), and a similar jingle has been suggested for *VM* 13.3, 1.600 L. (πυρὶ <δέδοται> καὶ ὕδατι δέδευται). Similar sound effects can be found in *On the Art* and *On the Sacred Disease*,⁹⁵ both of which deal with topics that were of serious interest not only to doctors, but to educated laymen. These parallels suggest that the author of *On Breaths* was writing at a time when Gorgianic rhetoric was deemed both elegant and appropriate for a public ἐπίδειξις. The tone of *On Breaths* is certainly no less serious than what we see in other works by doctor-cosmologists, and nothing about its argument suggests a divergence from the proofs that other doctors from this period were more than happy to construct.

While some have dismissed *On Breaths* as little more than a rhetorical exercise, others have entertained the possibility that the author was none other than Hippocrates.⁹⁶ The basis for this suggestion is a passage from the *Anonymus Londiniensis* in which the doxographer transmits the views of Hippocrates as recorded by his Peripatetic source. In this report, the doxographer divides his testimony into three parts. First, he enumerates three ways by which Hippocrates claimed that breaths are produced from “residues” (περιττώματα). Second, he explains why Hippocrates elevated these breaths above all other causes, and third, he summarizes how differences in the quantity and temperature of breaths account for differences between diseases (*Anon. Lond.* V.35–VI.43, trans. Jones, modified):

⁹⁵ Jouanna (1988, 172–173), (2003, xi–xii).

⁹⁶ Ducatillon (1983), Langholf (1986), and Jouanna (1988, 39–49) are all receptive to the possibility that Hippocrates is the author of *On Breaths*. For an overview of the “Hippocratic Question” and its many obstacles, see Lloyd (1975).

Hippocrates says that breaths (φῦσαι) are causes of disease, as Aristotle has said in his account of him. For Hippocrates says that diseases are brought about in the following fashion. Either because of (a) the quantity of things taken, or (b) through their diversity, or (c) because the things taken are strong and difficult of digestion, residues are thereby produced.

(a) When the things that have been taken are too many, the heat that produces coction is overpowered by the multitude of foods and does not effect coction,⁹⁷ and because coction is hindered residues are formed.

(b) When the things that have been taken are of many kinds, they quarrel with one another in the belly, and because of the quarrel there is a change into residues.

(c) When they are very thick⁹⁸ and hard to digest, there occurs hindrance of coction because they are hard to digest, and so there is a change into residues.

From the residues rise breaths (φῦσαι), which having arisen bring on diseases.

What moved Hippocrates to adopt these views was the following conviction. Πνεῦμα, he holds, is the most necessary and the supreme component in us, since health is the result of its free, and disease of its impeded passage. We in fact present a likeness to plants. For as they are rooted in the earth, so we too are rooted in the air by our nostrils and by our whole body. At least we are, he says, like those plants that are called “soldiers” (στρατιῶται). For just as they, rooted in the moisture, are carried now to this moisture and now to that, even so we also, being as it were plants, are rooted in the air, and are in motion, changing our position now hither now thither. If this be so, it is clear that πνεῦμα is the supreme component.

On this theory, when residues occur, they give rise to breaths (φῦσαι), which rising as vapor cause diseases. The variations in the breaths cause the various diseases (παρά τε τὴν διαφορὰν τῶν φύσων ἀποτελοῦνται αἱ νόσοι). If the breaths are many, they produce disease, as they also do if they are very few. The changes too of breaths give rise to diseases. These changes take place in two directions, towards excessive heat or towards excessive cold. The nature of the change determines the character of the disease. This is Aristotle’s view of Hippocrates.⁹⁹

There are number of similarities between this testimony and the treatise *On Breaths*. Both define

⁹⁷ Here, “coction” refers to a stage in digestion whereby nutriment is heated before leaving the belly. On this popular connection between digestion and cooking, see LSJ s.v. πέσσω III.

⁹⁸ In support of Diels’ emendation of ἐλάχιστα to πάχιστα, see *Vict.* 46.1, 6.544 L. (δύσπεπτα τῇσι κοιλίῃσι, διότι παχύαιμον), *Phylotim.* fr. 11 Steckerl (τὰ μὴ κατεργαζόμενα παχυτέρους ἔξει τοὺς χυμούς), and *Gal. De rebus boni malique suci* 6.788 K. (παχεῖαι καὶ σκληραὶ καὶ διὰ τοῦτο δύσπεπτοι). Manetti (2011, 11) retains ἐλάχιστα, but she cites a parallel (*Anon. Lond.* VI.36) that is irrelevant insofar as it refers to *breaths* rather than nutriment.

⁹⁹ Celsus (1st cent. CE) also reports that Hippocrates attributed all diseases to πνεῦμα (*omne vitium est ... in spiritu*, pref. 15), a report that may derive from the same Peripatetic source as the *Anonymus Londinensis*; cf. Mudry (1980), (1982, 91–92). As Edelstein (1931, 137) observes, the Stoics may have also claimed that Hippocrates attributed all diseases to πνεῦμα. The best evidence for this is *Gal. In Hp. Epid. VI comm.* 17b.250–251 K.

“breaths” (φῦσαι) as a central cause of disease; both invoke food and drinks that are either excessive (*Anon. Lond.* V.43–VI.4; cf. *Flat.* 7.1, 6.98 L.) or diverse and struggle with each other (ποικίλα ... στασιάζει, *Anon. Lond.* VI.4–5; cf. τὰ γὰρ ἀνόμοια στασιάζει, *Flat.* 7.1, 6.98 L.) as a source of such “breaths”; both claim that πνεῦμα is more “necessary” or “needed” than anything else (*Anon. Lond.* VI.14–16; cf. *Flat.* 4.2, 6.96 L.); both refer to ailments that are caused when πνεῦμα is trapped or otherwise impeded in the body (*Anon. Lond.* VI.16–18; cf. *Flat.* 8.7, 6.104 L., 9.1, 6.104 L., 10.3, 6.106 L.); and both attribute different ailments to differences in the quantity and temperature of πνεῦμα (*Anon. Lond.* VI.35–42; cf. *Flat.* 8.1, 6.100 L.). On the basis of these similarities, some have concluded that the doxographer’s testimony *must* refer to *On Breaths*.¹⁰⁰ It should be noted, however, that Greek doctors commonly attributed diseases to food and drinks that are either excessive or in conflict with each other, and that they also tended to believe that “breaths” or “winds” naturally arise when food is left to stagnate in the belly.¹⁰¹ Furthermore, many doctors thought that the free flow of πνεῦμα is essential to maintaining health, and that pains can arise when this πνεῦμα gets stuck in one part or another.¹⁰² To cite these opinions as “parallels” between *On Breaths* and the *Anonymus Londiniensis* is misleading. They were held by many Greek doctors of the Classical period, too many to establish a special relationship between this testimony and *On Breaths*. Further hindering the suggestion that the *Anonymus Londiniensis* must refer to *On Breaths* is the fact that the doxographer’s testimony includes information that cannot

¹⁰⁰ In addition to the discussions of Ducatillon, Langholf, and Jouanna (above, n. 96), see Diels (1893, 424), Fredrich (1899, 52, n. 5), Wilamowitz-Möllendorff (1901, 22), Nelson (1909, 104–107), Wellmann (1926, 329–334), Lichtenthaeler (1991, 15). This latter group all accept that the *Anonymus Londiniensis* refers to *On Breaths*, but they assert that the attribution of this text to Hippocrates must spring from some mistake on the part of the doxographer.

¹⁰¹ See below, n. 108. On the verb στασιάζειν, cf. *Aër.* 9.2, 2.38 L., and the reference to food and drink in conflict with each other at *Arist. Probl.* 1.15, 861a.

¹⁰² Recall the above-quoted testimony on Philistion of Locri, who is said to have claimed that “when the whole body breathes well and the breath passes through unhindered, health is the result” (above, p. 14). See also *VM* 22.7, 1.630–632 L., *Acut. App.* 7 (= 5 L.), 2.404–406 L., *Epid. II* 2.23, 5.94 L., 3.6, 5.108 L., *Epid. V* 20, 5.220 L., *Nat. Hom.* 21.1, 6.80–82 L., *Morb. Sacr.* 7, 6.372–374 L., *Praxag.* fr. 27 Steckerl.

be found in this text. Most notably, there is an analogy between humans and “those plants that are called ‘soldiers’ (στρατιῶται)” that is conspicuously absent from *On Breaths*. There is also a significant disagreement between these two texts regarding how diseases arise from excessive nutriment. In the *Anonymus Londinensis*, we are told that excessive nutriment hinders coction, and that this hindrance gives rise to breaths. *On Breaths*, meanwhile, simply states that “with much food, it is necessary that much πνεῦμα also enters, for with all things that are eaten and drunk, πνεῦμα goes out from them and into the body in a greater or smaller amount” (7.2, 6.98–100 L.). There is no mention in *On Breaths* of food that is “strong” or “very thick” (*Anon. Lond.* V.41, VI.8), one of the three sources of breaths that the *Anonymus Londinensis* attributes to Hippocrates. Finally, we may note that the *Anonymus Londinensis* only refers to breaths that arise from “residues” (περιττώματα), whereas *On Breaths* describes other scenarios in which πνεῦμα is the cause of disease. We cannot, of course, completely dismiss the possibility that the *Anonymus Londinensis* may refer to *On Breaths*. Given the weakness of these parallels, however, the case is far from compelling.¹⁰³

If we can conclude anything from this reference to Hippocrates, it is that Greek doctors were not averse to citing πνεῦμα as an important factor in pathogenesis. We have already seen that Polybus attributes epidemic diseases to the πνεῦμα that we breathe (above, p. 66). Philistion is also reported to have expressed many ideas about πνεῦμα, including the theories that respiration cools the body’s innate heat (*Gal. De util. resp.* 1, 4.471 K.), that we breathe through both the

¹⁰³ For these and other doubts regarding the relationship between these texts, see Blass (1901, 405–410), Edelstein (1931, 140–142), Bourgey (1953, 141–142), Deichgräber (1971, 159–160), Harris (1973, 31, n. 1), Lloyd (1975, 175), Mudry (1980). In response to these objections, one could of course cite the propensity of the *Anonymus Londinensis* to distort its sources (see above, p. 15), as well as the possibility that some parts of this report may come from another (lost) work by Hippocrates. It could also be argued that the doxographer leaves out certain details because he divides all doctors into two groups, one of whom attributes all diseases to “elements,” while the other focuses on “residues.” All that such arguments achieve, however, is simply to leave open the possibility that the doxography *may* refer to *On Breaths*. It does not demand such a conclusion, and we should not hastily assign *On Breaths* to Hippocrates just because we want to identify some text—any text—as a “genuine” work of this author.

nostrils and the skin (*Anon. Lond. XX.45–47*), that different foods can either encourage or repress the production of πνεῦμα in the body (*Athen. 3.83, 115d–e*), and that “when the whole body breathes well and the breath passes through unhindered, health is the result” (*Anon. Lond. XX.43–45*). The *Anonymus Londiniensis* goes on to say that Philistion described *multiple* ways in diseases are caused by πνεῦμα: “When the body does not breathe well, diseases occur, and in different ways (διαφόρως)” (*Anon. Lond. XX.47–49*). The text breaks off soon after this statement, but it seems to have originally listed several ways in which πνεῦμα gives rise to disease. If this is the case, then this testimony would have closely resembled the structure of *On Breaths*, which is also organized around a list of affections that can ultimately be traced back to πνεῦμα. In other texts, “winds and humors” (πνεύματα καὶ χυμοί) are cited side by side as the principal agents of disease. In the *Republic*, Plato complains about people who live in such a way as to fill their bodies with “fluids and winds” (ῥευμάτων τε καὶ πνευμάτων), thereby forcing doctors to give names to such diseases as “flatulences and catarrhs” (φύσας τε καὶ κατάρρους, *R. 3.405c–d*; cf. *Tim. 84d–e*). Mnesitheus of Athens, a physician and younger contemporary of Plato, states that diseases can arise from either an excess or a deficiency “in either winds or fluids” (ἢ ἐν πνεύμασιν ἢ ἐν ὕγροις, fr. 11 Bertier), while the author of *On the Eight Months’ Child* claims that newborn infants are more susceptible to diseases because “instead of winds and humors that are akin (sc. to the infant) ... newborns use winds and humors that are all foreign, rawer, drier, and less adapted to human beings” (*Oct. 12.2, 7.456 L.*). In *On the Sacred Disease*, the author attributes epileptic seizures to a downward flux of phlegm from the head, which congeals the blood and causes the πνεῦμα in the vessels to become trapped. Unable to complete its normal circuit, the πνεῦμα violently jerks back and forth, producing the various symptoms of an epileptic attack: “the patient becomes speechless and chokes; froth flows from the mouth; he gnashes his teeth and twists his hands; the

eyes roll and intelligence fails, and in some cases excrement is discharged.”¹⁰⁴ Many other works in the Hippocratic Corpus also refer to the interactions between πνεῦμα and humors. Πνεῦμα is the most commonly cited source of tremors and spasms,¹⁰⁵ and it is also one of the primary means of expelling sweat, semen, and other fluids from the body.¹⁰⁶ As an agent of sensation, intelligence, consciousness, and speech, πνεῦμα must continually circulate through the vessels. If it is blocked, weighed down, or otherwise hindered, the patient can suffer from a variety of ailments, including numbness, paralysis, lethargy, drowsiness, mania, despondency, forgetfulness, and loss of speech.¹⁰⁷ By far the most important relationship between πνεῦμα and humors, however, is to be found in the gastro-intestinal tract. According to a widely held belief that is invoked throughout the Classical period,¹⁰⁸ whenever someone ingests food and drink that is excessive, heavy, compact, or contrary to one’s habits, the nutriment cannot be quickly digested, resulting in a stagnation of moisture in the belly. This moisture, in turn, gives off exhalations as it

¹⁰⁴ *Morb. Sacr.* 7.1, 6.372 L. (trans. Jones). After this sentence the author explains in detail how each of these symptoms is created, recalling *On Breaths*’ detailed description of how the various symptoms of a fever can all be traced back to πνεῦμα (see below, pp. 85–87). Similar explanations of epileptic seizures can be found at *Acut. App.* 7.2 (= 5 L.), 2.406 L., *Flat.* 14, 6.110–114 L., and *Praxag.* fr. 70–71 Steckerl.

¹⁰⁵ Cf. *VM* 22.7, 1.630–632 L., *Acut. App.* 7.1–2 (= 5 L.), 2.404–406 L., *Aph.* 4.68, 4.526 L., *Epid. II* 6.2, 5.132 L., *Nat. Hom.* 21.1, 6.80–82 L., *Praxag.* fr. 27 Steckerl.; cf. *Epid. IV* 43b, 5.184 L., *Flat.* 7.2, 6.98–100 L., 8.7, 6.104 L.

¹⁰⁶ *Aph.* 5.63, 4.556 L., *Prorrh.* I 98, 5.536–538 L., *Morb. I* 25, 6.190 L., *Vict.* 62.2, 6.576 L., 64.2, 6.580 L., 66.3, 6.584 L., 89.12, 6.652 L., *Oss.* 15, 9.188–190 L., *Pl. Tim.* 91a; cf. *Epid. II* 5.25, 5.132 L., *Epid. VI* 3.5, 5.294 L., 3.14, 5.300 L., *Arist. GA* 2.4, 737b27–738a9.

¹⁰⁷ *VM* 22.7, 1.630–632 L., *Prog.* 11, 2.138 L., *Acut. App.* 7.1–2 (= 5 L.), 2.404–406 L., 68.1, 2.522 L., *Coac.* 485, 5.694 L., *Vict.* 35.5, 6.516 L., 35.7, 6.518 L., 36.2, 6.522–524 L., 71.1–2, 6.610 L., *Praxag.* fr. 69, 72–75 Steckerl.; cf. *Oct.* 9.8, 7.450 L., *Diog. Apoll.* DK 64 A19, *Thphr. Sens.* 44–45.

¹⁰⁸ *VM* 10.3, 1.592 L., *Acut.* 37.2–3 (= 10 L.), 2.298–302 L., *Acut. App.* 41–42 (= 17–18 L.), 2.476–478 L., *Epid. II* 3.17, 5.118 L., *Epid. VI* 5.1, 5.314 L., *Nat. Hom.* 21.1, 6.80–82 L., *Flat.* 7, 6.98–100 L., *Aff.* 47, 6.256–258 L., *Loc. Hom.* 45.3, 6.340 L., *Vict.* 40.2–4, 6.536–538 L., 42.3, 6.540 L., 46.3, 6.546 L., 50, 6.552–554 L., 52.1, 6.554 L., 54.1, 6.556 L., 56.8, 6.570 L., 74.1, 6.614–616 L., *Int.* 44, 7.274–276 L., *Morb. IV* 49, 7.578–580 L., *Prorrh. II* 4, 9.16 L. See also *Anon. Lond.* IV.31–40 (Euryphon of Cnidos), IV.40–V.34 (Herodicus of Cnidos), V.39–VI.43 (Hippocrates), VII.40–VIII.10 (Alcamenes of Abydos), VIII.10–34 (Timotheus of Metapontum), IX.37–44 (Ninyas of Egypt), XII.8–36 (Dexippus of Cos), XIII.21–XIV.2 (Aegimius of Elis), XX.1–24 (Petron of Aegina). Note also the many references in the Hippocratic Corpus to foods that are “flatulent” (φυσώδης), a quality that is usually associated with slow or difficult digestion.

is heated, in the same way that liquids give off steam when they are boiled.¹⁰⁹ As the πνεῦμα produced by these exhalations tries to find an exit either upwards or downwards, the patient suffers not only from belching, yawning, and flatulence, but also from swelling, pain, thirst, and rumblings in the intestines. In many cases, the upward exhalation brings its evaporated moisture to the head, where it is cooled, condensed, and initiates fluxes to other parts of the body.¹¹⁰

The author of *On Breaths* assumes that his audience is familiar with these concepts when making his own claims about πνεῦμα. His goal is to show that πνεῦμα, which is already agreed to be an important factor in *some* diseases, is actually the “origin and source” (ἀρχὴ καὶ πηγὴ, 1.4, 6.92 L.) of all diseases in general. The author supports this thesis with an argument from induction, illustrating the supremacy of πνεῦμα in every class, type, or “tribe” of disease. After observing that πνεῦμα exerts its influence over the universe as a whole, controlling the seasons, nourishing the sun, pervading the sea, and supporting the earth (ch. 3), he claims that πνεῦμα is not only the most essential requirement for life (ch. 4), but it is also responsible for all diseases in the body (ch. 5). In chapters 6–14, the author describes the agency of πνεῦμα in fevers (ch. 6–8), intestinal disorders (ch. 9), catarrhs (ch. 10), lacerations (ch. 11), dropsy (ch. 12), apoplexy (ch. 13), and the so-called “sacred” disease (ch. 14). In each case, he explains how a different action of πνεῦμα initiates a different set of affections, thereby “proving” that these diseases, which outwardly seem dissimilar, in fact have a common ἀρχή. In chapter 15, the author reiterates his

¹⁰⁹ For the analogy, see *Flat.* 8.3, 6.102 L. *Genit.-Nat. Puer.* 12.2, 7.486 L., formulates the principle in general terms: “Everything that is heated gives off πνεῦμα.” Cf. also *Acut.* 28.3 (= 9 L.), 2.284 L., 49.1 (= 13 L.), 2.332 L., *Acut. App.* 51.1 (= 19 L.), 2.494 L., *Flat.* 8.5–6, 6.102 L., *Int.* 5, 7.178 L., 24, 7.228 L., 40, 7.264 L., 44, 7.274 L., *Anon. Lond.* XII.36–XIII.11 (Phasilas of Tenedos), and the general references to wind coming from water at *Genit.-Nat. Puer.* 25.1, 7.522 L., Xenoph. DK 21 B30, Heraclit. DK 22 B12, Emp. DK 31 B50.

¹¹⁰ Cf. *Epid.* II 3.17, 5.118 L., *Morb.* I 15, 6.168 L., *Morb.* II 11, 7.18 L., *Mul.* I 36, 8.84 L., *Gland.* 7.2, 8.560–562 L., *Anon. Lond.* IV.31–40 (Euryphon of Cnidos), V.22–34 (Herodicus of Cnidos), VII.40–VIII.10 (Alcamenes of Abydos), VIII.10–26 (Timotheus of Metapontum). In the *Symposium*, Eryximachus warns that drinking to excess is dangerous for human beings, especially when one is still hungover from the night before (Pl. *Smp.* 176c–e). This warning may also be rooted in the belief that exhalations from the belly will collect in the head and produce catarrhs (cf. *Aër.* 3.2, 2.16 L.).

thesis that πνεῦμα is “the most active agent throughout all diseases” (διὰ πάντων τῶν νοσημάτων μάλιστα πολυπραγμονοῦσαι) and that all other agents are but “accessory and contributing causes” (συναίτια καὶ μεταίτια, 15.1, 6.114 L.). Finally, he claims that he could have cited many other diseases in addition to the ones described: “I have carried my account down to the diseases and affections that are well known (γνώριμα), in which cases my foundational principle (ὑπόθεσις) has been shown to be true. If I were to discuss all diseases, my account would be longer, but it would not be any more precise or more convincing” (μακρότερος μὲν ὁ λόγος ἂν γένοιτο, ἀτρεκέστερος δ’ οὐδαμῶς οὐδὲ πιστότερος, 15.2, 6.114 L.).¹¹¹

There are a number of parallels, some of them very close, between *On Breaths* and *On the Nature of the Human Being*.¹¹² First, the author shares Polybus’ interest in tracing diseases to their source. Like Polybus, he claims that the cause of a disease should be treated by applying its opposite (ἐκ τῶν ἐναντίων ἐπιστάμενος τῷ νοσήματι, *Flat.* 1.3, 6.92 L.; cf. ἐναντίον ἴστασθαι τοῖσι καθεστηκόσι, *Nat. Hom.* 9.2, 6.52 L.), and in a move that strongly reinforces the connection between these texts, he also gives the same examples of causes and cures that we find in *On the Nature of the Human Being*. The author of *On Breaths* notes that “evacuation cures repletion, repletion cures evacuation, rest cures exercise, and exercise cures rest” (*Flat.* 1.4, 6.92 L.). Similarly, Polybus asserts that “diseases due to repletion are cured by evacuation, and those due to evacuation are cured by repletion; those due to exercise are cured by rest, and those due to idleness are cured by exercise” (*Nat. Hom.* 9.1, 6.52 L., trans. Jones). Another parallel between these texts comes in the sixth chapter of *On Breaths*. In this chapter, the author describes two types

¹¹¹ In this closing statement, the author plays on the ambiguous meaning of ὑπόθεσις as both a “foundational principle” and a “thesis” to be proved. For its relationship with the ὑποθέσεις of *On Ancient Medicine*, see Schiefsky (2005, 122–123).

¹¹² For these and other parallels between *On Breaths* and *On the Nature of the Human Being*, see Jouanna (1988, 31–34).

of fevers: (1) those that arise from regimen and (2) those that are caused by respiration. The fevers that arise from regimen are particular to individuals (ἰδίῃ, 6.1, 6.98 L.), while the fevers that arise from respiration are common to everyone (κοινὸς ᾗ πᾶσιν, 6.1, 6.96 L.). Not only is this the same distinction that we find in *On the Nature of the Human Being* (above, pp. 66–67), but the author of *On Breaths* also frames it, like Polybus, in the language of commonality and difference (6.2, 6.98 L.):

The fever that is common to many (πολύκοινος) is of such a sort because all people inhale the same πνεῦμα, and when similar πνεῦμα is mixed with the body in a similar way, the fevers that arise are also similar (ὁμοίου δὲ ὁμοίως τοῦ πνεύματος τῷ σώματι μιχθέντος, ὅμοιοι καὶ οἱ πυρετοὶ γίνονται). But perhaps someone will say: why, then, do such diseases not befall all animals, but only a certain tribe of them? This is because, I'd say, body differs from body, nature from nature, nutriment from nutriment (διαφέρει ... καὶ σῶμα σώματος καὶ φύσις φύσις καὶ τροφή τροφῆς). For the same things are neither unfitting nor fitting (οὔτ' ἀνάρμοστα οὔτ' εὐάρμοστα) for all tribes of animals, but some things are beneficial to some, while others are not beneficial to others. So whenever the air is steeped with such pollutions that are hostile to human nature (τῇ ἀνθρωπίνῃ φύσει πολέμια), humans become diseased, and whenever the air become unfit (ἀνάρμοστος) for some other tribe of animals, those animals become diseased.

In this passage, the author argues that an initiating cause, though “common to all,” will not always produce the same result. “When similar πνεῦμα is mixed with the body in a similar way, the fevers that arise are also similar.” However, different “tribes” of animals will react in different ways because “body differs from body, nature from nature, nutriment from nutriment.” For a disease to arise in a particular class of animals, the initiating cause must be hostile to their “nature” (φύσις). Some disease agents are hostile to human nature, while others are hostile to the natures of other animals. Just as Polybus divides patients into classes, distinguishing each class by its habits and underlying “nature,” so too does the author of *On Breaths* plainly assert that the development of a disease is not determined by a single factor, but rather depends on a constellation of factors that can change from one case to the next.

This emphasis on the *contingency* of disease is essential to understanding *On Breaths*. The author

is very interested in the causes of disease, and especially in how a single cause can produce a wide range of effects. As it happens, the author's observation that "body differs from body, nature from nature, nutriment from nutriment" (διαφέρει ... καὶ σῶμα σώματος καὶ φύσις φύσιος καὶ τροφή τροφῆς) is the same argument that *On Ancient Medicine* uses to *oppose* the doctor-cosmologists. Both authors stress that "nature differs from nature" (διαφέρει ... καὶ φύσις φύσιος, *Flat.* 6.2, 6.98 L.; cf. διαφέρουσιν οὖν τούτων αἱ φύσιες, *VM* 20.6, 1.624 L.), and both claim that an initiating cause—be it πνεῦμα or cheese—will only bring about disease if it is "hostile" to one's φύσις (φύσει πολέμια, *Flat.* 6.2, 6.98 L.; cf. πολέμιον, *VM* 20.6, 1.624 L.). The author of *On Ancient Medicine* presents this observation as a rebuttal to the theories of the doctor-cosmologists. Instead of contemplating universal ὑποθέσεις, he asserts that doctors should divide patients into classes, and then focus on the effects of different foods on each class. The author of *On Breaths*, for his part, does not think that the recognition of individual differences should hinder his search for high-level commonalities. Instead, he actually cites these differences in *support* of his postulation of a common cause for all diseases. If everyone is exposed to the same cause, surely they will all suffer the same disease. By no means, the author replies, for there are secondary factors in addition to the common cause, factors that will ultimately determine how the ailment will be manifested from one case to the next.

It is important to stress that the author of *On Breaths* does not claim that πνεῦμα is the *only* cause of disease. Rather, he claims that πνεῦμα is a *common* cause, and also, incidentally, the most important cause. This is a critical point, as some scholars have erroneously assumed that the author of *On Breaths* rejects humoral theory in favor of a radically new system of medicine.¹¹³ On

¹¹³ Cf. Carrick (2001, 28–29): "the author of another treatise, *On Breaths*, drops the humoral model in favor of an explanation of diseases based on the presence or absence in the body of the correct amount and blend of air inhaled from one's environment and drawn into the interstices of various organs."

closer examination, we can see that the author is not rejecting the core tenets of Greek medicine. Instead, he is remarkably conservative when constructing his own theories of pathogenesis. Toward the end of *On Breaths*, the author claims to have discussed “well known diseases” (τὰ γνώριμα τῶν ἀρρωστημάτων, 15.2, 6.114 L.). By calling these affections “well known,” he suggests that his goal is not to introduce a whole new system of medicine, but rather to supplement widely held views on the origin of disease. In several passages, the author emphasizes his reliance on opinions shared by “everyone.” “I think it is clear to everyone,” he writes, “that ileus, tormina, colic, and intestinal fixations are products of breaths” (9.1, 6.104 L.). In another passage, the author raises a potential objection: “Perhaps someone might say, ‘How then do humoral fluxes arise on account of breaths? In what way is πνεῦμα responsible for hemorrhages around the chest?’” (10.1, 6.104 L.). By raising this objection, the author implies that *everyone* believes in fluxes from the head, that *everyone* recognizes hemorrhages in the chest. His task is not to prove or disprove such widely held beliefs, but rather to illustrate how πνεῦμα can unite and govern them all.

To demonstrate that πνεῦμα is the common cause of all diseases, including fevers, intestinal disorders, catarrhs, lacerations, dropsy, apoplexy, and the so-called “sacred” disease, the author of *On Breaths* starts with traditional narratives of how each of these diseases comes to be, reframing them only insofar as it is necessary to draw attention to *pre-existing*, widely accepted views about what πνεῦμα tends to do within the body. His first topic is fever, with which he claims to begin because it is “the most common malady” (τοῦ κοινωτάτου νοσήματος, 6.1, 6.96 L.) and because it “accompanies all other diseases” (πᾶσιν ἐφεδρεύει τοῖσιν ἄλλοισι νοσήμασι, 6.1, 6.96 L.). In this section, he divides all fevers into two “tribes” (ἔθνη, 6.1, 6.98 L.), one of which is “common” to all and is caused by the πνεῦμα that we breathe, while the other is “particular” to individuals and is caused by bad regimen. Since “common” diseases were already

attributed to πνεῦμα in this traditional division between “common” and “particular” diseases (see above, pp. 66–67, 82), the author does not find it necessary to make any adjustments on this front. When he comes to “particular” diseases, however, he argues that these, too, do not occur without the involvement of πνεῦμα (7.1, 6.98 L.). The author begins by describing two ways in which a person can make use of “bad regimen.” The first is the consumption of more food than is expended by exercise, while the second is the consumption of food that creates “conflict” in the belly. In both cases, the end result of such “bad regimen” is the stagnation of moisture in the belly, which in turn gives rise to “breaths” (φῦσαι). As we have already seen (above, pp. 79–80), “breaths” were commonly thought to arise from the stagnation of nutriment in the belly. Many Greek doctors would have therefore found this part of the author’s treatise fully in keeping with what they already tended to believe.

As for the particular symptoms of a fever (chills, trembling, yawning, debility, sweating, headaches, and, of course, burning heat), the author explains each of these phenomena as natural consequences of “breaths.” Chills are attributed to the cooling of blood by the πνεῦμα that falls upon it, echoing the commonly held belief that the primary purpose of respiration is to cool the body’s innate heat.¹¹⁴ In *Diseases I*, the author explicitly attributes chills to the cooling of blood, noting that such cooling can arise “from external winds, water, clear air, and other such things, and also from ingested foods and drinks” (*Morb. I* 24, 6.188 L.). After explaining the cause of chills, the author of *On Breaths* then discusses other symptoms that attend a fever, at no point providing explanations that his contemporaries would have considered too outlandish to believe. Trembling occurs when the blood, repelled by the cold πνεῦμα, “darts” (διαῖσσει, 8.2, 6.100 L.)

¹¹⁴ On the cooling power of πνεῦμα, see also *Genit.-Nat. Puer.* 24.2, 7.520 L., 25.5–6, 7.524–526 L., and the passages quoted above, n. 15.

to the warm parts of the body. *Diseases IV* and *Diseases of Women I* also refer to chills “darting” through the body,¹¹⁵ while the author of *Diseases of Unwed Girls* draws on the idea that the blood is repelled whenever it comes into contact with something cold when he writes that “the blood very rapidly moves upward (from the feet) whenever the patient stands in cold water up to the ankles” (*Virg.* 2.6, 8.468 L.). Yawning is the next symptom to be explained in *On Breaths*. The author says that this symptom occurs when some of the πνεῦμα rises from the belly and exits through the mouth (8.3, 6.102 L.), invoking what appears to have been the standard explanation for this phenomenon.¹¹⁶ Debility is attributed to the warming and relaxation of the joints (8.4, 6.102 L.), while sweating occurs when some of the πνεῦμα reaches the exterior of the body, where it condenses back into moisture like steam hitting the lid of a pot (8.6, 6.102 L.). Both of these explanations, together with the author’s attribution of throbbing headaches to the trapping of πνεῦμα in the vessels (8.7, 6.102–104 L.), are well within the limits of what a Classical Greek doctor was likely to believe.¹¹⁷ As for the burning heat that is the hallmark of every fever, the author writes that the blood, fleeing the cold πνεῦμα, gathers together in a mass (συναλισθῆ, 8.5, 6.102 L.), after which it stagnates, grows hot, and overpowers the πνεῦμα in turn, transforming the once cold πνεῦμα into a conveyor of heat. “Overpowered by the heat” (κρατηθεῖς ὑπὸ τῆς θερμῆς, 8.5, 6.102 L.), the πνεῦμα then distributes this heat to the rest of the body, thereby explaining how a concentrated humor in just one part of the body can end up passing its heat to every part. A similar mechanism accounts for the alternation between chills and fever in *Diseases*

¹¹⁵ *Morb. IV* 46.4, 7.572 L., 57.2, 7.610 L., *Mul. I* 35, 8.82 L.; cf. *Epid. II* 4.1, 5.122 L.

¹¹⁶ Cf. *VM* 10.3, 1.592 L., *Epid. II* 3.1c, 5.102 L., 3.7, 5.110 L. (= *Epid. VI* 2.4, 5.278 L.), *Epid. IV* 2.11, 5.282 L., 5.1, 5.314 L., *Flat.* 13.2, 6.110 L., *Arist. Probl.* 10.1, 886a, 11.29, 902b, 11.44, 904a, 32.13, 961a–b.

¹¹⁷ For the connection between debility and the loosening of the joints, see *Epid. VI* 1.9, 5.270 L., 1.15, 5.274 L. On the throbbing caused by the trapping of πνεῦμα in the vessels, see above, nn. 104–105. The author of *Epidemics II* specifically refers to the presence of “breaths” in the head (*Epid. II* 3.17, 5.118 L.).

I, where it is not πνεῦμα but rather bile and phlegm that first cool the blood and are then heated by this humor (*Morb. I* 24, 6.188–190 L.; cf. *Genit.-Nat. Puer.* 15.4, 7.494 L.). As the author of *Diseases I* also writes about blood “gaining the upper hand” over the substance that had cooled it and discusses many of the same attendant symptoms that appear in *On Breaths* (e.g., trembling and sweating), it seems likely that the author of *On Breaths* has drawn on an account very similar to this one, swapping out πνεῦμα for noxious humors but nevertheless staying well within the limits of what πνεῦμα was deemed capable of doing within the body.

From this description of fevers, we can see that the author of *On Breaths* has no intention to create a whole new system of medicine. Instead, he simply shifts his audience’s attention to the activity of πνεῦμα, which was already agreed to play an important role in many aspects of pathogenesis. The rest of the author’s explanations are similarly constructed in such a way that they build on widely held beliefs about the origin of disease. In many cases, the author’s contemporaries were already attributing certain affections to πνεῦμα, as was the case for diseases where the free flow of πνεῦμα was thought to be impeded in some way. In chapter 9, the author explicitly states that “everyone” believes that the twisting pains of intestinal disorders are caused by the blockage of πνεῦμα (9.1, 6.104 L.), while his explanations of apoplexy in chapter 13 and of epileptic seizures in chapter 14 are fully in keeping with what we find in other texts.¹¹⁸ Where the author is most original is when he talks about affections in which πνεῦμα was not traditionally thought to play a major role. Since these are the passages in which we will best judge the nature of this text, I would like to look more closely at two passages in particular: (1) the author’s discussion of humoral fluxes in chapter 10 and (2) his account of dropsy in chapter 12.

In chapter 10, the author acknowledges that fluxes from the head are not normally thought

¹¹⁸ See above, n. 104.

to be caused by πνεῦμα. Raising a hypothetical objection of the sort one often finds in Greek rhetoric, he notes that “Perhaps someone might say, ‘How then do humoral fluxes arise on account of breaths? In what way is πνεῦμα responsible for hemorrhages around the chest?’” (10.1, 6.104 L.). A similar hypothetical objection appears in *On Ancient Medicine*, in which the author uses this tactic to show just how strong his own position is (*VM* 17.1–2, 1.612 L.; cf. *Cord.* 2, 9.82 L.). In *On Breaths*, the author begins with an assumption that would not have been questioned by his contemporaries, namely that πνεῦμα travels through the vessels and that it shares these same pathways with the blood.¹¹⁹ The author claims that fluxes from the head are initiated when a large amount of πνεῦμα enters its vessels, which are narrower than the vessels in other parts of the body (10.1, 6.104 L., cf. *Flat.* 8.7, 6.102–104 L.). Once the πνεῦμα has entered these vessels, it “squeezes” the blood and exerts so much pressure that it eventually gives rise to an ἀπόκρισις (10.1–2, 6.104–106 L.):

The thinnest part of the blood is pressed out through the vessels (διὰ τῶν φλεβῶν ἐκθλίβεται), and when this fluid collects in large quantity (ἀθροισθῆ πολλόν), it flows through the other passages, and in whatever part of the body it arrives in a mass, in that part of the body the disease becomes established.

The “fluid” in this case is a concentrated humor, which the author later identifies as phlegm (10.2–4, 6.106 L.). It had previously been mixed together with the blood, but as the πνεῦμα exerted pressure on the blood, this blend of humors was disrupted and the thinnest part (i.e., the phlegm) was “separated out.” The author is careful to note that a flux does not immediately happen at this point. Rather, the concentrated humor must gradually build up until it reaches a critical mass (ἀθροισθῆ πολλόν, 10.2, 6.104 L.). Once enough phlegm has gathered together, it

¹¹⁹ Praxagoras of Cos (fl. late fourth cent. BCE) is traditionally said to have been the first Greek thinker to put πνεῦμα in the arteries and humors in the veins. Before then, it was widely supposed that blood and πνεῦμα simply flow together through the vessels.

can then travel to other parts of the body, creating different affections depending on the place to which it flows. A similar delay between an ἀπόκρισις and flux can be found in *Prognostic*, in which the author observes that a headache which lasts for twenty days without a fever will be resolved in one of two ways: either (1) the patient will hemorrhage through the nostrils, or (2) there will be a downward movement of humors from the head (*Prog.* 21, 2.172 L.).¹²⁰ As for the assumption that different affections arise depending on the terminus of the flux, this was a core belief of Greek doctors, one that we have already encountered in our discussions of *On Ancient Medicine* (above, p. 34) and *On the Nature of the Human Being* (above, pp. 60–61). There is only one detail in this description of humoral flux in which the author of *On Breaths* stands apart from his contemporaries. This is his identification of πνεῦμα as the root cause of an ἀπόκρισις, squeezing the blood and causing phlegm to be “pressed out.” It is precisely on this point, however, that the author’s contemporaries would have been receptive to new theories. No one doubted the existence of ἀποκρίσεις, but there were competing theories about what precisely caused the “separating out” of one humor from the rest. In *On Ancient Medicine*, the author says that ἀποκρίσεις are caused by a “disturbance” (τάραχος, *VM* 14.6, 1.604 L.), which might occur when a patient consumes food and drink that is unblended and “strong.” In works that emphasize the hot, the cold, the dry, and the wet (e.g., *On the Nature of the Human Being*, *On Affections*, *On Regimen*), an ἀπόκρισις can still arise from a “disturbance,” but these authors more often attribute ἀποκρίσεις to the heating, cooling, drying, or moistening of the humors. In *On Breaths*, the author takes a mechanical approach, claiming that an ἀπόκρισις occurs when the blood, which contains a mixture of all the humors, is “squeezed” by the πνεῦμα and a specific humor is “pressed out” (ἐκθλίβεται, 10.1, 1.604 L.). The specific mechanism of “squeezing” is not unique to our author,

¹²⁰ For *On Regimen*’s presumption of a similar delay between an ἀπόκρισις and flux, see below, p. 205.

and it is actually paralleled in other texts that talk about ἀποκρίσεις. In *On Places in the Human Being*, the author notes that one cause of fluxes from the head is the squeezing of both the flesh and the vessels: “When the flesh shivers, contracts, and creates pressure, the vessels press out the moisture (ἐκφλίσσουσι, cf. ἐκθλίβεται, *Flat.* 10.1, 1.604 L.) and the flesh simultaneously presses out its moisture in turn” (*Loc. Hom.* 9.1, 6.292 L.). Similar reference to “squeezing” can be found in *On Glands* (“The glands in the intestines press out (ἐκπιεζόμεναι) and distribute moisture,” *Gland.* 5.2, 8.560 L.) and *Epidemics V* (sticky ἰχώρ is “pressed out” (ἐκθλίβεται) from a wound, *Epid. V* 65, 5.242 L.; cf. *Epid. VII* 61, 5.426 L.), while Anaximenes is said to have claimed that rain arises when the clouds are condensed and their moisture is “pressed out” (ἐκθλίβεται, DK 13 A17). In *On Breaths*, the author attributes this squeezing to the presence of πνεῦμα in the vessels. He stands apart inasmuch as he identifies πνεῦμα as the primary trigger of such an ἀπόκρισις, but neither the mechanism itself nor the fact that πνεῦμα can be present in the vessels would have struck his original audience as conceptually out of place.

When the author explains dropsy, he also draws on traditional notions of pathogenesis while arguing that πνεῦμα is the root cause of this affection. Like other doctors from the Classical period, the author attributes dropsy to the collection of moisture in and around the flesh, where it stagnates, grows hot, and then causes the surrounding flesh to “melt” and flow to other parts.¹²¹ The author claims that when the body’s πνεῦμα is loaded with moisture, it leaves some of this moisture behind as it travels through the flesh. The deposited moisture then does what stagnating moisture tends to do in this situation: it causes the surrounding flesh to melt and flow away (ὀπεκτῆκονται, 12.1, 6.108 L.). In this case, the only adjustment that the author makes to pre-

¹²¹ Cf. *Acut. App.* 52–53 (= 20–21 L.), 2.496–502 L., *Aff.* 22, 6.232–234 L., *Loc. Hom.* 21.1, 6.312–314 L., 24.1, 6.314–316 L., *Int.* 23–26, 7.224–236 L.

existing theories about dropsy is to claim that πνεῦμα is the agent that initially deposited moisture around the flesh. Even on this point, however, the author is not without precedent. *On Regimen* also describes how πνεῦμα travels around the flesh, consuming moisture from one part and depositing it somewhere else (see below, pp. 193–194). In fact, Greek doctors were very comfortable with assuming that πνεῦμα transports moisture from one place to another. The most common example of this process is the conveying of moisture from the belly to the head. The author of *On Glands*, for example, plainly states that “the body sends all kinds of vapors up to the head, which in turn the head transmits back” (*Gland.* 7.2, 8.562 L., trans. Craik). At no point in *On Breaths* do we get the sense that the author is speaking tongue-in-cheek when making his own claims about πνεῦμα. All of his explanations are far too reasonable and far too close to traditional theories of pathogenesis for us to conclude that this work is not supposed to be taken seriously.

What allows the author of *On Breaths* to stay within the limits of traditional medicine is the fact that he does not adopt the strong definition of a “cause” that we find in *On Ancient Medicine*. He neither assumes that diseases are *necessarily* produced whenever πνεῦμα is present, nor does he think that diseases are *always* cured whenever πνεῦμα is taken away. In many cases πνεῦμα is envisioned as a triggering, procatactic cause, and it is also combined with accessory causes that determine the precise nature of its effects in different circumstances. In chapter 15, the author writes that πνεῦμα is “the most active agent throughout all diseases” (διὰ πάντων τῶν νοσημάτων μάλιστα πολυπραγμονοῦσαι) and that all other agents are but “accessory and contributing causes” (συναίτια καὶ μεταίτια, 15.1, 6.114 L.). The term μεταίτιον is not otherwise attested in the Hippocratic Corpus, but συναίτιον appears in four other passages, once in *Instruments of Reduction* and three times in *Epidemics VI*.¹²² In *Instruments of Reduction*, the position in

¹²² The use of the adjective μεταίτιος in non-medical literature suggests that it is essentially a synonym for συναίτιος.

which the patient sleeps is said to be a συναίτιον for the pathological curvature of the spine (*Mochl.* 37, 4.382 L.), while in *Epidemics VI*, a propensity for flatulence is said to be a συναίτιον for protruding shoulder blades (*Epid. VI* 3.5, 5.294 L.), the hardness of the body is said to be a συναίτιον for the rupture of the vessels (*Epid. VI* 3.6, 5.294 L.), and a winter cough in Perinthus is said to have been a συναίτιον for other diseases that afflicted the same patients during the spring (*Epid. VI* 7.10, 5.342 L.). In all four passages, the συναίτιον specifically refers to something that distinguishes one group of patients from another. In the passage from *Instruments of Reduction*, it refers to a habitual activity (i.e., the patient’s sleeping position), while in the three passages from *Epidemics VI*, it refers either to a permanent aspect of the patient’s “nature” (i.e., a propensity for flatulence, a hardness of the body) or to a temporary state brought on by a disease (i.e., the physical condition that follows a winter cough). In all four passages, it is implied that the patients who possess these qualities will be more likely than others to experience certain effects. These συναίτια do not produce the effects on their own, but their presence will make them more likely to occur. In some cases, the συναίτια may even be *prerequisites* for the effects: the effects will not occur *unless* these conditions are met.¹²³ We have already seen another passage from *On Breaths* in which the author explicitly states that the same πνεῦμα will not sicken all “tribes” of animals, since “body differs from body, nature from nature, nutriment from nutriment” (6.2, 6.98 L.). This assertion recalls the references to συναίτια that we see in *Instruments of Reduction* and *Epidemics VI*, and one assumes that this is at least partly what the author has in mind when he makes his own assertion about “accessory and contributing causes.”

Of course, it is not *just* the characteristics of the individual patient that are responsible for

¹²³ Cf. *Epid. VI* 7.1, 5.336 L.: “As I have written, these were the relationships of the affections. The first described occurred also without the later, but the later ones not without the former” (trans. Smith). A similar observation appears at *Epid. I* 10 (= 4 L.), 2.630 L.

variations in disease. When the author discusses the various diseases caused by πνεῦμα, he also notes that different ailments are caused by differences in the parts with which the πνεῦμα interacts, as well as differences in the quality, quantity, and source of the πνεῦμα itself. In chapter 8, the author writes that “however the breaths rush forth in respect to quantity and coldness (πλήθει καὶ ψυχρότητι), such is the shivering that arises, stronger from more abundant and colder breaths, less strong from less abundant and less cold breaths” (8.1, 6.100 L.). In chapter 2, the author invokes a similar set of notions while introducing his general thesis (2.1, 6.92 L.):

Of all diseases, the type is the same while the location differs (ὁ μὲν τρόπος ωύτός, ὁ δὲ τόπος διαφέρει). It is because of the diversity of their locations that diseases seem to bear no resemblance to each other, but of all diseases there is one class and the same cause (μία πασέων νούσων καὶ ἰδέη καὶ αἰτία ἢ αὐτή).

In this passage, the author emphasizes that the location (τόπος) of a disease is responsible for its particular manifestation. This assertion should remind us of *On the Nature of the Human Being*, specifically the passage in which Polybus invokes the notion of humoral flux to illustrate how three diseases that appear to be very different in fact have a common ἀρχή (above, p. 68). Polybus describes an ailment that begins in the flesh and then flows to the intestines, the chest, and the bladder, creating different affections depending on the place to which it flows. In *On Breaths*, a similar discussion of humoral fluxes appears in chapter 10 (10.1–3, 6.104–106 L., trans. Jones, modified):

When the vessels about the head are loaded with air, at first the head becomes heavy through the breaths that press against it. Then the blood is compressed, the passages being unable, on account of their narrowness, to pour it through. The thinnest part of the blood is pressed out through the vessels, and when a great accumulation of this liquid has been formed, it flows through other channels. Any part of the body it reaches in a mass becomes the seat of a disease. If it go to the eyes, the pain is there; if it be to the ears, the disease is there. If it go to the chest, it is called sore throat; for phlegm, mixed with acrid humors, produces sores wherever it strikes locations (τόπους) unaccustomed to its presence, and the throat, being soft, is roughened when a flux strikes it.

In both *On the Nature of the Human Being* and *On Breaths*, fluxes are said to begin from a common source, but they give rise to different ailments depending on the place to which they flow. Neither author claims that all diseases are the same in their final manifestation, but they both emphasize that there is a single ἀρχή that is the same in every case. When the author of *On Breaths* identifies πνεῦμα as the “origin and source” (ἀρχὴ καὶ πηγὴ, 1.4, 6.92 L.) of all diseases in general, and when he says that the differences between diseases are due to differences in “location” (τόπος, 2.1, 6.92 L.), he seems to appropriate the language of humoral flux to frame his general thesis. All diseases belong to the same class because they all have a common cause. The differentiation that happens when we move beyond this common cause is like the differentiation that happens when a humor gathers in one place and then flows to other parts. As we see in the rest of this text, the location of an ailment is just one of many συναίτια that give rise to the variations between one patient and the next, but the familiarity of humoral flux to Classical Greek doctors enables the author to use this language as a shorthand for *any* differentiation that arises when you start from a common ἀρχή.

In chapter 2, the author makes it clear that his goal is not simply to praise the unlimited power of πνεῦμα, but more specifically to identify a high-level commonality that transcends particular differences. This high-level commonality comes in the form of a “cause” (αἰτία) and it places all diseases within one and the same “class” (ἰδέα). The author’s specific assertion that all diseases belong to the same class is counterintuitive and clearly meant to be provocative. In the Classical period, Greek doctors frequently asserted that there are many “types” or “classes” of disease—too many to catalogue all conceivable permutations.¹²⁴ Polybus refers to four “types”

¹²⁴ See below, p. 108. On the use of the terms εἶδος and ἰδέα in the Hippocratic Corpus, see Gillespie (1912) and Diller (1971), both of whom observe that Greek doctors had a penchant for dividing patients, diseases, and treatments into “classes” and then considering the interactions between one class and another.

(εἶδη) of fevers, all of which originate from bile (*Nat. Hom.* 15.1, 6.66 L.). He also asserts that “there are many forms of diseases and also many modes of treatment” (πολλὰ μὲν ἰδέαι τῶν νοσημάτων, πολλὰ δὲ ἢ ἵησις, *Nat. Hom.* 2.3, 6.34–36 L.), apparently contradicting the assertion in *On Breaths* that “of all diseases there is one class and the same cause” (μία πασέων νούσων καὶ ἰδέη καὶ αἰτία ἡ αὐτή, *Flat.* 2.1, 6.92 L.). The contradiction is merely an illusion, however, as the author of *On Breaths* clearly accepts that diseases can take many forms.¹²⁵ Instead of postulating a single ailment with a single treatment, the author uses the term ἰδέα in its taxonomic sense, whereby the existence of a commonality establishes the existence of a “class,” just as the so-called “acute” diseases (i.e., ardent fever, pneumonia, pleuritis, and consumption) all belong to the same class because they all have certain traits in common. In *On Breaths*, the author divides diseases into classes and subclasses (cf. the reference to two “tribes” of fevers at 6.1, 6.98 L.), but his ultimate goal is to show that all these different classes have a common point of origin, a “source” from which they ultimately branch off. Whereas other doctors from this period looked for the “source” of humoral fluxes, our author looks for the source of all diseases, identifying an undifferentiated ἀρχή in respect to which *all* diseases, despite their individual variations, can be said to belong to one and the same “class.”

The obvious question that arises at this point is why the author of *On Breaths* would have wanted to advance such a thesis in the first place. Why would he want to identify a common cause of all diseases, and why does he take such pride in saying that all diseases belong to a single class? To start, we may observe that the author of *On Breaths* seems to relate his general thesis to the treatment of disease, observing that “if someone knows the cause of the disease, he will be able to administer what is beneficial to the body, opposing the disease by means of contraries”

¹²⁵ Contrast Jouanna (1988, 31, and 105, n. 4), who claims that these two passages are “radically opposed.”

(1.4, 6.92 L.). The author then gives specific examples of what he means by the treatment of “opposites with opposites” (1.4–5, 6.92 L.):

Hunger is a disease. For whatever causes a person pain is called a disease. Now, what is the drug for hunger? It is what stops hunger, and this is eating. Accordingly, that malady must be cured with this remedy. Again, drinking stops thirst. Or again, evacuation cures repletion, repletion cures evacuation, rest cures exercise, and exercise cures rest. In a word, opposites are cures for opposites. For medicine is subtraction and addition: subtraction of what is in excess, addition of what is lacking. Whoever does this best is the best physician (ἄριστος ἰητρός), while whoever most falls short of this most falls short of the art (πλεῖστον ἀπελείφθη τῆς τέχνης).

We have already noted the parallel between this passage and *On the Nature of the Human Being*, where the claim that “opposites are cures for opposites” conceals a more complex model of pathogenesis. Polybus holds that repletion, evacuation, exercise, and rest give rise to diseases by heating, cooling, drying, and moistening the humors. This action encourages the heat, cold, dryness, and moisture that is present in the humors themselves, with the humor that gains the most “strength” in this process being the one that separates off from the rest. In this framework, the hot, the cold, the dry, and the wet may be called the common cause of all diseases. They link the remote, triggering cause (e.g., repletion, evacuation, exercise, and rest) with the “separating out” of one humor from the rest, and they bring a level of simplicity to medicine without entailing the extreme causal and therapeutic reductionism that is attacked in *On Ancient Medicine*. In *On Breaths*, πνεῦμα takes the place of the hot, the cold, the dry, and the wet within this causal framework. There are many different triggers of disease and many different forms that diseases can take, but in between these two stages there is a common cause (i.e., πνεῦμα) that is the same in every case. For both Polybus and the author of *On Breaths*, the identification of this common cause is directly relevant to treatment. In cases where a disease has already arisen, the doctor needs to remove the remote cause so that the patient’s body can “gain the upper hand.” In cases where the patient is still healthy, a knowledge of how diseases come to be enables the doctor to

keep the patient from falling ill, heading off diseases at their source by treating any imbalance with its opposite.

On the one hand, then, the author of *On Breaths* seems to be promoting an idea that is directly relevant to treatment. So many diseases are caused by πνεῦμα that the best way to ward off an illness is to remove anything that introduces noxious πνεῦμα into the body. At the same time, we must admit that by claiming that πνεῦμα is the common cause of *all* diseases, and by asserting that πνεῦμα is the most powerful force in the universe as a whole, the author of *On Breaths* goes well beyond what is needed to make this otherwise practical point. We have already seen that the author of *On Breaths* is not creating a whole new system of medicine. He recognizes the many differences between individual cases, and he presumably prescribed all the same treatments that his contemporaries employed, strengthening the healthy parts and “ripening” concentrated humors with the ultimate goal of removing these humors from the body. His assertion that all diseases have a common cause and belong to a single “class” (ἰδέα) does not change the ultimate forms that diseases can take. There is no clear medical benefit in the author’s claim that πνεῦμα plays a *universal* role in pathogenesis, and there is also no therapeutic relevance in saying that in addition to being the strongest power in the body, πνεῦμα also governs the sun, moon, and stars. Such observations provide the strongest possible support for claiming that *On Breaths* advances a thesis that is not meant to be taken seriously. Another explanation can be offered, however, one that fits better with the equally important observation that the author of *On Breaths* appears to be well versed in the concerns of Greek doctors, and that none of his explanations wander very far from the key tenets of Greek medicine.

By claiming that πνεῦμα is not only the common cause of all diseases, but also the most powerful force in the universe as a whole, the author of *On Breaths* manifests what might be called a “cosmological impulse,” that is, a belief that whatever their applicability, high-level

generalizations are inherently desirable and directly relevant to the medical art. We have already noted that Eryximachus claims to have gained his insight about the universal power of ἔρως “from medicine, our art” (ἐκ τῆς ἰατρικῆς, τῆς ἐμῆς τέχνης, *Pl. Smp.* 186a), as if to imply that the search for first principles is a natural pursuit for the practicing doctor (above p. 30). We have also seen an intense interest in commonality and difference in *On the Nature of the Human Being*, in which Polybus not only claims that different affections, located in different parts, can all be traced back to one and the same “source” (ἀρχή), but he also asserts that the constituents of human beings are “always alike the same (αἰεὶ ταῦτὰ ἔόντα ὁμοίως), whether the patient be young or old, or whether the season be cold or hot” (*Nat. Hom.* 2.5, 6.36 L., trans. Jones, modified). For the rest of this chapter, I would like to move beyond the narrow limits of *On Breaths*, arguing that Greek doctors were actually training themselves to look for commonalities that transcend particular differences. They divided patients, diseases, and treatments into groups, and they looked for general principles that are common to each. This search for commonalities became so closely associated with medical inquiry in the Classical period that we should hardly be surprised if a handful of Greek doctors took this mode of inquiry to what, to them, seemed its logical extreme. Because medical research was predicated on the belief that the most valuable generalizations apply to the widest range of cases, the doctor-cosmologists looked for principles that are common to all patients, to all diseases, and to all things in general, genuinely believing that, by considering the first principles of the universe, they were making a direct contribution to the advancement of the medical art.

As we have already noted, both Polybus and the author of *On Breaths* appear to have been very concerned about the differences between individual patients. Polybus repeatedly emphasizes the need to administer treatment only after considering “the patient’s age, constitution, the season of the year, and the fashion of the disease” (*Nat. Hom.* 9.4, 6.54 L.), while the author of *On*

Breaths combines his common cause of all diseases with “accessory and contributing causes” (συναίτια καὶ μεταίτια, 15.1, 6.114 L.), claiming that “it is because of the diversity of their locations that diseases seem to bear no resemblance to each other” (δοκεῖ μὲν οὖν οὐδὲν εἰκέναι τὰ νοσήματα ἀλλήλοισιν διὰ τὴν ἀλλοιότητα τῶν τόπων, *Flat.* 2.1, 6.92 L.) and that different animals will react to πνεῦμα in different ways because “body differs from body, nature from nature, nutriment from nutriment” (διαφέρει ... καὶ σῶμα σώματος καὶ φύσις φύσιος καὶ τροφή τροφῆς, *Flat.* 6.2, 6.98 L.). This final passage is especially significant, as it reworks a common maxim that appears throughout the Hippocratic Corpus. This is the assertion that certain prognoses and treatments cannot be generalized with “precision” (ἀκρίβεια) because “constitution differs from constitution, age from age, season from season, etc.” (διαφέρει φύσις φύσιος καὶ ἡλικία ἡλικίας καὶ ὥρη ὥρης κτλ). In *On Fractures*, the author writes that “it takes about thirty days altogether as a rule (τὸ ἐπίπαν) for the bone of the forearm to unite, but there is nothing exact about it (ἀτρεκὲς δὲ οὐδέν), for constitution differs greatly from constitution and age from age” (μάλα γὰρ καὶ φύσις φύσιος καὶ ἡλικία ἡλικίας διαφέρει, *Fract.* 7, 3.440 L., trans. Withington, modified). Elsewhere, the same author observes that “one cannot make a single statement as to when the bones will come away, for some separate sooner owing to their small size, others because they come at the end of the fracture, while others do not come away as wholes but are exfoliated after desiccation and corruption. Besides this, treatment differs from treatment” (διαφέρει τι καὶ ἡτρεῖν ἡτρεῖς, *Fract.* 33, 3.532–534 L., trans. Withington, modified). In *Diseases I*, the author says in reference to patients suffering from internal suppuration, “It is impossible to know precisely (τὸ ἀκριβὲς εἰδέναι) and to hit the mark when stating (τυχεῖν εἶπαντα) the period within which these patients die, not even whether it will be long or short. For the period of time that some people give is not precise (ἀκριβής) in most cases, nor does this information, of itself, suffice; for year differs from year and season from season” (διαφέρει γὰρ καὶ

ἔτος ἔτεος καὶ ὥρη ὥρης, *Morb. I* 16, 6.168–170 L. L., trans. Potter, modified). Finally, the author of *On Regimen* compiles a long list of factors that may vary from one case to the next, all in order to demonstrate that it is impossible to write “with precision” regarding the proper balance between eating and exercise (*Vict.* 67.1–2, 6.592 L., trans. Jones, modified):

As I said above, it is impossible to write about human regimen with such precision (ἀκριβείην) as to make the exercises exactly proportionate to the amount of food. There are many things to prevent this. First, the constitutions of men differ; dry constitutions, for instance, are more or less dry as compared with themselves or as compared with one another. Similarly with moist constitutions, or with those of any other kind. Then the various ages have different needs. Moreover, there are the situations of districts, the shiftings of the winds, the changes of the seasons, and the constitution of the year. Foods themselves exhibit many differences; the differences between wheat and wheat, wine and wine (πυροί τε γὰρ πυρῶν καὶ οἶνος οἴνου), and those of the various other articles of diet, all prevent its being possible to write with precision (ἀκριβείην).¹²⁶

The main point in all of these passages is that certain prognoses and treatments cannot be generalized in such a way that they hold good on all occasions—there are simply too many variables to put these prescriptions in writing. Regarding some of these details, we may say what is true “as a rule” (τὸ ἐπίπαν), but anything more specific would depend on the circumstances. Regarding others, there is not even a general tendency in one direction or the other: if we want to achieve precision in any of these areas, we will have to approach the question from an entirely different angle.

The above-quoted passage from *On Regimen* is especially striking, as it presents the art of medicine as a source of seemingly infinite variation. There are so many factors that can influence disease, so many *differences* between one case and the next, that it is impossible to write with precision when describing even the most basic medical procedures. A similar point is made by the author of *On Places in the Human Being*, who claims that medicine cannot be learned quickly

¹²⁶ For more example of this maxim, see *Fract.* 35, 3.536–538 L., *Art.* 8, 4.94 L., *Morb. I* 22 6.182–184 L., *Aff.* 60, 6.268 L., *Genit.-Nat. Puer.* 15.3, 7.494 L.

because it has no “fixed technique” (*Loc. Hom.* 41, 6.330–332 L., trans. Craik, modified):

It is not possible to learn medicine quickly because of this: it is impossible for any fixed technique (καθεστικός σόφισμα) to come about in it, such as when a person who has learned how to write in the one way by which it is taught knows everything. And all who have knowledge how to write have the same knowledge because of this: the same thing, done in the same way, now and at other times (τὸ αὐτὸ καὶ ὁμοίως ποιούμενον, νῦν τε καὶ οὐ νῦν), would never become the opposite, but is always steadfastly the same (αἰεὶ ἐνδυκέως ὅμοιον) and does not require *καίρος*. But medicine now and at other times does not do the same thing; and does opposite things to the same individual; and the same things are opposites to one another.

There are two general points that should be made about this passage. The first concerns the emphasis it gives to “the same thing, done in the same way, now and at other times” (τὸ αὐτὸ καὶ ὁμοίως ποιούμενον, νῦν τε καὶ οὐ νῦν). This phrase seems to explain what the author means by a “fixed technique”: it is a procedure that, when performed in the same way, always has the same effect. When we learn how to write the alphabet, for example, we find that the same strokes of the pen always produce the same letters, no matter when we write. In medicine, by contrast, the same treatment, administered in the same way, might have one effect at one time and an entirely different effect at another. There is no single result that always comes from the same procedure, and hence no single procedure that the doctor should always perform. The second point regards the central position this passage gives to the *καίρος*, the “due measure” or “right proportion” that is uniquely suited to each occasion. It is in this respect, the author writes, that medicine differs from writing: medicine requires attention to the *καίρος*, while writing does not; medicine must be adapted to changing circumstances, while writing involves an action that is “always steadfastly the same.” Closely related to this emphasis on the *καίρος* is the author’s assertion that whoever learns how to write does so “in one way” and then “knows everything,” the implication being that while doctors must adapt to changing circumstances, everything a person needs to know when writing is inherent in the skill itself. Aristotle makes a similar comparison between medicine

and writing in the *Nicomachean Ethics*, where he notes that medicine, navigation, and gymnastics all require “deliberation” (βουλή) when they are put into practice. Writing, on the other hand, needs no such deliberation: it belongs to a class of arts that are “precise” (ἀκριβείς) and “sufficient in themselves” (αὐτάρκεις), arts in which the practitioner can learn one procedure and then apply it in every case (*EN* 3.3, 1112a34–b9).¹²⁷

When aiming for the *καιρός*, it was generally believed that the doctor should begin by carefully assessing the situation, determining what is needed after considering many variables. These variables are the same factors we find listed above, the factors that make it impossible to write with “precision” about some topics because “constitution differs from constitution, age from age, season from season,” and so on. Consider, for example, the following passage from *Diseases of Women I*, in which the precision that cannot be committed to writing is transferred to the judgment of the practitioner (*Mul. I* 11, 8.42 L., trans. Hanson, modified):

Looking at these things, and testing them with precise judgment (γνώμη σκεθρῇ βασανίσας), one must examine (ἀθρῆν) the entire body to see whether or not it seems to need frequent purgation, while one takes into consideration (ἀποσκεψάμενος ἔς) the patient’s coloring, her age, her strength, the season of the year, and what kind of a regimen she follows.

In this passage, the practitioner is told to use “precise judgment” when determining what is needed, finding the right balance among the many variables that make it impossible to put these prescriptions in writing. A similar idea can be seen in *On Fractures*, in a passage that explicitly connects the existence of many variables with the doctor’s need to consider the *καιρός* (*Fract.* 35, 3.536–538 L., trans. Withington, modified):

Treatments differ greatly from treatments and bodily constitutions from bodily constitutions

¹²⁷ Elsewhere, Aristotle observes that good conduct, like medicine, requires constant attention to the *καιρός* because it has “nothing fixed” (οὐδὲν ἑσθηκός, *EN* 2.2, 1104a3–10), echoing the claim in *On Places in the Human Being* that medicine has no “fixed technique” (καθεστικός σόφισμα). For yet another parallel with this passage, see Isoc. 3.12–13, where the comparison is between writing and rhetoric.

as to power of endurance (μελέται γὰρ μελετέων μέγα διαφέρουσι, καὶ φύσιες φύσιων τῶν σωμάτων ἐς εὐφορίην). It also makes a great difference (διαφέρει δὲ μέγα) whether the bone protrudes on the inner or outer side of the arm or thigh, for many critical vessels stretch along the inner side, and some of them are fatal when wounded; there are also some on the outside, but fewer. In such injuries, then, one must not overlook their dangers, what sort they are, but foretell them with a view to the καιροί.

In the first sentence of this passage, the author refers to variables that “differ” from one case to the next. In the second, he cites a variable that “also makes a great difference.” The idea is that each of these factors do not just “differ” among themselves, but they also *contribute* to the final prognosis. In the same way that a rhetorician might claim that the place, the time, and the audience all have a “power” (δύναμις) to determine whether a speech will be effective, Greek doctors viewed such variables as the age, sex, habits, and constitution of the patient as contributing causes, each of which has a “power” (δύναμις) to influence the course of a disease.

One of the defining characteristics of Classical Greek medicine was a growing concern for individual differences.¹²⁸ We have already seen how the author of *On Ancient Medicine* associates the advancement of the art with the drawing of finer and finer distinctions between different classes of patients, while the above-quoted passages from the Hippocratic Corpus all point to the belief that medicine would reach a state of perfection if only doctors could find some way to hit the καιρός in each case. The best way to appreciate this growing concern for individual differences is to look at the forms of medical writing that were favored both before and after this development. Before the Classical period, medical knowledge was primarily transmitted in the form of diagnostic handbooks—lists of symptoms, their prognoses, and their treatments, wherein each set of symptoms is presented as a separate disease. This form of medical writing has a long and well-documented history. It can be illustrated by Egyptian medical papyri of the second

¹²⁸ On the “problem” of individualization in Classical Greek medicine, see Müri (1936, 41–47), Temkin (1953, 219–222), Kudlien (1967, 140–145).

millennium BCE, including the Kahun gynecological papyrus (c. 1800 BCE), the Edwin Smith papyrus (c. 1600 BCE), and the final section of the Ebers papyrus (c. 1550 BCE); by numerous tablets from ancient Mesopotamia; and by *Diseases II*, a Greek text that is generally agreed to belong to the earliest stratum in the Hippocratic Corpus.¹²⁹ As practical works, these handbooks tend to be arranged in a systematic manner, with each entry following a formulaic scheme. The scheme usually contains three elements: (1) a title that identifies the ailment, (2) a description of its symptoms, and (3) a prognosis and treatment.¹³⁰ Since diseases do show reliable patterns, it is not surprising that the diagnostic handbook remained the dominant form of medical writing until the fifth century BCE. These handbooks not only identify the most common patterns of disease, but they also draw authority from the fact that their treatments have been “tested” over a long period of time. The Egyptian papyri cite cures so effective they have worked “a million times” (*P. Ebers* 131). In Mesopotamian texts, recipes are often marked *bulṭu latku* (“a proven treatment”),¹³¹ while one tablet is impressively labeled, “Proven and tested salves and poultices, fit for use, from the mouth of ancient antediluvian sages from Šuruppak [= the home of Ubara-Tutu, the last

¹²⁹ On the relative antiquity of *Diseases II* (especially chapters 12–75), see Jouanna (1974), Grensemann (1975), Langholf (1990). On the Egyptian medical papyri, the standard reference is Grapow (1954–1973). See also Nunn (1996) for English summaries and analyses of these texts. Heeßel (2000) gives a good introduction to the diagnostic literature of ancient Mesopotamia.

¹³⁰ For a representative entry, we may cite the following passage from *Diseases II* (49, 7.74–76 L., trans. Potter, modified): “Another consumption: there is coughing, the sputum is copious and moist, and sometimes the patient without difficulty coughs up pus that resembles hail stones which, on being rubbed between the fingers, are hard and evil-smelling. The voice is clear, the patient is free of pain, and there are no fevers, although sometimes fever heat; the patient is especially weak. You must make this patient drink hellebore and a decoction of lentils, and feed him as well as possible, while avoiding sharp vegetables, beef, pork and mutton; have him do a few exercises, take walks, vomit after meals, and refrain from sex. This disease lasts for seven or nine years; if the patient is treated from the beginning, he recovers.”

¹³¹ E.g., *BAM* 168 70–81: “If a man’s groin hurts him at an inappropriate time, and his shins cause him a stinging pain, he is weak in his thighs and his knees gnaw at him with pain, that man suffers in the rectum (already) during his youth. To cure him, ... you dry out Dilmun dates, horned alkali, fat of the kidney of a male sheep, *kukru*, juniper, *šumlatū*, *baluhhu*-resin, *abukkātu*-resin—8 drugs—insert a suppository into his anus to stop flatulence; a proven remedy (*bulṭu latku*)” (trans. Geller 2010, 103). For other examples, see *BAM* 152 7, 159 22, 168 12. The practice is discussed by Leichty (1988) and Stol (1991–1992, 60–61).

king before the flood], which Enlil-muballit, sage of Nippur, left to posterity in the second year of Enlil-bani, king of Isin [= c. 1860 BCE].”¹³² This final passage is especially significant, as it suggests that diagnostic handbooks were originally composed by “the ancients” and could thereby tap into a cultural preference for traditional, inherited wisdom.¹³³ By the late sixth century BCE, however, this cultural preference was starting to change, as inherited wisdom was being supplanted by a self-conscious turn toward “inquiry” (ἵστορία). Xenophanes of Colophon gave voice to this movement when he wrote that “the gods did not reveal to mortals all things from the beginning, but over time, through their own searching, people discover what is better” (DK 21 B18). Whereas previous generations had sought authority in antiquity, touting wisdom that had been “tested” over hundreds of years, the Classical period was marked by a growing confidence in human ingenuity and a redefined relationship with the past, which was no longer viewed as better than the present, but was thought to represent the primitive beginnings from which all humans have progressed.¹³⁴

¹³² *AMT* 105 (trans. Geller 2010, 17). On this tablet, which is to be dated no earlier than the eighth century BCE, see Elman (1975, 31) and Rochberg (2004, 215). Cf. also *STT* 30 6 (“proven (*latkutum*) poultices originating in Eridu [= the first city in the world and home of the first kings in the Sumerian king list]”) and *BAM* 159 22 (“proven (*latku*) eye-salve from Hammurabi [= a famous king of the 18th cent. BCE]”). Similar pedigrees can be cited from Egyptian medical literature; the London medical papyrus, for example, refers to a prescription that was “good during the time of the Majesty of the Dual King Nebmaatra [= Amenhotep III]” (P. BM EA 10059 XII 1).

¹³³ On the pre-classical emphasis on inherited wisdom, see Clifford (2007). For inherited wisdom in the Greek tradition, see Kleingünther (1933, 5–11). The following passage from Diodorus Siculus, with its emphasis on diagnostic handbooks, suggests that a cultural preference for ancestral knowledge was still active among the Egyptians well into the Roman period: “On their military campaigns and their journeys in the country [the Egyptians] all receive treatment without the payment of any private fee; for the physicians draw their support from public funds and administer their treatments in accordance with a written law which was composed in ancient times by many famous physicians. If they follow the rules of this law as they read them in the sacred book and yet are unable to save their patient, they are absolved from any charge and go unpunished; but if they go contrary to the law’s prescriptions in any respect, they must submit to a trial with death as the penalty, the lawgiver holding that but few physicians would ever show themselves wiser than the mode of treatment which had been closely followed for a long period and had been originally prescribed by the ablest practitioners” (1.82.3, trans. Oldfather).

¹³⁴ On the shifting emphasis from inherited wisdom to personal inquiry see Edelstein (1967) and Dodds (1971). Geller (2010, 123–126) observes that Babylonian medicine also underwent a minor “revolution” in the fifth century BCE. It was much simpler than the changes in Greece, however, and did not involve as dramatic a break with the authority of ancestral knowledge. In all likelihood, one of the most important factors that enabled Greek culture to

Medicine was not immune to this new emphasis on inquiry and discovery. Like sculptors, painters, rhetoricians, and musicians, Greek doctors sought to improve their craft by striving for greater “precision” (ἀκρίβεια), and they did so by paying more attention to the differences between individual cases. Diagnostic handbooks, for their part, had already allowed for some differences between individual patients and for the influence of the seasons and other variables. They sometimes even referred to the doctor’s need to observe the καιρός in each case.¹³⁵ What is more, there is evidence that Greek-speaking doctors were equating success in the art with the attainment of “precision” already in the preclassical period. In a fragment from the *Sack of Troy*, a Cyclic poem from the sixth century BCE, it is said that the god Poseidon placed “all that was precise” (πάντα ἀκριβέα) in the heart of Podalirius, a legendary healer (fr. 5 Allen). This traditional concern for precision seems to have acquired a new urgency, however, in the Classical period, when there was an important shift away from reverence for inherited, ancestral wisdom. By the fifth century BCE, the push for the crafts to reach increasingly higher levels of precision led Greek doctors to focus more intently on the differences between individual cases, which ultimately spurred them to re-evaluate the very means by which they organized medical knowledge.¹³⁶

make this epistemic shift was the fact that, unlike the Egyptians and Mesopotamians, the Greeks did not have the cultural baggage that comes from a long tradition of written texts. In Egypt and Mesopotamia, scholarship focused on the preservation, organization, and exegesis of ancient texts. The Greeks, on the other hand, were illiterate until the eighth century BCE. It was therefore not as difficult for the Greeks, having few ancient texts to revere, to break away from the authority of inherited wisdom that persisted in both Egypt and Mesopotamia.

¹³⁵ E.g., *Morb. II* 19, 7.34 L., 48, 7.74 L., 50, 7.76 L., 61, 7.94 L., *Int.* 6, 7.180 L., 32, 7.250 L. In *Diseases II*, the phrase ἐὰν/ὅταν/ὅσον ἂν σοι δοκῇ (“if/whenever/however much you think appropriate”) is often appended to prescriptions. In *Internal Affections*, another text that reflects the early diagnostic tradition, the doctor who treats a specific type of lung disease is told to “pay attention to the patient’s color and provide whatever treatment you think is necessary” (ἐς χρώμα δὲ ὁρῶν μελετᾶν ὅποιον ἂν τινῶν σοι δοκῇ δεῖσθαι), and if pus breaks out in the patient’s chest, the practitioner should incise and cauterize the patient “wherever you think the sign points most” (ὅπη ἂν σοι δοκῇ ἀποσημαίνειν μάλιστα, *Int.* 3, 7.176 L.).

¹³⁶ On the heightened concern for “precision” (ἀκρίβεια) in Classical Greek medicine, see Kurz (1970, 62–87) and Schiefsky (2005, 13–18).

Among the first casualties of medicine’s growing “individualization” were the diagnostic handbooks that had purported to catalogue all diseases and their treatments. The primary complaint against these texts was that they failed to account for all the variables that can change from one case to the next. In a fragment from Euripides, we are told that the doctor must attempt cures “after looking to the illness (πρὸς τὴν νόσον ... ἰδόντ’), not by giving pre-ordained remedies, unless these remedies befit the disease (μὴ ἐπίτακτα φάρμακα διδόντ’, ἐὰν μὴ ταῦτα τῇ νόσῳ πρέπη)” (fr. 286b.1–3 K.). In other words, the doctor must adapt his remedies to the situation. He cannot just follow some written instructions but must take an active role in determining what is needed.¹³⁷ The same idea is expressed in *On Regimen in Acute Diseases*, a text that directly invokes a diagnostic handbook entitled *Cnidian Signs*.¹³⁸ Using language very similar to what we see in Euripides, the author of this text complains that *Cnidian Signs* prescribes remedies that are too simple and not “suited” (ἀρμόζοντα, *Acut.* 3.1 (= 1 L.), 2.226 L.) to the diseases for which they are recommended. Later on, the same author contrasts the method of *Cnidian Signs* with his own preference to “apply my mind in all the art” (ἐν πάσῃ τῇ τέχνῃ προσέχειν τὸν νοδν, 4.1 (= 2 L.), 2.230 L.), a statement that recalls the claim in Euripides that it is only “after looking to the illness” (πρὸς τὴν νόσον ... ἰδόντ’) that a doctor can select a fitting

¹³⁷ The fact that this idea is expressed in a tragedy suggests that it was repeated so often that even a layman would have heard it. For Euripides’ engagement with medical literature, see Craik (2001b) and Stieber (2011). A similar sentiment can be found in E. fr. 917 K. In *Statesman*, Plato distinguishes doctors who administer cures “in accordance with writings” (κατὰ γράμματα) from those who treat patients “without writings” (χωρὶς γραμμάτων, *Plt.* 293a–b). He also notes that lawgivers should follow the example of doctors by departing from written instructions when the situation demands it (*Plt.* 294e–296a; cf. *Phdr.* 268c). In Aristotle’s *Politics*, we learn that some Greek thinkers criticized Egyptian medicine for its over-reliance on written laws: “The advocates of kingship maintain that the laws speak only in general terms, and cannot provide for circumstances; and that for any science (τέχνη) to abide by written rules is absurd. In Egypt the physician is allowed to alter his treatment after the fourth day, but if sooner, he takes the risk” (Arist. *Pol.* 3.15, 1286a9–14, trans. Barnes). In this passage, we see the same distinction between preordained remedies and adapting to the situation that appears in the fragment from Euripides. For a similar criticism of Egyptian medicine for doctoring “by the book,” see Diod. 1.82.3 (quoted above, n. 133).

¹³⁸ On the translation of Κνίδιαι γνώμαι as *Cnidian Signs*, see Langholf (1990, 13, n. 9). A parallel use of γνώμη in the sense of “sign” can be found at Thgn. 60 (οὔτε κακῶν γνώμας εἰδότες οὔτ’ ἀγαθῶν).

treatment.¹³⁹

In both Euripides and *On Regimen in Acute Diseases*, we find a similar complaint about diagnostic handbooks: their rigid prescriptions leave little room for the doctor to adapt to changing circumstances. Whereas diagnostic handbooks might divide the same disease into two or more forms (cf. “Another consumption” in *Diseases II*), Classical Greek doctors claimed that these minor divisions were not enough; there is an infinite variety in human disease, a manifold division for which simple lists of affections and their treatments will not suffice. The point is made most explicitly in the following passage from *On Regimen in Acute Diseases* (1–3 (= 1 L.), 2.224–228 L.):

Those who composed the work entitled *Cnidian Signs* have correctly written the sorts of things that patients undergo in each of the diseases, as well as how some of them turn out. And up to this point even a non-doctor could write correctly if he made good inquiries from each of the patients into the sorts of things they undergo. But as to what the physician should grasp in addition (προσκαταμαθεῖν), without the patient’s telling him, they have omitted many of these things, things which are different in different circumstances, and some of which are critical for the drawing of inferences (ἐπίκαιρα ... ἐς τέκμαρσιν). ... Some of them [= the compilers of *Cnidian Signs*] were not unaware of the varieties (πολυτροπίας) in each of the diseases and of their manifold division (πολυσχιδίων), but in wishing to indicate distinctly (σάφα) the number of diseases, they did not write correctly (ὀρθῶς). For the enumeration would not be easy if one identifies the disease of each patient on the basis of how one disease differs from the other (τῷ ἑτέρου ἐτέρου διαφέρειν τι), and on the assumption that no two diseases are the same unless they have the same name.

In this passage, the author claims that the key problem with *Cnidian Signs* is not its attempt to identify disease patterns, but its choice to look for such patterns exclusively at the level of aggregate diseases. Like other diagnostic handbooks, *Cnidian Signs* presents each set of symptoms as a separate entity, to which prognoses and treatments are then attached. The author admits

¹³⁹ For the use of προσέχειν τὸν νοῦν in the sense of “adapt to the situation,” see *Prog.* 19, 2.164 L., 22, 2.174 L., *Epid. I* 26 (= 12 L.), 2.680 L., *VC* 12.4, 3.228 L., 18.2, 3.250 L., *Fract.* 30, 3.516 L., *Art.* 30, 4.144 L., *Epist.* 24, 9.400 L., and *Isoc. Ant.* 184. Note also the use of προσέχειν at *Acut. App.* 21.1 (= 9 L.), 2.434–436 L., 23.2 (= 9 L.), 2.440–442 L.

that the compilers of this handbook made room for some degree of variation, but he adds that their method of enumerating diseases “on the basis of how one disease differs from the other” (τῷ ἑτέρῳ ἑτέρου διαφέρειν τι) is both impractical and insufficient. This method is impractical, on the one hand, because there are simply too many variables to make a separate entry for every conceivable permutation. If such factors as the patient’s age, sex, habits, and constitution all have a “power” (δύναμις) to influence a disease, then doctors would need to make a separate entry for every human on the planet—at which point it is no longer possible to generalize disease patterns. Diagnostic handbooks are insufficient, moreover, because there is much that the doctor should “grasp in addition” to these patterns, “things which are different in different circumstances, and some of which are critical for the drawing of inferences.” Later on, the author clarifies what he means by this phrase (*Acut.* 7–9 (= 3 L.), 2.238–244 L.):

I think it is worth writing all the things that have not been grasped by physicians, although they are critical (ἐπίκαιρα) to know, and things that bring great benefits and great harms. Now, the following have not been grasped (ἀκαταμάθητα): why do some physicians, in acute diseases, administer unstrained gruels through the whole duration of the illness and believe that they are treating the patient correctly, while others think it all important that the patient not ingest any barley—for they deem it a source of great harm—but administer the juice after straining it through linen cloth, while still others would give neither thick gruel nor juice, some not until the seventh day, and others not until the disease reaches a crisis? Very many physicians are not accustomed even to propose such inquiries. ... But I affirm that this investigation is wholly fine and akin to the most, and the most critical (ἐπικαιροτάτοισι), components of the art. For it has great power to bring about health in all who are sick, the preservation of health in those who are well, good condition in those in training, and whatever each person desires.

The author refers to the object of his inquiries as “things that have not been grasped”

(ἀκαταμάθητα), a term that recalls his earlier statement that there is much that doctors should “grasp in addition” (προσκαταμαθεῖν) to the general patterns of disease. As an example of this new mode of inquiry, the author cites the proper administration of barley gruel: some doctors, he writes, always give barley gruel at the beginning of a disease, others administer only the juice, while still others make the patient fast until the seventh day or until the disease has reached a

crisis. What we should be doing, the author implies, is not simply to employ the same treatment in all cases, but to make sure that whatever treatment we do select coincides with the needs of the situation.

But how, exactly, are doctors supposed to approach clinical decision-making when no two cases are the same? How are they to find the *καιρός* amidst so many different variables? To put it simply, Greek doctors responded to the growing emphasis on individual differences by reorienting their inquiries around a search for commonality. They decided that if no two cases are exactly alike, then doctors must focus on what is unaffected by changing circumstances. In *On Regimen in Acute Diseases*, we see a clear example of this new mode of inquiry in the author's attempts to formulate general principles regarding the proper administration of treatment. Instead of moving from one disease to the next, the author moves from one treatment to the next, developing general rules for administering each treatment that are independent of any particular diagnosis. As the author discusses the application of these general rules to particular cases, he uses the same language that he had previously employed to criticize *Cnidian Signs*. The doctor should give either melicrat or wine, he writes, "whichever is suited (*ἀρμόζῃ*)," adding that he will later describe "what is suited in each type (of ailment)" (*τὸ δ' ἀρμόζον ἐφ' ἐκάστοισι τῶν τρόπων*, 12.1 (= 4 L.), 2.250 L.; cf. *Acut.* 3.1 (= 1 L.), 2.226 L.).¹⁴⁰ The author frequently describes his rules of thumb as *ἐπίκαιρος* ("critical"),¹⁴¹ just as he had rebuked *Cnidian Signs* for

¹⁴⁰ The author returns to this topic in chapter 19 (= 6 L.). For other references to what is "fitting" or "suited" in *On Regimen in Acute Diseases* (*τὸ ἀρμόζον*, *τὸ ἐπιτήδειον*, *τὸ πρέπον*, κτλ), see also *Acut.* 21.3 (= 7 L.), 2.270 L., 50.1 (= 14 L.), 2.332 L., 52.1 (= 14 L.), 2.336 L., 53.1 (= 15 L.), 2.336 L., 66.2 (= 18 L.), 2.368 L. Jones (1923, 91) and Joly (1972, 50) both translate the phrase *οἷόν τε* at *Acut.* 35.1 (= 9 L.), 2.296 L., as "it is possible." A better translation, however, is "it is fitting" (cf. LSJ s.v. *οἶος* III). Note also the author's use of the phrase *πρὸς τι* ("in relation to something") at *Acut.* 21.2 (= 7 L.), 2.270 L. This is the same language that we see in *On Ancient Medicine* when the author asserts that foods and drinks should be adapted to individual constitutions (*VM* 20.3, 1.622 L.).

¹⁴¹ *Acut.* 7.1 (= 3 L.), 2.238 L., 9.1 (= 3 L.), 2.244 L., 13.1 (= 4 L.), 2.250 L., 39.1 (= 11 L.), 2.304 L.

omitting much that is “critical for the drawing of inferences” (ἐπίκαιρα ἐς τέκμαρσιν, 1.1, 2.224 L.), and he generally envisions the primary job of the doctor as paying precise attention (ἀκριβέως θεωρέων, 20.2 (= 6 L.), 2.268 L.) and thereby figuring out what is “needed” (δεῖ, χρή) in any given set of circumstances.¹⁴² At various points within this text, the author observes that certain principles hold good “always,”¹⁴³ “in all diseases,”¹⁴⁴ “both at the beginning and throughout the disease,”¹⁴⁵ and for all classes of patients.¹⁴⁶ In chapter 48, he notes that one such principle is useful in all circumstances (ἐς πάντα ... εὐχρηστον, 48.1 (= 13 L.), 2.328–330 L.), while he elsewhere formulates principles that are not quite universal, but merely hold true “as a general rule” or “for the most part” (τὸ ἐπίπαν, τὸ πάμπαν, ὡς ἐπὶ τὸ πολὺ, κτλ).¹⁴⁷ In chapter 11, the author writes that “all who use gruel in these diseases (i.e., acute diseases) must not fast, generally speaking (ὡς ἔπος εἰπεῖν), on any day, but they must use it and not intermit—unless there is some need to intermit because of a purge or clyster” (11.1 (= 4 L.), 2.246 L.). In this case, the author cites a general principle that holds true in most cases, but he notes that the physician should be ready to break this rule if the circumstances should demand it. Similar attempts to generalize within the constraints of contingent factors can be seen in the author’s descriptions of

¹⁴² *Acut.* 2.1 (= 1 L.), 2.224 L., 10.1 (= 4 L.), 2.246 L., 11.1 (= 4 L.), 2.246 L., 11.2 (= 4 L.), 2.246–248 L., 12.1 (= 4 L.), 2.248 L., 12.2 (= 4 L.), 2.250 L., 13.1 (= 4 L.), 2.250 L., 15.1 (= 5 L.), 2.254 L., 15.2 (= 5 L.), 2.256 L., 16.1 (= 5 L.), 2.256 L., 18.1 (= 6 L.), 2.264 L., 20.1 (= 6 L.), 2.266 L., 21.2 (= 7 L.), 2.270 L., 22.1–2 (= 7 L.), 2.272 L., 23.1 (= 7 L.), 2.274 L., 25.1 (= 7 L.), 2.276 L., 26.1 (= 8 L.), 2.278 L., 29.1 (= 9 L.), 2.286 L., 37.4 (= 10 L.), 2.302 L., 41.1–2 (= 11 L.), 2.310–312 L., 47.1–2 (= 12 L.), 2.324–328 L., 51.2 (= 14 L.), 2.334 L.

¹⁴³ *Acut.* 46.2 (= 12 L.), 2.324 L., 51.1 (= 14 L.), 2.334 L.

¹⁴⁴ *Acut.* 20.2 (= 6 L.), 2.268 L.

¹⁴⁵ *Acut.* 20.1 (= 6 L.), 2.266 L.; cf. *Acut.* 21.1 (= 7 L.), 2.268 L.

¹⁴⁶ *Acut.* 28.2 (= 9 L.), 2.282 L., 35.1 (= 9 L.), 2.296 L., 46.2 (= 12 L.), 2.324 L.

¹⁴⁷ *Acut.* 11.1 (= 4 L.), 2.246 L., 12.2 (= 4 L.), 2.250 L., 14.1 (= 4 L.), 2.252 L., 17.2 (= 5 L.), 2.262 L., 18.1 (= 6 L.), 2.264 L., 21.2 (= 7 L.), 2.270 L., 22.1 (= 7 L.), 2.272 L., 25.1 (= 7 L.), 2.276–278 L., 26.1 (= 8 L.), 2.278 L., 28.2 (= 9 L.), 2.282 L., 30.2 (= 9 L.), 2.290 L., 34.1 (= 9 L.), 2.296 L., 38.1 (= 11 L.), 2.304 L., 39.3 (= 11 L.), 2.306 L., 50.2 (= 14 L.), 2.332–334 L., 52.1 (= 14 L.), 2.334–336 L., 53.1 (= 15 L.), 2.336 L., 53.2 (= 15 L.), 2.340 L.

how one class of patients should be treated in one way, another in another,¹⁴⁸ in his recording of incidental symptoms that only some patients manifest,¹⁴⁹ in his reference to the need to adjust the quantity, quality, and timing of prescriptions to particular situations,¹⁵⁰ and in his noting of additional procedures that may be required at one time or another.¹⁵¹ His overall purpose is to determine, regarding each mode of treatment, “to whom it should be administered and to whom it should not be administered, as well as the reason why it should not be administered” (55.1 (= 15 L.), 2.342 L.). The author believes that by formulating such general principles, doctors will be able to individualize their treatments and thereby hit the *καυρός* in each case.

Unlike the prognoses and treatments in diagnostic handbooks, the general principles in *On Regimen in Acute Diseases* are not tied to any particular disease. As long as the patient falls within the specified parameters, then the doctor should provide the corresponding treatment. A similar approach to medicine can be seen in *Prognostic*, which does for prognosis what *On Regimen in Acute Diseases* does for treatment. In this text, the author moves from symptom to symptom, developing general guidelines about what each symptom indicates “in all diseases,” “for the most part,” or for a particular class of patients.¹⁵² In the final chapter of this work, the author makes an

¹⁴⁸ *Acut.* 11.1–2 (= 4 L.), 2.246 L., 19.1 (= 6 L.), 2.264–266 L., 19.2 (= 6 L.), 2.266 L., 22.1–2 (= 7 L.), 2.272 L., 23.1 (= 7 L.), 2.274 L., 53.1 (= 15 L.), 2.336 L. The author also observes that different classes of patients respond to the same factors in different ways: *Acut.* 29.2 (= 9 L.), 2.286–288 L., 34.1 (= 9 L.), 2.296 L., 37.1–3 (= 10 L.), 2.298–302 L., 50.1 (= 14 L.), 2.332 L., 50.2 (= 14 L.), 2.334 L., 53.2 (= 15 L.), 2.340–342 L.

¹⁴⁹ *Acut.* 17.1 (= 5 L.), 2.260 L., 19.1 (= 6 L.), 2.264 L., 22.2 (= 7 L.), 2.272–274 L., 28.3 (= 9 L.), 2.284 L., 30.2 (= 9 L.), 2.288–290 L., 42.1–3 (= 11 L.), 2.312–314 L., 53.2 (= 15 L.), 2.340–342 L.

¹⁵⁰ *Acut.* 11.1–2 (= 4 L.), 2.246–248 L., 12.2 (= 4 L.), 2.250 L., 13.1 (= 4 L.), 2.250 L., 19.1 (= 6 L.), 2.264–266 L., 19.2 (= 6 L.), 2.266 L., 20.1–2 (= 6 L.), 2.266–268 L., 22.1–2 (= 7 L.), 2.272–274 L., 24.1 (= 7 L.), 2.276 L., 25.1 (= 7 L.), 2.278 L., 29.1 (= 9 L.), 2.286 L., 33.1 (= 9 L.), 2.294 L., 48.2 (= 13 L.), 2.330 L., 50.1 (= 14 L.), 2.332 L., 52.2 (= 14 L.), 2.336 L.

¹⁵¹ *Acut.* 10.1 (= 4 L.), 2.246 L., 11.1 (= 4 L.), 2.246 L., 12.1 (= 4 L.), 2.248–250 L., 16.1–2 (= 5 L.), 2.256–260 L., 19.1–2 (= 6 L.), 2.264–266 L., 21.1 (= 7 L.), 2.268 L., 22.1–2 (= 7 L.), 2.272 L., 28.3 (= 9 L.), 2.284 L.

¹⁵² Note in particular the author’s penchant for universalizing language: *Prog.* 3, 2.120 L. (ἐν πᾶσι τοῖσιν ὀξέσι νοσήμασι), 5, 2.122 L. (ἐν ᾗ πᾶσι τοῖσιν ὀξέσι νοσήμασι), 6, 2.122–124 L. (ἐν πᾶσι τοῖσιν ὀξέσι νοσήμασι), 7, 2.130 L. (ἀπάντων ... τῶν οἰδημάτων χρονιζόντων), 8, 2.130 L. (οἱ δὲ ὕδρωπες οἱ ἐκ τῶν ὀξέων νοσημάτων πάντες), 13, 2.144 L. (πᾶσαι δὲ αἱ ὑπόσαπροι καὶ δυσώδεες ὁσμαι ... ἐπὶ πᾶσι τοῖσιν ἐμρομένοισιν), 14, 2.144 L. (ἐπὶ

important statement regarding his approach to general principles (*Prog.* 25, 2.188–190 L.):

Concerning sure tokens and other signs, one must be well aware that in every year and in every season bad signs indicate something bad and good signs indicate something good, since the signs recorded above prove to hold true in Libya, in Delos, and in Scythia. Accordingly, one must know that it would not be strange if, in the same places, one should very often hit the mark if one has thoroughly grasped these things and knows how to distinguish and reckon them correctly. One must also not regret the omission from the present account of the name of any disease. For it is by the same signs in all cases that you will recognize what comes to a crisis in the aforementioned times.

In this passage, the author draws a clear distinction between his own text and diagnostic handbooks, instructing his audience not to regret the omission from his account of any particular disease name. “For it is by the same signs in all cases,” he writes, that prognoses can be made, while “in every year and in every season bad signs indicate something bad and good signs indicate something good, since the signs recorded above prove to hold true in Libya, in Delos, and in Scythia.”¹⁵³ With these words, the author claims that his principles hold true in all diseases, all seasons, and in every geographical location. His readers may worry about the variables that can change from one case to the next, but the author reassures them that this method of sign-inference will maintain its effectiveness even when all other variables change.

As Greek doctors started to reorient their thinking around a search for commonalities, they developed new modes of inquiry specifically designed to uncover new generalizations. We see this most clearly in the seven books of *Epidemics*, where individual cases are compared with one another in the hope of finding generalizable truths. In these texts, the authors record how different diseases, occurring in different seasons, were experienced by different classes of patients

πᾶσι τοῖσιν ἀλγίμασι τοῖσι περὶ τὸν πλεύμονα καὶ τὰς πλευράς), 14, 2.146 L. (ἐπὶ πᾶσι τοῖσι περὶ τὸν πλεύμονα νοσήμασι), 14, 2.146 L. (πάντα δὲ πτόελα), 17, 2.152 L. (τοὺς δὲ ζύμπαντας ἐμπύους), 18, 2.160 L. (αἱ δὲ ἀποστάσεις αἱ ἐς τὰ σκέλεα ... πᾶσαι).

¹⁵³ I.e., these signs hold true in the extreme south (Libya), the extreme north (Scythia), and the center of the world (Delos)—a metonym for all geographical and climatic variations.

(men vs. women, the young vs. the old, the bilious vs. the phlegmatic, and so on). They also provide detailed, day-by-day descriptions of individual cases, all in the hope of finding common elements that can then be applied in future cases.¹⁵⁴ In *Epidemics III*, the author prefaces a series of case histories by noting that “it is necessary to grasp precisely (καταμανθάνειν ... ἀκριβῶς) the constitution of the seasons and the disease, (observing) what common element (κοινόν) in the constitution or in the disease is good, and what common element in the constitution or in the disease is bad” (*Epid. III* 16, 3.102 L., trans. Jones, modified).¹⁵⁵ Elsewhere, we are told that doctors should make note of what is “either similar or dissimilar” (ἢ ὅμοια ἢ ἀνόμοια, *Epid. I* 20 (= 9 L.), 2.660 L.; cf. *Off.* 1, 3.272 L., *Epid. VI* 8.26, 5.352 L.) and that “nothing occurs at random” (μηδὲν εἰκῆ, *Epid. VI* 2.12, 5.284 L.) since even the smallest detail can distinguish one class of patients from the next. In many passages, the authors compare specific patients by name, noting the similarities and differences between their cases.¹⁵⁶ They also compile lists of factors that can distinguish one case from the next,¹⁵⁷ using their implicit understanding of human physiology (i.e., the concepts of ἀπόκρισις, flux, coction, and crisis) to guide their clinical observations. In *Epidemics VI*, the author describes this mode of inquiry in general terms (*Epid. VI*

¹⁵⁴ On the methodology of the *Epidemics*, see Diller (1964), Nikitas (1968), Deichgräber (1971), Manetti and Roselli (1982), Langholf (1990), Jouanna (2000), and the essays collected in Baader and Winau (1989), especially Langholf (1989), Licciardi (1989), and Smith (1989).

¹⁵⁵ Note the parallels with *On Regimen in Acute Diseases*, which similarly stresses the importance of observing cases with “precision” (ἀκριβέως θεωρῶν, *Acut.* 20.2 (= 6 L.), 2.268 L.) and “grasping” (καταμανθάνειν) general principles that can later be applied to particular cases.

¹⁵⁶ E.g., *Epid. I* 14–17 (= 8 L.), 2.642–650 L., 20–21 (= 9 L.), 2.660–666 L., *Epid. II* 1.12, 5.82 L., 2.1, 5.84 L., 2.9, 5.88 L., 3.11, 5.114 L., *Epid. IV* 1–4, 5.144–146 L., 20d–f, 5.158–160 L., 25, 5.164–168 L., 29, 5.172 L., 31, 5.174–176 L., 33, 5.176–178 L., 36, 5.178 L., 40–41, 5.182 L., 45, 5.188 L., 50, 5.190 L., 55, 5.194 L., 57, 5.196 L., *Epid. V* 4, 5.204–206 L., 8, 5.208 L., 30, 5.228 L., 65, 5.242–244 L., 87, 5.252 L., 96–99, 5.256 L., *Epid. VI* 3.5, 5.294 L., 3.14, 5.300 L., 8.18, 5.350 L., *Epid. VII* 5, 5.376 L., 9, 5.380 L., 27, 5.398 L., 30, 5.400 L., 34, 5.402 L., 35, 5.402–404 L., 45, 5.412 L., 52, 5.422 L., 61, 5.426 L., 112, 5.460 L.

¹⁵⁷ E.g., *Epid. I* 23 (= 10 L.), 2.668–670 L., *Epid. II* 1.6, 5.76 L., 3.2, 5.106 L., *Epid. IV* 43, 5.184 L., 46, 5.188 L., *Epid. VI* 2.14, 5.284 L., 6.14, 5.330 L., 8.7–15, 5.344–348 L.

3.12, 5.298 L., trans. Smith, modified):

The summary conclusion (κεφάλαιον) comes from the coming to be and the point of departure, and from very many accounts and things learned little by little, when one gathers them together (συνάγοντα) and grasps (καταμανθάνοντα) whether the things are like one another, and in turn, whether the dissimilarities in them are like each other, so that from the dissimilarities there arises one similarity (ὡς ἐκ τῶν ἀνομοιοτήτων ὁμοιότης γένηται μία). This would be the road (ὁδός, i.e., method). In this way develop verification of correct accounts and refutation of what is incorrect.

In this passage, the author describes his “method” (ὁδός) for identifying what is “correct” and “incorrect” in medicine. He notes that the investigator should not consider the patient in isolation, but should record everything that led up to the disease (= “the coming to be and point of departure”).¹⁵⁸ He then asserts that one must “gather together” (συνάγοντα) multiple accounts and compare those accounts with one another, “grasping” (καταμανθάνοντα) the similarities and differences “so that from the dissimilarities there arises one similarity” (ὡς ἐκ τῶν ἀνομοιοτήτων ὁμοιότης γένηται μία).¹⁵⁹ The author uses the phrase ὁμοιότης μία (“one similarity”) in the same way that *Epidemics III* refers to a “common element” (κοινόν, *Epid. III* 16, 3.102 L.). Another interesting term is κεφάλαιον, which usually denotes a “chief point” or “summary conclusion” that picks out whatever is essential from some longer account. In this context, the term may either refer to the “chief point” of the author’s methodology or the “essential generalization” that comes from a series of particular observations. The word may have even been chosen specifically to recall the phrase ὡς ἐν κεφαλαίῳ εἰρησθαι (“to speak in summary”), which introduces

¹⁵⁸ This information is important because it helps the doctor distinguish conditions with similar symptoms but different causes, each of which must be treated in a different way (cf. *Epid. II* 1.11, 5.82 L., *Epid. VI* 3.20, 5.302 L.). It is also important because knowing the day on which a disease begins allows the doctor to predict its crises and exacerbations, a central consideration for determining the *καιρός* (cf. *Epid. II* 1.6, 5.74 L., *Epid. IV* 20b, 5.158 L.).

¹⁵⁹ Again, note the parallels with *On Regimen in Acute Diseases*, especially the use of the verb καταμανθάνειν. In the *Timaeus*, Plato echoes this language when he observes that multiple humors were given the common designation of bile “either by certain physicians or by someone who was capable of surveying a number of dissimilar cases (ἀνόμοια) and discerning amongst them one single type (ἐν γένος) worthy to give its name to them all” (*Tim.* 83c, trans. Bury).

generalizations in *On Regimen in Acute Diseases*, *Epidemics III*, *On Fractures*, and *On Joints*.¹⁶⁰

In the *Metaphysics*, Aristotle describes a similar process of moving from the particular to the general (*Metaph.* 1.1, 981a, trans. Barnes, modified):

To have a judgment that when Callias was suffering from this or that disease this or that benefited him, and similarly with Socrates and various other individuals, is a matter of experience; but to judge that it benefits all persons of a certain type, marked off as one class (πᾶσι τοῖς τοιοῖσδε κατ' εἶδος ἐν ἀφορισθεῖσι), who suffer from this or that disease (e.g. the phlegmatic or bilious when suffering from ardent fever) is a matter of art (τέχνη).

Just as the author of *Epidemics VI* refers to the “gathering together” of individual accounts, so too does Aristotle begin by describing the collection of particular observations. When Callias was suffering from a certain illness, he was benefitted by a certain treatment. The same data has been collected for Socrates, and so on for other individuals. What moves these observations from “experience” (ἐμπειρία) to “art” (τέχνη) is an act of generalization. The medical researcher classifies the patients according to their shared characteristics (e.g., “the phlegmatic or bilious when suffering from ardent fever”) and identifies some other trait (e.g., a positive reaction to a specific form of treatment) that is common to all members of this class.

When the compilers of the *Epidemics* formulated their general principles, they usually codified them in the form of aphorisms. As its name implies, an aphorism (from ἀφορίζειν, “to mark off by boundaries”) is a generalization that holds good for all members of a specified class.¹⁶¹ The Hippocratic Corpus contains many collections of aphorisms, including not only the seven books

¹⁶⁰ *Acut.* 12.2 (= 4 L.), 2.250 L., 61 (= 16 L.), 2.356–358 L., *Epid. III* 8, 3.88 L., *Fract.* 26, 3.500 L., 31, 3.524–526 L., 43, 3.554 L., 45, 3.556 L., *Art.* 40, 4.174 L., 48, 4.216 L., 58, 4.254 L., 61, 4.260 L.

¹⁶¹ Note Aristotle's use of the verb ἀφορίζειν in the above-quoted passage: “all persons of a certain type, marked off as one class” (πᾶσι τοῖς τοιοῖσδε κατ' εἶδος ἐν ἀφορισθεῖσι). Outside the title of the *Aphorisms*, neither the noun ἀφορισμός nor the verb ἀφορίζειν appear in the Hippocratic Corpus. The specific term ἀφορισμός seems to have first been applied to general principles in the fourth century BCE (e.g., Thphr. *HP* 9.2.1), although the concept of an aphorism is already developing in the Hippocratic Corpus (note especially the use of the term ὁρος at *Epid. VI* 2.21, 5.288 L., and ὅριον at *Epid. VI* 6.6, 5.326 L.).

of *Aphorisms*, but also *Prognostic*, *Prorrhetic I*, *Dentition*, *Nutriments*, *Crises*, and *Coan Prognoses*. The aphorisms in these collections are relatively brief (most are only a single sentence), and they often contain qualifiers to note that they hold good “in all diseases,” “for the most part,” or for a particular class of patients.¹⁶² Just as the author of *On Ancient Medicine* associates the advancement of medicine with the division of patients into “classes” (εἶδη), each of which shares a common nature (φύσις), mode of life (δίαιτα), or physical state (διάθεσις), so the compilers of the *Epidemics* divide patients into groups, attributing their common experiences to the shared characteristics of each group. The most important “groups” in the *Epidemics* pertain to the patients’ διάθεσις (i.e., their symptoms in a given disease). Other important divisions pertain to the patients’ gender and age,¹⁶³ as well as their complexion,¹⁶⁴ weight,¹⁶⁵ exercise habits,¹⁶⁶ fertility,¹⁶⁷ marital status (in

¹⁶² Note especially the universalizing language at *Epid. II* 1.6, 5.74 L., *Epid. VI* 3.16, 5.300 L., and the questions about whether general principles apply universally at *Epid. V* 77, 5.248 L., *Epid. VI* 2.5, 5.278 L., *Epid. VII* 57, 5.424 L. On the stability of aphorisms, note also the references to a “precise sign” (σημείον ἀκριβές) at *Epid. VII* 112, 5.460 L., to the “surest (literally, ‘most stable’) relapses” (βεβαιόταται ὑποστροφαί) at *Epid. II* 1.11, 5.82 L. (= *Epid. VI* 3.21, 5.302 L.), to events that will occur “surely” (βεβαίως) at *Art.* 63, 4.270 L., to a “sure crisis” (βεβαίαν κρίσιν) at *Coac.* 147, 5.614 L., and to a treatment that removes thirst “surely” (βεβαίως) at *Morb. III* 17, 7.160 L. The implicit contrast between “stability” (βεβαιότης) and depending on other factors informs the assertion in *On Places in the Human Being* that “medicine as a whole is firmly established (βέβηκε), and the finest of the techniques collected in it clearly have the least dependence on chance (τύχην)” (*Loc. Hom.* 46.1, 6.342 L.). Pace Craik (1998, 85), the perfect tense of βαίνω does not suggest the “advancement” of medicine over a period of time, but rather its ability to “hold steady” and “stand in place” for doctors who know how to use it (cf. LSJ s.v. βαίνω I.2 and note the similar claims at *De arte* 4–6, 6.6–10 L.). On the relationship between this passage and the same author’s assertion (quoted above, p. 101) that medicine, unlike writing, has “nothing fixed,” see below, p. 124.

¹⁶³ Note, for example, the following passage from *Epidemics VI*: “Women did not suffer similarly from the cough, but few of them had fever, and of those very few went into pneumonia, and those the older. All survived. I attributed this to their not going out as the men did and because they were not otherwise susceptible like the men” (*Epid. VI* 7.1, 5.334 L., trans. Smith).

¹⁶⁴ *Epid. I* 19 (= 9 L.), 2.656 L., *Epid. II* 5.1, 5.128 L., *Epid. VI* 2.6, 5.280 L., 2.19, 5.286 L., 3.13, 5.298 L.

¹⁶⁵ *Epid. II* 1.8, 5.80 L.

¹⁶⁶ *Epid. I* 1, 2.602 L.

¹⁶⁷ *Epid. VI* 7.8, 5.342 L.

the case of women),¹⁶⁸ the color and straightness of their hair (or the lack thereof),¹⁶⁹ the color and size of their eyes,¹⁷⁰ the shape of their nose,¹⁷¹ the shape of their heads,¹⁷² the size of their spleen,¹⁷³ the nature of their voice,¹⁷⁴ their habits of work and travel,¹⁷⁵ their propensity to certain emotions,¹⁷⁶ their tendency to suffer ἀποκρίσεις of blood, phlegm, bile, or black bile,¹⁷⁷ their propensity to generate “breaths” (φῦσαι) in the body,¹⁷⁸ their innate susceptibility to specific diseases,¹⁷⁹ and the inclination of their “natures” (φύσεις) to the hot, the cold, the dry, or the wet.¹⁸⁰ This final criterion is especially significant, as it recalls the emphasis on the hot, the cold, the dry, and the wet that we see among the doctor-cosmologists. In *Epidemics I*, older men are said to be in the period of their lives when “the hot is now being dominated (sc. by the cold)” (ἤδη τὸ θερμὸν κρατεῖται, *Epid. I* 12 (= 6 L.), 6.638 L.), while in *Epidemics VI*, the author notes

¹⁶⁸ *Epid. I* 16 (= 8 L.), 2.646–648 L. Note also the distinction between free women and slave women at *Epid. VI* 7.1, 5.334 L.

¹⁶⁹ *Epid. I* 19 (= 9 L.), 2.656 L., *Epid. III* 17.5, 3.118 L., *Epid. II* 5.1, 5.128 L., 5.23, 5.132 L., 6.1, 5.132 L.; cf. *Epid. VI* 3.1, 5.292 L., 7.1, 5.334 L.

¹⁷⁰ *Epid. I* 19 (= 9 L.), 2.656 L., *Epid. II* 5.1, 5.128 L., 6.1, 5.132 L., *Epid. VI* 7.1, 5.334 L.; cf. *Epid. II* 6.14, 5.136 L., *Epid. VI* 7.6, 5.340 L.

¹⁷¹ *Epid. II* 5.1, 5.128 L., 6.1, 5.132 L., *Epid. VI* 8.26, 5.352–354 L.

¹⁷² *Epid. VI* 1.2, 5.266 L., 8.26, 5.352–354 L.

¹⁷³ *Epid. VI* 3.2, 5.292–294 L.

¹⁷⁴ *Epid. I* 19 (= 9 L.), 2.656 L., *Epid. II* 1.8, 5.80 L., 5.1, 5.128 L., 6.1, 5.132 L., 6.22b, 5.136 L., *Epid. VI* 4.19, 5.312 L., 7.1, 5.334 L., 7.6, 5.340 L.

¹⁷⁵ *Epid. I* 19 (= 9 L.), 2.656 L., *Epid. IV* 50, 5.190 L., *Epid. VI* 7.1, 5.332 L., 8.26, 5.352–354 L.

¹⁷⁶ *Epid. I* 19 (= 9 L.), 2.656 L., *Epid. III* 17.11, 3.134 L., *Epid. II* 6.1, 5.132 L., *Epid. VI* 2.20, 5.288 L., 4.19, 5.312 L.

¹⁷⁷ *Epid. III* 14, 3.98 L., *Epid. II* 1f, 5.104 L., *Epid. IV* 20f, 5.160 L., *Epid. II* 5.1, 5.128 L., 6.1, 5.132 L., *Epid. V* 22, 5.222 L., *Epid. VI* 8.20, 5.352 L., 8.26, 5.352–354 L., 8.31, 5.354–356 L. See also *Epid. VI* 2.20, 5.288 L., 5.8, 5.318 L., 6.5, 5.324–326 L.

¹⁷⁸ *Epid. VI* 3.5, 5.294 L.

¹⁷⁹ Note especially *Hum.* 8, 5.488 L. (“As to the body generally, know to what disease the φύσις most inclines,” trans. Jones, modified), *Epid. I* 2, 2.604–606 L. (οἷσιν ἔρρεπεν ἢ φύσις ἐπὶ τὸ φθινώδες), and *Epid. III* 1.6, 3.52 L. (ἤν δέ τι καὶ συγγενικὸν φθινώδες). See also *Epid. I* 3, 2.614 L., *Epid. II* 5.1, 5.128 L., 6.1, 5.132 L., *Epid. VI* 6.5, 5.324–326 L., 7.6, 5.340 L., 7.8–9, 5.342 L., 8.12, 5.348 L., 8.31, 5.354–356 L.

¹⁸⁰ *Epid. I* 12 (= 6 L.), 6.638 L., *Epid. VI* 1.6, 5.268 L., 3.7, 5.296 L., 4.13, 5.310 L., 4.18–19, 5.312 L., 5.15, 5.322 L., 6.2, 5.324 L., 6.8, 5.328 L.

that “sedimentation after urination is more frequent in children,” following this with the question, “Is it because they are warmer?” (ἦρ’ ὅτι θερμότερα, *Epid. VI* 3.7, 5.296 L., trans. Smith). Such transitions from external symptoms to internal causes were not discouraged by the compilers of the *Epidemics*. In fact, Greek doctors seem to have been attracted to such explanations largely because they provided yet another way to overcome the many variables that can change from one case to the next.

In the Classical period, Greek doctors incorporated causal explanations into their broader search for high-level commonalities. Like the aphorisms that correlate symptoms with prognoses or treatments, causal explanations imply the existence of stable, highly generalized principles that guarantee a certain result under a given set of circumstances. In many passages, Greek doctors use the term ἀνάγκη and its cognates (“it is necessary, necessarily”) when constructing causal explanations. In *On the Art*, the author observes that “the same intelligence is required to know the causes of diseases as to understand how to treat them” (*De arte* 11.4, 6.20 L., trans. Jones), and we have already quoted several passages that stress the importance of treating diseases at their “source.” In light of these passages, one presumes that one reason why Greek doctors were so keen to seek out causal explanations was because they did not leave doctors in the lurch when confronted with a wholly new set of circumstances. Even when a doctor had never experienced a particular situation, he could nevertheless analyze the “nature” (φύσις) and “power” (δύναμις) of each factor that influences the patient’s health, using this information to determine what is likely to occur under a given set of circumstances.

This particular advantage of causal explanations is well illustrated by *Airs Waters Places*. In this text, the author addresses itinerant doctors who constantly travel from one community to the next. Toward the end of his preface, the author reflects on what a doctor can do if he studies all the “powers” (δυνάμεις) that influence a patient’s health (*Aēr.* 1.1–2.2, 2.12–14 L.):

Starting from these things, one should contemplate the particular cases (καὶ ἀπὸ τούτων χρὴ ἐνθυμεῖσθαι ἕκαστα). For if someone knows these things well—especially all of them, but if not, at least most—neither the local diseases nor the nature (φύσις) of the peoples’ bellies will escape his notice when he arrives at a city with which he is unfamiliar (ἄπειρος). Accordingly, he will not be at a loss (ἀπορεῖσθαι) or miss the mark (διαμαρτάνειν) in his treatment of diseases—things which are likely to occur unless one knows these things beforehand when reflecting on each case in advance. As the time and the year progresses, he can say both what diseases, being common to all (πάγκοινα), will seize the city in the summer or winter and what diseases, being particular to individuals (ἴδια ἑκάστῳ), may arise from a change in regimen. For by knowing the changes of the seasons and both the risings and settings of the stars, how each of these things occurs, he can know in advance how the year will turn out. By thinking in this way and predicting the καιροί, he can attain the best knowledge about each case, most often hit the mark when aiming at health, and achieve not inconsiderable successes in the art.

In this passage, we see the same distinction between diseases that are “common to all” and diseases that are “particular to individuals” that appears in both *On Breaths* and *On the Nature of the Human Being*. Yet again, “common” diseases are attributed to environmental factors that are shared by all members of a community, while “particular” diseases are attributed to a person’s regimen (δίαιτα), a factor that can change from one patient to the next (see above, pp. 66–67, 82, 84–85). In this text, the author claims that doctors can master both “common” and “particular” diseases if they “contemplate” (ἐνθυμεῖσθαι) the causes of disease. At the beginning of *Airs Waters Places*, the author specifically asserts that the most important activity for the medical researcher is to consider how causal factors can differ from one case to the next (*Aër.* 1.1–2, 2.12 L.),

Whoever intends to investigate medicine correctly should do the following. First, he should contemplate (ἐνθυμεῖσθαι) the seasons of the year, considering what each season has the power to bring about. For the seasons are not at all similar to one another (οὐ γὰρ εἰκόασιν ἀλλήλησιν οὐδέν), but are very different (πολὺ διαφέρουσιν) both in themselves and in the changes from one to the next. Next, he should contemplate the winds, both the hot and the cold, especially those that are common to all human beings (μάλιστα μὲν τὰ κοινὰ πᾶσιν ἀνθρώποισιν), and then also those that are native to each locale (ἔπειτα δὲ καὶ τὰ ἐν ἑκάστη χώρῃ ἐπιχώρια ἐόντα). He should also contemplate the powers (δυνάμεις) of waters, for just as they differ (διαφέρουσι) in taste and in weight, so too is the power (δύναμις) of each very different.

In this passage, every factor that influences human health is given a particular “power” (δύναμις). This “power” determines what effects that factor will have on the body, and it is the primary

consideration for doctors who want to adjust their treatments to fit the needs of particular situations. In *On Breaths*, the author recalls this emphasis on “powers” when he refers to πνεῦμα as the greatest “potentate” (δυνάστης) in the universe as a whole (*Flat.* 3.2, 6.94 L.; cf. *Flat.* 4.1, 6.96 L., 15.1, 6.114 L.). Eryximachus similarly asserts that “the undivided ἔρως, taken as a whole, has a wide, a strong, nay an absolute power” (πολλὴν καὶ μεγάλην, μᾶλλον δὲ πᾶσαν δύναμιν ἔχει, *Pl. Smp.* 188d), again suggesting that what makes a causal factor especially important is its “power” to influence the outcome of an event.

When the author of *Airs Waters Places* describes the powers of winds, he notes that one should pay the most attention to the winds that are “common to all human beings” (μάλιστα μὲν τὰ κοινὰ πᾶσιν ἀνθρώποισιν), and only after that consider the winds that are particular to local communities (ἔπειτα δὲ καὶ τὰ ἐν ἐκάστη χώρῃ ἐπιχώρια ἐόντα, *Aër.* 1.2, 2.12 L.). In *Epidemics I*, we are similarly told that medical reasoning should take its origin “from the common nature of all and the particular nature of each” (ἐκ τῆς κοινῆς φύσιος ἀπάντων καὶ τῆς ἰδίης ἐκάστου, *Epid. I* 23 (= 10 L.), 2.670 L.), and there are many texts in the Hippocratic Corpus that are arranged in accordance with this principle, beginning with what is “common to all” before moving to particular cases. In *On Affections*, the author prefaces his discussion of specific diseases with the assertion that “all diseases arise in human beings from bile and phlegm” (νοσήματα τοῖσιν ἀνθρώποις ἅπαντα γίνεται ὑπὸ χολῆς καὶ φλέγματος, *Aff.* 1, 6.208 L.). By doing so, he presents a general principle that is remarkably close to the thesis of *On Breaths*, simply replacing πνεῦμα with the two humors of bile and phlegm. Another transition from the common to the particular can be found in the beginning of *Prorrhetic II* (5, 9.20 L., trans. Potter):

About dropsies, consumptions and gouty conditions as well as persons taken by what is called the sacred disease, I say that they all have something in common, namely that in whomever these diseases are to a degree hereditary, you can be sure that they are hard to get rid of. Their other features I shall describe disease by disease.

Sometimes, medical writers began by observing that a certain commonality does not exist. In *On Wounds in the Head*, the author opens with the observation that “the heads of human beings are in no way like one another (οὐδὲν ὁμοίως σφίσιν αὐταῖς), nor do the sutures of the head have a φύσις that is the same in all cases (οὐδὲ αἱ ῥαφαὶ τῆς κεφαλῆς πάντων κατὰ ταῦτα πεφύκασιν, *VC* 1.1, 3.182 L.). The author then goes on to say that instead of having a common φύσις, human skulls are divided into four types, with the first type having a prominence in the front of the head, the second in the back of the head, the third at each end, and the fourth at neither end (*VC* 1.1–1.4, 3.182–184 L.). When this same author describes various injuries of the skull, he also divides them into “types” (τρόποι), each of which consists of several “forms” (ἰδέαι). In chapter 7, he writes that “the *hedra* taken by itself is long or short, rather bent, or straighter, or rounded; and there are many other forms of this mode (καὶ πολλαὶ ἄλλαι ἰδέαι τοῦ τοιούτου τρόπου), according to the shape of the weapon” (*VC* 7.4, 3.208, trans. Withington).¹⁸¹ In *On Places in the Human Being*, an initial commonality is similarly rejected just to prop up many others. In this text, the author opens with the statement that “in my opinion, there is no starting point of the body, but all parts are alike the starting point and all the end point” (*Loc. Hom.* 1.1, 6.276 L.). The author then goes on to describe the common anatomy of human beings, emphasizing that diseases which begin in one part of the body can eventually make their way to other parts. At one point, the author observes that he has only written about the joints and vessels that are “identical in all people” (πᾶσιν ὁμοίως). As for the joints and vessels that are “different in different persons” (ἄλλα ἄλλοισι), they are “unworthy of discussion” (οὐκ ἄξια λόγου) and have accordingly been omitted

¹⁸¹ In chapters 10 and 14, the author stresses the importance of “distinguishing” (διαγινώσκειν) one form of injury from another, even prescribing a diagnostic test to determine what needs to be done. In chapter 19, he explains the differences between the skulls of the young and those of the old, while in chapter 20, he notes that purges should be adjusted to the “strength” of the patient being treated (πρὸς τὴν δύναμιν τοῦ ἀνθρώπου ὀρών, ὡς ἂν ἔχῃ ἰσχύος, *VC* 20.2, 3.256 L.).

from his account (*Loc. Hom.* 6.10, 6.290 L.). Yet another example of this movement from the common to the particular can be found in *On Glands*. In this text, the author opens his discussion “about glands as a whole” (περι δὲ ἀδένων οὐλομελίας, *Gland.* 1.1, 8.556 L.) by describing the common φύσις of all glands. He then moves to specific glands in chapters 5–10, at one point interrupting his discussion to remark that “there are other really small glands in the body, but I do not wish to digress in my account; for my treatise is directed towards the glands that are critical (τὰς ἐπικαίρους)” (*Gland.* 7.1, 8.560 L., trans. Craik, modified). In other texts that are arranged from the common to the particular, minor details are not omitted because they are assumed to be unimportant, but because they can be derived from the principles already established. In *Airs Waters Places*, the author remarks that he cannot list every difference that exists between the communities in which people live. Instead, he focuses on the most extreme differences, concluding that “by drawing inferences from these things, you should contemplate the rest, and you will not miss the mark (when aiming at health)” (*Aër.* 24.10, 2.92 L.).¹⁸²

This privileging of the common over the particular became so integral to medical thinking that medical research came to be defined, very broadly, as a search for commonality. We have already mentioned Eryximachus’ claim to have acquired his insight into the universal power of ἔρως “from medicine, our art” (*Pl. Smp.* 186a), as well as the assertion in *Epidemics III* that doctors should look for what is “common” (κοινόν, *Epid. III* 16, 3.102 L.) and the claim in *Epidemics VI* that researchers should note the similarities and differences between individual cases in order to identify “one similarity” (ὁμοιότης μία, *Epid. VI* 3.12, 5.298 L.) that unites and governs them all. In *Diseases I*, the author compiles a list of topics to be considered by anyone who intends to

¹⁸² Cf. the final chapter of *On Breaths*, in which the author writes, “I have carried my account down to the diseases and affections that are well known, in which cases my foundational principle (ἐπόθεσις) has been shown to be true. If I were to discuss all diseases, my account would be longer, but it would not be any more precise or more convincing” (*Flat.* 15.2, 6.114 L.). A similar statement appears at Mnesith. fr. 17 Bertier.

engage in debates about medicine. The first entry in this list is “whence *all* diseases arise in human beings” (ἀφ’ ὧν αἱ νοῦσοι γίνονται τοῖσιν ἀνθρώποισι πᾶσαι, *Morb. I* 1, 6.140 L.), and he later observes that one must consider “what ‘all’ is in the art, being one and everything, and what ‘one’” (ὅ τι ἅπαν ἐστὶν ἐν αὐτῇ, ἓν καὶ πάντα, καὶ ὅ τι ἓν, *Morb. I* 1, 6.140). This riddling statement is difficult to parse, but it seems to be related to an emphasis on the common and the particular. We may note, for example, that to be “one” and “everything” is a good way to describe a universal principle that encompasses all particulars. In *On Places in the Human Being*, the author follows up his initial observation that medicine, unlike writing, has no “fixed technique” (καθεστικὸς σόφισμα, *Loc. Hom.* 41.1, 6.330 L.) by claiming that medicine does in fact have a stable basis (βέβηκε γὰρ ἱητρικὴ πᾶσα, *Loc. Hom.* 46.1, 6.342 L.). This stable basis comes from the fact that medicine establishes “classes and non-classes” (τὰ εἶδεα καὶ τὰ μὴ εἶδεα, *Loc. Hom.* 44.1, 6.338 L.), where each genuine “class” is defined by the existence of some universal principle. The author is so confident about this method of sorting topics into classes that he banishes from medicine any dependence on chance (τύχη). In chapter 46, he observes that “in my opinion, medicine has been discovered as a whole (ὅλη), medicine of the sort that teaches both the tendencies¹⁸³ and the καιροί in each case. Whoever has such a knowledge of medicine least depends on chance, but achieves successful outcomes both with and without chance” (*Loc. Hom.* 46.1, 6.342 L.). Another emphasis on the stability of universal principles can be found in *On the Seed-Nature of the Child*. In this text, the author begins with the sweeping assertion that “law

¹⁸³ Many editors have emended the author’s reference to “tendencies” (ἔθρα), replacing it with either εἶδεα (“classes”; cf. *Loc. Hom.* 44.1, 6.338 L.) or ἦθρα (“characters”; cf. *Gland.* 12.2, 8.569 L., *Prorrh.* II 3, 9.12 L., and note A. *Ag.* 727–728, where most editors replace ἔθος with ἦθος). Both emendations make good sense, but it is possible to read τὰ ἔθρα as a reference to the “habits” of disease (i.e., what “tends” to happen in a given set of circumstances). Cf. the use of the verb εἴωθα (< ἔθω) to denote what “usually” happens in the course of a disease at *Aph.* 2.12, 4.472 L., 2.27, 4.478 L., 2.50, 4.484 L., 3.28, 4.500 L., 4.61, 4.524 L., *Epid.* VI 8.31, 5.354 L., *Coac.* 133, 5.610 L., *Aff.* 17, 6.224 L., 30, 6.242 L., 44, 6.254 L., *Dent.* 19, 8.546 L. On the notions of tendency and probability, see also di Benedetto (1966) and Licciardi (1989).

governs all things” (νόμος μὲν πάντα κρατύνει, *Genit.-Nat. Puer.* 1.1, 7.470 L.). This prelude has been belittled by modern commentators,¹⁸⁴ but it would have been felt more powerfully by a practicing doctor of the fifth or fourth century BCE. In this period, doctors were just starting to associate the isolation of universal laws with the advancement of the medical art. They would therefore view the assertion that “law governs all things” as a good motto for medical research, just as the author of *On Fractures* introduces the phrase νόμος δίκαιος to denote an “exact rule” where an unexpected outcome does not indicate an exception to the rule, but rather an error on the part of the practitioner (*Fract.* 7, 3.442 L.; cf. [Pl.] *Min.* 316c–317d).

Perhaps the most striking expression of this emphasis on high-level commonalities is the opening of *On Diseases of Unwed Girls* (*Virg.* 1.1, 8.466 L.):

The beginning of my compilation of what is eternal in medicine (for it is impossible to understand the nature of diseases—which is the business of the art to discover—unless one knows the nature of diseases in the highest order, according to the starting point (κατὰ τὴν ἀρχήν) from which they were first divided).

The precise syntax of the first seven words in this passage (ἀρχή μοι τῆς ζυνθέσιος τῶν αἰειγενέων ἱητρικῆς) has been the source of some confusion. Previous translators have treated the genitive τῆς ζυνθέσιος as if it were nominative (e.g., Littré 1853, 526–529: “Le commencement de la médecine est pour moi la constitution des choses éternelles”), inserted a second ἀρχή before ἱητρικῆς (e.g., Bonnet-Cadilhac 1993, 147: “Le principe de la synthèse des phénomènes constants est à mes yeux le principe de la médecin”),¹⁸⁵ or else followed Ermerins (1862, 903) by inserting

¹⁸⁴ E.g., Heidel (1941, 23: “Occasionally one is amused by an author’s evident desire to show his speculative temper by solemnly declaiming a banal cliché that at the moment was current in philosophical circles, such as ‘Law governs all things.’ One could readily match such expressions with similar utterances of physicians today.”), Lonie (1981, 103: “The phrase was frequently echoed and quoted in the fifth and early fourth centuries, and it was used to convey varying ideas. Here it is no more than a piece of hackneyed literary embellishment, a *captatio* placed at the beginning of the work and comparable to the pompous (and irrelevant) introductions to *Virg.* and *Nat. Mul.*”).

¹⁸⁵ Cf. Schiefsky (2005, 147): “The beginning of medicine is in my opinion the principle of the ever-existing.”

the preposition ἀπό before the words τῶν αἰειγενέων (e.g., Potter 2010, 359: “The beginning point of my composition is from what is eternal in medicine”).¹⁸⁶ The key to understanding this statement is to observe that these first seven words do not form a complete sentence. Instead, they simply mark the physical “beginning” of the author’s work, performing the same function as a similar formula that we see throughout the Ebers Papyrus: “The beginning of a compilation of remedies” (*P. Ebers* 4), “The beginning of a compilation on the eyes” (*P. Ebers* 336), “The beginning of the book on the wandering of *wekhedu* in all parts of a man’s body” (*P. Ebers* 856a).¹⁸⁷ Closer in date to *On Diseases of Unwed Girls*, Ion of Chios opens a work with the phrase, “The beginning of my discourse” (ἀρχὴ δέ μοι τοῦ λόγου, DK 36 B1), while similar phrases can be found in Euripides (ἀρχὴ δ’ ἔδε μοι προοιμίου, *El.* 1060) and Plato (ἡ μὲν μοι ἀρχὴ τοῦ λόγου, *Smp.* 177a; ἡ αὐτὴ μοι ἀρχή, *Prt.* 318a).¹⁸⁸ Here, the author calls his work a “compilation of what is eternal in medicine.” It has often been assumed that “what is eternal” (τῶν αἰειγενέων) refers to cosmology,¹⁸⁹ but it is important to emphasize the limiting function of ἡτρικῆς in this context, which here restricts the author’s focus to “what is eternal *in medicine*.” By adding this qualifier, the author does not refer to cosmology *per se*, but simply to a set of general principles that retain their

¹⁸⁶ Cf. Lami (2007, 23: “Il principio che io do al componimento medico è a partire dagli elementi sempiterni”). Flemming and Hanson (1988, 250) translate the phrase as if the preposition ἐκ appeared before τῆς ζυνθέσιος: “My beginning comes out of the totality of medicine’s eternal aspects”). Lami (2007, 27) complains about the three genitives, but sequences of three genitives, each governing the next, are not that unusual. Cf. Winer and Masson (1860, 204), Cooper and Krüger (1998, 192 = 47.9.7).

¹⁸⁷ See also *P. Ebers* 1, 104, 221, 242, 284, 305, 326, 437, 464, 477, 482, 515, 543, 551, 556, 592, 627, 657, 697, 705, 739, 750, 757, 761, 764, 783, 808, 840, 854. The use of the word “compilation” in both texts is striking. If a similar formula was in fact employed by Greek writers, then the author of *On Diseases of Unwed Girls* could be implicitly framing his work as an alternative to other “compilations,” especially the simple compilations of diseases and their treatments that we find in the diagnostic tradition.

¹⁸⁸ Note also the very next “sentence” in *On Diseases of Unwed Girls*, which lacks a main verb and similarly acts as a title (*Virg.* 2, 8.466 L.): “Concerning the so-called ‘sacred disease,’ apoplexies, and all the terrors that make human beings sorely afraid, so that they lose their mind, see malevolent spirits, sometimes by night, sometimes by day, and sometimes at both times, and then, from such a vision, many hang themselves, more women than men, for the nature of women is more prone to despondency and depression than that of men.”

¹⁸⁹ E.g., Littré (1853, 529–530), Heidel (1941, 22), Lami (2007, 28–29).

validity even when all other variables change. “What is eternal in medicine” are principles that hold true no matter the season of the year, the identity of the patient, or even the identity of the disease, much like Polybus’ assertion that the basic constituents of human beings are “always alike the same (αἰεὶ ταῦτ’ ἐόντα ὁμοίως), whether the patient be young or old, or whether the season be cold or hot” (*Nat. Hom.* 2.5, 6.36 L., trans. Jones, modified).¹⁹⁰ The current work is a “compilation” (ζύνθεσις) of such principles insofar as the author brings them together to explain how diseases come to be.¹⁹¹ The author may also be anticipating the Platonic notion of “collection” and “division,” as he justifies his inquiry into “what is eternal” by observing that “it is impossible to understand the nature of diseases—which is the business of the art to discover—unless one knows the nature of diseases in the highest order (ἐν τῷ ἀμερεῖ, literally “in the partless”), according to the starting point (κατὰ τὴν ἀρχήν) from which they were first divided (διεκρίθη).”¹⁹² With these words, the author implies that doctors should focus on both the common and the particular. They should consider the common “nature” (φύσις) of diseases (“the nature of diseases in the highest order,” “the starting point from which they were first divided”) at the same time that they investigate the peculiar “nature” of each affection. In this context, the word “nature” (φύσις) is closely associated with the act of classification. In fact, one could define

¹⁹⁰ Cf. also Heraclitus’ description of his “account” (λόγος) as “always existing” (ἐόντος αἰεί, DK 22 B1). Most scholars who think that *On Diseases of Unwed Girls* is referring to cosmology either make ἡτρικῆς depend on ἀρχή or treat it as an adjective modifying ζυνθέσις. Lami (2007, 27) claims that, in order to be a substantive, ἡτρικῆς requires an article. Note, however, the many openings of Hippocratic treatises where ἡτρικῆ (without the article) is clearly used as a noun: *VM* 1.1, 1.570 L., *Aër.* 1.1, 2.12 L., *Lex* 1, 4.638 L., *Nat. Hom.* 1.1, 6.32 L., *Loc. Hom.* 2.1, 6.278 L.

¹⁹¹ Cf. the use of the verb συντίθεσθαι at *Carm.* 1.1, 8.584 L. (συνθεῖναι τὸν λόγον τόνδε περὶ τῆς τέχνης τῆς ἡτρικῆς) and συγκεῖσθαι in the above-quoted passage from *On Places in the Human Being* (τῶν σοφισμάτων τὰ κάλλιστα ἐν αὐτῇ συγκείμενα, *Loc. Hom.* 46.1, 6.342 L.).

¹⁹² For the application of the terms σύνθεσις and διάκρισις to collection and division, see Gal. *PHP* 9.6.58, 5.775 K. Flemming and Hanson (1988, 245) rightly observe that this section from *On Diseases of Unwed Girls* “speaks of reaching to grasp universals, categories without parts (*ameres*), from which divisions are then made,” comparing Arist. *APo.* 2.19, 100b (τὰ ἀμερῆ ... καὶ τὰ καθόλου). Pace Bonnet-Cadilhac (1993, 150), this reference to the “partless” does not presuppose the influence of Aristotle. Cf. Parmenides’ description of the universe as “whole” and “consisting of only one part” at DK 28 B8.4.

the term φύσις as the sum total of general principles that are inherent to all members of a class. Whether one is discussing the “nature” of all diseases, the “nature” of a certain subset of diseases (e.g., the assortment of diseases that Greek doctors called “acute”), or the “nature” of particular diseases like pneumonia, pleuritis, tenesmus, or apoplexy, every division has a φύσις that is specific to that group. From this passage, it is unclear whether the author is asserting that one should begin with the common nature of all diseases *in general* (e.g., something similar to the claim in *On Breaths* that all diseases are caused by πνεῦμα) or simply with the common nature of all diseases that belong to a particular class (e.g., starting with the common nature of all pneumonias before considering specific manifestations of this ailment). The rest of this text only supports the second interpretation,¹⁹³ but we should not discount the possibility that this author had more general ideas about the shared φύσις of all diseases. After all, these two interpretations are not mutually exclusive, as doctors could start with the common nature of all ailments before considering what is common to each subset.¹⁹⁴ However we choose to interpret this passage, it is clear that the author of *On Diseases of Unwed Girls* places the same emphasis on high-level commonalities that we see in *On Breaths*. Both authors assume that there are many different “types” of disease, but they also assert that one must consider the shared “nature” (φύσις) and “starting point” (ἀρχή) that places these diseases within one and the same class.

Of course, Greek doctors did not have to refer to the entire cosmos when engaging in investigations of “the whole” (τὸ ὅλον). They could take any topic and break it down into its constituent parts, using a process of collection and division that is very close to what we find in

¹⁹³ Note, for example, how the author sets as his topic “the so-called ‘sacred disease,’ apoplexies, and all the terrors that make human beings sorely afraid” (*Virg.* 1.2, 8.466 L.), establishing a class of diseases that all happen to share a common φύσις.

¹⁹⁴ This is in fact the very approach that can be found in *On Affections*. Note also *Prorrh.* II 5, 9.20 L. (quoted above, p. 121) and compare *Virg.* 2, 8.466 L.

Plato's *Phaedrus*. In *Prognostic*, the author observes that “one ought to know the whole character of sweats (τὸ ζύνολον τῶν ἰδρώτων), for some are connected with prostration of strength in the body, and some with intensity of the inflammation” (*Prog.* 6, 2.124 L., trans. Jones). By referring to “the whole character of sweats,” the author simply means that one must consider the entire topic under consideration. The doctor must consider what is common to all sweats, and he must also consider the various categories into which sweating can be divided. This is presumably what Plato has in mind when he says that, according to Hippocrates, one cannot know the nature of the body without knowing the nature of the whole (τῆς τοῦ ὅλου φύσεως, *Phdr.* 270c). As Socrates elaborates just after this statement (Pl. *Phdr.* 270d, trans. Fowler):

In considering the nature of anything, must we not consider first, whether that in respect to which we wish to be learned ourselves and to make others learned is simple or multiform, and then, if it is simple, enquire what power of acting it possesses, or of being acted upon, and by what, and if it has many forms, number them, and then see in the case of each form, as we did in the case of the simple nature, what its action is and how it is acted upon and by what?

As with the reference to “what is eternal” in *On Diseases of Unwed Girls*, Plato's reference to “the whole” has occasionally been misinterpreted as a nod to cosmology. Almost always, scholars have jumped to this conclusion while attempting to answer the so-called “Hippocratic Question,” arguing that Hippocrates was the author of some text in the collection that currently bears his name.¹⁹⁵ Jouanna (1977) has correctly demonstrated, however, that Plato's “whole” is more taxonomic than cosmological. Socrates is not claiming that doctors should investigate the universe as a whole. Instead, he speaks about the division of patients, diseases, and treatments into groups and the consideration of what “powers” each group has to act and be acted upon.

At the same time that we acknowledge that investigations of “the whole” do not have to involve the entire cosmos, we must not discount the extent to which this approach to medical

¹⁹⁵ Langholf (1986), for example, thinks Hippocrates is the author of *On Breaths*, while Smith (1979, 44–60), (1999) identifies the famous doctor as the author of *On Regimen*.

thinking could engender a “cosmological impulse.” This was especially true when Greek doctors drew analogies across different classes of phenomena, noting the similarities between humans and plants, for example, or between diseases and the seasons. By drawing such comparisons, these doctors were employing the same methodology that we find endorsed in *Epidemics VI*. They were gathering together multiple accounts, noting the similarities and differences between those accounts, and isolating “one similarity” that unites and governs them all. The main difference, of course, is that instead of finding “one similarity” that applies to particular symptoms, they isolated a general principle that applies to natural phenomena. On some occasions, these appeals to analogical thinking did in fact border on the cosmological. In *On the Seed-Nature of the Child*, the author observes that “everything that is heated acquires breath” (12.2, 7.486 L.), that “everything which is heated is fed by a proportionate quantity of cold” (12.3, 7.486 L.), that “everything which is compressed upon itself grows warmer than what is loosely packed” (24.2, 7.520 L.), that “all winds come from water” (25.1, 7.522 L.), and that “all fluids produce foam when they are agitated” (1.2, 7.470 L., trans. Lonie).¹⁹⁶ The same author also observes that his principles apply to both humans and other animals,¹⁹⁷ constructs arguments from induction very similar to what we find in *On Breaths*,¹⁹⁸ compares human physiology to cooking, agriculture, and other non-medical phenomena,¹⁹⁹ and inserts a long “digression” on the growth and nutrition of plants,²⁰⁰ all under the assumption that such observations will be of use to practicing doctors insofar as they

¹⁹⁶ Note also the universalizing move at *Genit.-Nat. Puer.* 9.3, 7.482 L. (σχεδὸν δὲ εἰπεῖν καὶ πάντα τὰ φύομενα οὕτως ἔχει).

¹⁹⁷ *Genit.-Nat. Puer.* 7.3, 7.480 L., 21.3, 7.512 L., 29.2–3, 7.530 L., 30.7–9, 7.536–538 L., 31.1–3, 7.540 L.

¹⁹⁸ *Genit.-Nat. Puer.* 12.2–5, 7.486–488 L.

¹⁹⁹ *Genit.-Nat. Puer.* 4.2, 7.474–476 L., 6.2, 7.478 L., 9.3, 7.482 L., 10.2, 7.484 L., 12.2–5, 7.486–488 L., 12.6, 7.488 L., 18.3, 7.502 L., 18.4, 7.502 L., 19.1, 7.506 L., 21.3, 7.512 L., 26.2, 7.526 L.; cf. *Genit.-Nat. Puer.* 24.2, 7.520 L., 25.3–6, 7.522–526 L.

²⁰⁰ *Genit.-Nat. Puer.* 22–27, 7.514–528 L.

point to principles that apply not only to the phenomena under discussion, but to all things in general. Even though the author does not ground his entire system in a theory about the fundamental “powers” that govern the entire cosmos (beyond, of course, his opening assertion that “law governs all things”), he nevertheless could be grouped with the doctor-cosmologists. By relating his discussion of the body, health, and disease to highly generalized principles about the universe as a whole, the author of *On the Seed-Nature of the Child* exhibits the same “cosmological impulse” that seems to motivate *On Breaths*.

In light of this analysis, it seems safe to conclude that *On Breaths* is not the intellectual outlier that many scholars have tended to perceive. Not only do the author’s theories of human pathology draw on traditional conceptions of anatomy and physiology, but his argument from induction is rooted in the belief that medical knowledge advances when doctors gather together multiple accounts and look for commonalities that can unite and govern them all. Of course, not all of his contemporaries would have been supportive of his conclusions, or even have endorsed his decision to take his inquiries as far as he does. As we see most clearly in *On Ancient Medicine*, some Greek doctors were questioning precisely how far their colleagues should take their generalizations. One red line was apparently the contemplation of “the things on high” (τὰ μετέωρα), which became a buzzword in the Classical period for speculating about topics that are irrelevant and ultimately irresolvable.²⁰¹ In *Airs Waters Places*, the author preemptively defends his work against the charge of μετεωρολογία. He asserts that anyone who makes this complaint should adjust his thinking and realize that “astronomy contributes a not inconsiderable part, but a very great one, to medicine” (οὐκ ἐλάχιστον μέρος συμβάλλεται ἀστρονομίῃ ἐς ἰητρικὴν, ἀλλὰ πάνυ πλεῖστον, *Aër.* 2.3, 2.14 L.). Similarly, the author of *On Flesh* assures his audience that

²⁰¹ The classic study of how the Greeks talked about “the things on high” is Capelle (1912). For a more recent survey as it relates to *On Ancient Medicine*, see Schiefsky (2005, 137–139).

“concerning the things on high (περὶ δὲ τῶν μετεώρων) I also need not speak, except insofar as I will make an exposition on man and the other animals, how they grew and came to be,” and a series of other topics directly relevant to medicine (*Carn.* 1.2, 8.584 L.).

From these references to μετεωρολογία, it becomes apparent that one reason for this pushback against “the things on high” was an increasing awareness of medicine’s status as a set discipline. Medicine is delineated from other disciplines by its subject matter and methods of inquiry, and it should only draw on other subjects insofar as they directly contribute to the treatment of patients. We have already noted that *On Ancient Medicine* seeks to distinguish medicine as a “craft” (τέχνη) from the speculations the author calls “philosophy” (φιλοσοφία). In *On the Nature of the Human Being*, Polybus similarly distinguishes his own account of human beings from “those who speak about human φύσις beyond its application to medicine” (*Nat. Hom.* 1.1, 6.32). Like the author of *On Ancient Medicine*, Polybus associates non-medical debates with substances that cannot be perceived, but he differs from his contemporary insofar as he places the hot, the cold, the dry, and the wet squarely within the limits of the perceptible. Polybus and the author of *On Ancient Medicine* come to different conclusions about what sort of speculations are permissible in medicine, but both authors agree that whatever generalizations one makes should be directly relevant to treatment. It is not until Polybus addresses theorists who talk about the humors that he refers to his opponents as “doctors” (ἰητροί, *Nat. Hom.* 2.1, 6.34 L.). Similarly, when the author of *On Ancient Medicine* discusses the doctors and “sophists” who assert that medicine must be grounded in “what a human being is from the beginning, how it originally came to be, and from what it was compounded” (*VM* 20.1, 1.620 L.), he asserts that such accounts “tend toward philosophy” (τείνει ἐς φιλοσοφίην, 20.1, 1.620 L.) and adds that “whatever has been said or written about ‘nature’ by a sophist or doctor pertains less to the art of the doctor than to that of the painter” (ἥσσον νομίζω τῇ ἰητρικῇ τέχνῃ προσήκειν ἢ τῇ γραφικῇ,

20.2, 1.620 L.).²⁰² If a subject of inquiry does not directly contribute to the treatment of human beings, then it falls outside the realm of medicine. If, however, we can show that this information is clinically relevant, then a doctor is permitted to include even cosmological theories under the umbrella of “the physician’s art” (ἡ ἰατρικὴ τέχνη).²⁰³

As we see *On Ancient Medicine*, another reason for the pushback against “the things on high” was a fear of oversimplification. In the opening of this work, the author balks at the idea that all diseases can be attributed to “one or two” principles, and he repeatedly asserts that medical knowledge should be getting more, not less, complex. The author is concerned about oversimplification because, as we have already noted, Greek doctors were just starting to grapple with the “problem” of individualization, taking this issue so seriously that they were rethinking the very means by which they organized medical knowledge. For a profession that was rejecting older forms of medical writing because they insufficiently accounted for the differences between individual patients, to hear someone claim that all diseases are caused by a limited number of principles does not initially sound like a step in the right direction. As we noted in Chapter 1, the author of *On Fractures* takes aim at “wisdom-mongering” doctors who follow a preconceived

²⁰² For my interpretation of this sentence, see above, n. 73. On the author’s use of the term “philosophy,” which probably does not hold the same resonance that it has today, see above, n. 72.

²⁰³ There is another passage that has traditionally been cited in discussions of how Greek doctors started to separate medicine from “philosophy” (an overly simplistic dichotomy, as I hope this discussion is making clear). In *On Flesh*, the author observes that “there are some who, while compiling a written account of φύσις, have said that the brain is the part that echoes” (*Cam.* 15.4, 8.604 L.). Many scholars have taken the reference to “those who compile a written account of φύσις” (φύσιν συγγράφοντες) as a synonym for “natural philosophers” (e.g., Willerding 1914, 50–51; Deichgräber 1935, 25; Kahn 1960, 6, n. 2; Jouanna 1992, 96; Schiefsky 2005, 22, n. 65; Laks 2008, 257; Holmes 2010, 3, n. 5), but as Jouanna (2002, 223) correctly observes, the author is probably not using φύσις to denote “the nature of all things,” but is instead employing this term in the more restricted sense of “(human) nature”—the regular meaning of φύσις in the Hippocratic Corpus. Thus, the author is not citing “natural philosophers” like Diogenes of Apollonia, but rather the broader category of writers who have discussed the anatomy and physiology of human beings. For the use of φύσις (without an adjective) to denote *human* nature, see *Epid. II* 6.15, 5.136 L., *Epid. VI* 5.1, 5.314 L. It is also worth noting that *On Places in the Human Being* opens its account of human φύσις with a discussion of hearing (*Loc. Hom.* 2.1, 6.276 L.)—the same topic that is mentioned in this passage from *On Flesh*.

notion instead of adjusting their treatments to fit the needs of individual situations. Such references to oversimplifying doctors were in fact a common trope in medical literature, as we also see attacks on such doctors in *Diseases I*, *On Regimen in Acute Diseases*, and even the cosmological *On Regimen*.²⁰⁴ These passages suggest that the biggest contention in Classical Greek medicine did not center around whether or not doctors should engage in “philosophy,” but rather the extent to which medical writers should engage in *generalization* and what forms these generalizations should take.

²⁰⁴ *Morb. I* 16, 6.170 L., *Acut.* 7 (= 3 L.), 2.238–240 L., 43–44 (= 11 L.), 2.314–318 L., *Vict.* 39, 6.534–536 L. Note also Diocl. fr. 176 van der Eijk and Galen’s comments on Mnesith. fr. 25 Bertier (= Gal. *De alim. fac.* 6.645–646 K.).

Chapter 4: *On Flesh*

Up to this point, our analysis has revealed some important observations about the doctor-cosmologists. First, we have seen that, contrary to the testimony of *On Ancient Medicine*, these doctors did not replace humors with ὑποθέσεις, but they employed the treatment of “opposites with opposites” within a framework that considers both remote and proximate causes. We have also seen that the doctor-cosmologists frequently wrote about commonality and difference, emphasizing both the many differences between individual cases and the high-level commonalities that transcend these particular differences. Finally, we have offered an explanation for why these doctors were so interested in cosmology in the first place. On the one hand, they used their first principles to understand what is happening in the body, to predict the effects of certain actions, and to construct systems of preventative medicine that can ward off a disease before the patient falls ill. At the same time, these doctors were also motivated by a broader “cosmological impulse.” Like other Greek doctors from the Classical period, they believed that high-level generalizations are inherently desirable, and that the investigation of first principles is the best way to overcome the many variables that can change from one case to the next.

Having arrived at a reasonable explanation for how the doctor-cosmologists came to be, I would now like to look more closely at the structure of their systems. So far, we have encountered doctor-cosmologists whose theories about the cosmos were not worked out in any significant detail. Neither Eryximachus nor the author of *On Breaths* identified the physical elements from which all things are composed, as they instead prefer to focus on a single principle that has more “power” (δύναμις) than anything else. Polybus explicitly limits his own discussion of the cosmos to what is *directly* relevant to medicine, and he does not describe how anything other than the humors are composed of his four elemental principles of the hot, the cold, the dry, and the wet.

Our last two texts, *On Flesh* and *On Regimen*, develop more elaborate theories about the cosmos. In this chapter, I will focus on the first of these works, a short text that has long intrigued modern scholars with its curious intermixture of anatomy and anthropogony.²⁰⁵

The author of *On Flesh* begins by observing that the universe is divided into the hot, the cold, and the wet. He then describes how each part of the body, with the aid of the “fatty” (τὸ λιπαρόν) and the “glutinous” (τὸ κολλῶδες), arose from these three substances. In all, *On Flesh* describes the construction of over twenty different parts of the body. They include the bones, the sinews, the vessels, the windpipe, the esophagus, the stomach, the intestines, and the bladder (ch. 3); the brain and spinal marrow (ch. 4); the heart (ch. 5–6); the lungs (ch. 7); the liver (ch. 8); the spleen, the kidneys, the flesh, and the skin (ch. 9); the joints and synovial fluid (ch. 10); the nails (ch. 11); the teeth (ch. 12–13); and the hair (ch. 14). Each of these parts is constructed from different amounts of the hot, the cold, the wet, the “fatty,” and the “glutinous.” These ingredients are not just mixed with one another, but they acquire new characteristics through “cooking” and “freezing.” The following passages provide a good illustration of the types of explanations this author constructs:

The lung arose beside the heart in the following way: the heart, quickly heating the most glutinous of the wet, dried it out like foam, made it porous, and produced many small vessels in it. It produced small vessels because of this: whatever in the glutinous was cold was melted by the hot and became wet, while that from the glutinous itself became the tunic. (7.1–2, 8.594 L.)

The liver came together in the following way: when much of the wet was left behind with the hot and without the glutinous or the fatty, the cold overpowered the hot and it congealed. (8.1, 8.594 L.)

²⁰⁵ My translation of the title Περὶ σαρκῶν as *On Flesh* is to be preferred over the non-English *On Fleshes*. In Greek, both the singular and plural of σὰρξ can be used to denote “flesh.” Even a cursory reading of the Hippocratic Corpus will confirm this point. *Pace* Ermerins (1864, vol. 3, lxvii, lxxxiii), Adams (1886, 97), Kind (1936, 625), and Naddaf (2005, 29), there is no need to emend the title to Περὶ ἀρχῶν (*On First Principles*). Democritus is said to have written a work entitled *On the Nature of the Human Being, or On Flesh* (Περὶ ἀνθρώπου φύσις ἢ Περὶ σαρκός, DK 68 A33), and in all likelihood, the title *On Flesh* was shorthand for either a general account of the human body or, more specifically, an account of the “framework” of the body as distinguished from its moving parts.

The kidneys came together in the following way: a little of the glutinous, very much of the hot, and very much of the cold (were left behind), and the organ was congealed by this (cold) and became very hard and the least red, since much of the hot did not come together. (9.2, 8.594–596 L.)

In between these accounts of how the various parts of the body came to be, the author inserts several digressions on the structure of the vascular system (ch. 5), on the production of πνεῦμα under the influence of heat (ch. 6.1–2), on nutrition in the womb (ch. 6.2–4), and on the means by which nutritive juices are distributed through the body (ch. 13). He also explains the workings of hearing, smell, sight, and speech (ch. 15–18) and concludes with the claim that all aspects of human life are governed by the number seven (ch. 19), an argument from induction that we have already mentioned in our discussion of *On Breaths* (above, pp. 72–73).

The author’s specific decision to identify the hot, the cold, and the wet as the first principles of all things has never been properly explained. His cosmology is so poorly understood, in fact, that many scholars have not even reported these principles correctly. It is quite common, for example, to encounter the report that *On Flesh* constructs the body from the hot, the cold, the wet, and the dry, even though a substance labeled “the dry” (τὸ ξηρόν) is never actually mentioned in this text.²⁰⁶ Many scholars have also reported that the author adopts a four-element theory very similar to that of Empedocles, and that he anticipates Aristotle in assigning pairs of qualities to each of these elements.²⁰⁷ When we turn to the the author’s cosmogony, however, it becomes clear that he is not describing the fundamental properties of fire, air, water, and earth, treating these principles as the material basis of all things. Instead, he is narrating how the universe came

²⁰⁶ Cf. Dümmler (1889, 230), Lloyd (1963, 117), Schöner (1964, 53), Oser-Grote (2004, 28).

²⁰⁷ Cf. Zeller (1862, 334, n. 5), Dümmler (1889, 229), Heidel (1914, 185), (1941, 19), Willerding (1914, 55), Reinhardt (1916, 227), Deichgräber (1935, 32), Kind (1936, 628), Kahn (1960, 127, and 150, n. 1), Jouanna (1961, 453), Schöner (1964, 53), Lloyd (1963, 116–117), (1964, 93), (1966, 19, n. 2, and 76), (1979, 150), Hahm (1977, 127, n. 8), Lonie (1981, 100), Longrigg (1993, 225), Schiefsky (2005, 22), van der Eijk (2008, 401).

to be separated into three major divisions (αἰθήρ, earth, and ἄήρ), which are themselves large collections of the hot, the cold, and the wet (2.1–2, 8.584 L.):

I think that what we call “hot” is immortal; that it apprehends, sees, and hears all things; and that it knows all things, both what is and what is going to be. Now most of this, when all was thrown in disturbance, withdrew to the uppermost circuit, and I think the ancients named this αἰθήρ. The second portion below it is called “earth,” cold, dry, and dense (πυκινόν Camden : πολὺ κινῶν V),²⁰⁸ and much of the hot is actually within it. The third portion is that of the ἄήρ closest to the earth, very wet and very thick.

On reading this passage, one may wonder why so many scholars have claimed that *On Flesh* adopts a four-element theory very similar to that of Empedocles. This error can be traced back to a sixteenth-century interpolation, which adds a fourth “portion” so as to make the passage conform with the doctrines of Aristotle:²⁰⁹

The third portion of the ἄήρ [took the middle position, being hot and wet. The fourth portion] is closest to the earth, very wet and very thick.

In 1936, Diller showed that this interpolation originated in the Latin translation of Calvus (1525), who is notorious for making insertions (some Christianizing) into his renderings of the

²⁰⁸ The non-sensical πολὺ κινῶν (“causing much motion”) has always drawn suspicion, since (1) there is no reason to mention movement in this context, (2) even if there were, “fire, not earth, is the active element” (Heidel 1914, 180; cf. *Carm.* 6.3, 8.592 L.), (3) the earth is traditionally viewed as the most stable of cosmic masses (Hes. *Thgn.* 117, Emp. DK 31 B21.6, Archelaus DK 60 A4.3, Diog. Apoll. DK 64 A5), and (4) even if the earth is conceived as being moved *by* something, we would expect κινούμενον, not κινῶν. Earth is described as πυκ(ι)νόν (“dense”) at Anaximen. DK 13 A5, A7, A8, Heraclit. DK 22 A1, A5, Parm. DK 28 A22 (cf. B8.56–59), Emp. DK 31 B21.6, Anaxag. DK 59 A42, B15 (cf. B16), Democr. DK 68 A 95, Diog. Apoll. DK 64 A6 (cf. A1), Pl. *Ti.* 49b–c, Xenocr. fr. 161 Isnardi Parente, Chrysipp. fr. 527, 619 von Arnim, *Genit.-Nat. Puer.* 24.1, 7.518 L., [Hp.] *Epist.* 16, 9.344 L., Gal. *Elem.* 5.19, 1.453–454 K. See also *Carm.* 3.8, 8.588 L. (quoted below, p. 140), where the author explicitly associates “the cold” with the power to condense, and note the similarity between this passage and Anaxag. DK 59 B15: “the dense, the wet, the cold, and the dark came together where the earth presently is, while the rare, the hot, and the dry withdrew to the farthest part of the αἰθήρ.” Paleographically, it is not difficult to see how ΠΥΚΙΝΟΝ could have been erroneously divided (ΠΥ-KINON) and then expanded to Π[ΟΛ]Υ ΚΙΝΟ[Υ]Ν (πολύ’s additional upsilon is a hyper-ionicism, which would have been added during a later stage of recopying). For other attempts to emend, delete, or transpose πολὺ κινῶν, see Dümmler (1889, 228–229: (τὸ) πολὺ κενεὸν *vel* κοῖλον); Heidel (1912, 222: πολὺ κεινόν), (1914, 180: πολύκενον), Pohlenz *apud* Willerding (1914, 57, n. 1: transpose καὶ πολὺ κινῶν to the end of the sentence—καὶ ἐν τούτῳ ἐνὶ δὴ πολὺ τοῦ θερμοῦ <καὶ πολὺ κινῶν>), Deichgräber (1935, 2: πολὺ κινούμενον), and Kind (1936, 628–629, 635–637: transpose πολὺ κινῶν to *Carm.* 6.1, 8.592 L.—θερμὸν <πολὺ κινῶν> ἔστι τὸ πνεῦμα).

²⁰⁹ I say Aristotle instead of Empedocles because it was Aristotle who assigned pairs of qualities to each element, associating air with the hot and the wet, earth with the cold and the dry, fire with the hot and the dry, and water with the cold and the wet.

Hippocratic Corpus. By an unfortunate series of events, Calvus' expansion made its way into the Greek edition of Cornarius (1538), which was later copied out as *Parisinus graecus* 2255 (= E). For a long time, the pedigree of this manuscript "E" was unknown, and the interpolation thus made its way into the editions of Littré (1853), Ermerins (1864), and Deichgräber (1935). Diller (1936, 371–372) finally set the matter straight in his review of Deichgräber's commentary, but by that time, a good deal of damage had already been done. Deichgräber's commentary quickly became the standard edition, so even after Joly (1978) and Potter (1995) have published corrected texts, many scholars still refer to a "four-element" theory when discussing this author's views. Given the enduring legacy of Calvus' interpolation, it cannot be stressed enough that *On Flesh* identifies *three* portions of the cosmos. The author is not describing the four elements of fire, water, earth, and air, but is rather postulating a tripartite universe that comprises αἰθήρ, earth, and ἄήρ. Furthermore, it should be stressed that these three "portions" (μοῖραι) are not elements in themselves, but are simply large collections of other, more basic stuffs.²¹⁰ The author's true first principles are the hot, the cold, and the wet, as we see in his subsequent anthropogony.

If all that survived of *On Flesh* were the opening cosmogony, we might doubt whether the author's main principles were really the hot, the cold, and the wet. After all, instead of simply stating that "the cold moved to the center, while the wet surrounded it," this passage refers to the earth as "cold, dry, and dense," while ἄήρ is "very wet and very thick." On the basis of these statements, it is tempting to place the dry, the dense, and the thick on the same level as the hot, the cold, and the wet—and some scholars have done just that. As the rest of this text reveals, however, dryness and density are not substances in themselves, but they are secondary

²¹⁰ In other words, the author does not refer to "earth" as an element, but rather "Earth" as a division of the cosmos. See Kahn (1960, 121–126) for this distinction between elements (earth, water, air, fire) and cosmic masses (Earth, Sea, Air, and Sky, which denote the *maxima membra mundi*).

characteristics that arise from the presence of the hot and the cold. In the third chapter of *On Flesh*, the author writes that “the cold condenses, the hot disperses, and over a long time it also dries” (τὸ μὲν ψυχρὸν πῆγνυσι, τὸ δὲ θερμὸν διαχεῖ, ἐν δὲ τῷ πολλῷ καὶ ξηραίνει χρόνῳ, 3.8, 8.588 L.). Density, rarity, and dryness, in other words, do not come from the presence of “the dense,” “the rare,” or “the dry.” Instead, they are produced by the actions of the hot and the cold on other substances. When the author refers to the earth as “cold, dry, and *dense*” (ψυχρὸν καὶ ξηρὸν καὶ πυκνόν), we should therefore expect that this reference to density has something to do with the presence of the cold. Similarly, when the author describes ἀήρ as “very wet and very *thick*” (ὕγρότατόν τε καὶ παχύτατον), we are probably to attribute this thickness to the fact that the ἀήρ is “closest to the earth” (ἐγγυτάτω πρὸς τῇ γῇ) and is thus colder than the αἰθήρ up above.²¹¹ As for dryness, the author of *On Flesh* never refers to “the dry” as a substance in itself. This, too, is a secondary characteristic, but its relationship with the hot, the cold, and the wet is sufficiently complex to merit a longer discussion.

For the author of *On Flesh*, drying can arise in one of two ways: either the hot can evaporate the wet and thereby cause it to disappear, or the cold can congeal it to the point that it is completely solidified. The first of these processes is described in chapter 3, where the author claims that the hot, when applied for a long time, has the power to dry.²¹² The second process by which drying can occur is mentioned later on in the text. In chapter 17, the author writes about the fluid in the eye: “If it is still hot, it is wet, but after it is cooled, it becomes dry like transparent frankincense” (17.3, 8.606 L.). In this passage, the author explains that the moisture in the eye

²¹¹ Cf. Anaxag. DK 59 A70 (τὸ μὲν μακρόν καὶ λεπτὸν θερμόν, τὸ δὲ πυκνὸν καὶ παχὺ ψυχρόν). Assuming that my emendation is correct (above, n. 208), the adjectives πυκνός and παχύς are the same terms that appear in the second chapter of *On Flesh*.

²¹² See also *Carn.* 3.1, 8.586 L., 3.3, 8.586 L., 7.1, 8.594 L., 11.1, 8.598 L.

maintains its fluidity by virtue of our body's innate heat. Once this fluid exits the body, the cold overpowers the hot and causes the fluid to dry out. Similarly, the author notes in chapters 8 and 9 that blood becomes dry when it is cooled after flowing outside the body:

Whenever someone slaughters a sacrificial animal, the blood is wet as long as it is hot. But when it is cooled, it congeals. (8.2, 8.594 L.)

If someone is willing to cut whatever part of the human body he wants, blood will flow hot, and it will be wet as long as it is hot. But after it is cooled by the internal and external cold, a skin and membrane arises. (9.5, 8.596. L.)

From these passages, we can see that the author of *On Flesh* views dryness as the product of both heating and cooling. The former involves the removal of moisture through evaporation, while the latter involves the removal of fluidity through freezing. A similar approach to drying can be found in *Diseases I*, in which the author writes that “both pleurisy without expectoration and pneumonia without expectoration arise from the same thing, from dryness; and both the hot, when it makes anything too hot, and the cold, when it makes anything too cold, dry” (*Morb. I* 28, 6.196 L., trans. Potter). Wittern (1974, 98–99) has observed in reference to this passage that the author of *Diseases I* does not require a separate substance labeled “the dry” to account for the production of dryness. The same applies to the author of *On Flesh*, for whom drying exists at both extremes of the very hot and the very cold.²¹³

For the author of *On Flesh*, rarefaction is due to the presence of the hot, condensation to that of the cold. Both rarefaction and condensation, meanwhile, can account for an object becoming dry. As for “wetness,” this is substantially different. Instead of existing at the two extremes of the hot and the cold, “the wet” arises from the simultaneous presence of both the hot and the cold. As

²¹³ Cf. Arist. *Mete.* 4.5, 382b (“solidification is a form of drying,” τὸ πήγνυσθαι ξηραίνεσθαι πῶς ἐστίν). Aristotle also writes that “all things are dried either by being heated or being cooled” (ξηραίνεται δὲ πάντα ἢ θερμανόμενα ἢ ψυχόμενα, *Mete.* 4.5, 382b), although the precise mechanics by which he describes “drying” is not the same as what we find in *On Flesh*.

the author observes in chapter 9, “The hot is in all the body, and the body has very much of the cold as well, much (of this cold being) in the wet. There is as much of the cold as can congeal the wet but has been conquered by the hot, with the result that it has been liquefied” (9.4, 8.596 L.). In this passage, the author invokes an important doctrine regarding the relationship between the cold and the wet: “the wet” is not an independent principle, irresolvable into other substances, but it is in fact a melted form of the cold, a physical manifestation of the struggle between the cold and the hot. When the hot is stronger than the cold, it dissolves the cold to produce the wet. When the cold prevails, the wet is congealed and hence becomes “dry” (i.e., solid, non-fluid). The author cites the drying of blood as a “demonstration” (ἀπόδειξις) of this principle. Inside the body, the cold has been “conquered” by the hot and made to liquefy (νενίκηται, ὥστε διακέχυται, ὑπὸ τοῦ θερμοῦ, 9.4, 8.596 L.). Outside the body, the cold within the blood joins forces with the cold in the surrounding air, allowing the cold, in its turn, to conquer the hot.²¹⁴ The end result of this “victory” is the cooling, drying, and condensation of the blood, since the cold is now more abundant and hence “stronger” than the hot.

The author’s initial division of the cosmos into αἰθήρ, earth, and ἄήρ can therefore be read, at least in part, as a reflection of these physical doctrines. Whatever contains a sufficient amount of the cold is *by default* both dry and dense. Whatever is “very wet,” meanwhile, is also “very thick,” since it is partially condensed by the cold, though not as much as to make it freeze and stop flowing:

EXTREME COLD		COLD + HOT		EXTREME HOT
(cold, dry, and dense)	<====>	(wet and thick)	<====>	(hot, dry, and rare)
“earth”		“ἄήρ”		“αἰθήρ”

The obvious question that arises at this point is why the author of *On Flesh* would have wanted to

²¹⁴ Note the author’s reference at 9.5, 8.596. L., to the “internal and external cold” (τοῦ ἐνέοντος ψυχροῦ καὶ τοῦ ἔκτος) as the agents of cooling, drying, and condensation.

isolate these three principles in the first place. What makes him identify the hot, the cold, and the wet as the basic constituents of all things, and why does he not include “the dry” within this cosmic framework? We may start by recalling Polybus’ stipulation that all four elements be present at all times, and that no single element have more “power” than the rest (above, pp. 55–56). In our discussion of this passage, we noted that Polybus takes a requirement for health and makes it a requirement for being. His primary frame of reference is what happens within the body, and when he turns to consider the universe as a whole, he adopts a theory about the cosmos that is analogous to his theories about the humors. Along the same lines, I would like to suggest that a similar tendency to draw analogies between the body and the cosmos lies behind *On Flesh*’s selection of the hot, the cold, and the wet as the first principles of all things. The author specifically associates the wet (τὸ ὑγρόν) with the humors, while the powers he attributes to the hot and the cold are influenced by his own professional use of these principles to manipulate bodily fluids.

To start, we may note that Greek doctors commonly used the terms “moisture” or “the wet” (τὸ ὑγρόν) when speaking about the humors.²¹⁵ In *On the Seed-Nature of the Child*, the author introduces his discussion of blood, bile, water, and phlegm by describing these humors as “four forms of the wet” (τέσσαρες ἰδέαι τοῦ ὑγροῦ, *Genit.-Nat. Puer.* 3.1, 7.474 L.; cf. *Morb. IV* 32.1, 7.542 L.), while the author of *On Places in the Human Being* first designates the humors in the body as “the wet” (τὸ ὑγρόν) before formulating a highly generalized principle about how “everything that is wet” (πάν τὸ ὑγρόν) becomes thinner when it is heated (*Loc. Hom.* 9.2, 6.292 L., trans. Potter, modified):

²¹⁵ Cf. *VM* 22.6, 1.628–630 L., *Aph.* 5.63, 4.556 L., *Epid. VI* 5.5, 5.316 L., *Flat.* 10.2, 6.104 L., *Morb. I* 20, 6.178 L., *Aff.* 34, 6.246 L., *Loc. Hom.* 1.3, 6.276 L., 4.1, 6.282 L., 9.1, 6.292 L., *Morb. Sacr.* 16.4, 6.392 L., *Morb. II* 7.2, 7.14–16 L., *Int.* 43, 7.272 L., *Genit.-Nat. Puer.* 3.1, 7.474 L., *Mul. I* 57, 8.114 L., *Gland.* 2.1–2, 8.556 L., 5.2, 8.560 L., 7.3, 8.562 L., *Cord.* 12.2, 9.92 L., von Staden (1989, 246).

Fluxes also arise from excessive heat, when the flesh, on becoming rarefied, develops passages, and the wet (τὸ ὑγρόν), being heated, becomes thinner, for everything that is wet (πᾶν τὸ ὑγρόν) becomes thinner on being heated, and all flows in the direction of least resistance.

Not only did Greek doctors tend to refer to the body's humors as "the wet," but they also regularly identified heat and cold as the two most important principles in therapeutics. A good example of this tendency to elevate the hot and the cold can be found in *On the Application of Liquids*, a text in which the author writes at length about the external application of these two powers. Regarding heat, the author observes (*Liqu.* 1.1–2, 6.118 L.):

Heating of the body, all or a part, (is good for the following): softening of hard skin, slackening of what is tense, extraction of fluid from flesh, evacuation of sweat; moistening through stimulation (προκλήσει Camden : προκλήση MSS : προκλύσαι edd.)²¹⁶ e.g. nostrils, bladder, winds; to promote flesh, to tenderize, to melt, to reduce, to call back color, to dissipate color; it is promoting of sleep (when poured) both over the head and other parts; it is soothing of spasms and convulsions; it dumbs pains of the ear, eyes, all such things; warming what is cold, like pitch; for sores, except the ones that are bleeding or about to bleed, for fractures, for dislocations, for whatever else a physician uses linen bandages, for heaviness in the head.

In another passage, the author writes that when deciding on the temperature of an external application, "it is necessary to employ the instances of harm and helping as standards (κανόσι Camden : κᾶν ὥσι MSS edd.), (keeping watch) up to the point of the (application) helping or harming" (*Liqu.* 1.2, 6.118 L.).²¹⁷ "Now moistening," the author continues, "is weak, while cooling and warming are strong, as from the sun" (*Liqu.* 1.3, 6.120 L.). The patient himself judges the right temperature, for "either of these causes harm" (τούτων δὲ ἑκάτερον βλάπτει, *Liqu.* 1.3, 6.120 L.), and the harm that comes from heat and cold include the following (*Liqu.* 1.4, 6.120 L.):

The hot causes harm in those who use it too much or too often (through creating) a softening of the flesh, powerlessness of the sinews, numbing of the mind, hemorrhages, swoonings—

²¹⁶ In favor of this emendation, compare *Liqu.* 2.2, 6.122 L.: "the hot is also (a source of) pleasures and stimulations (προκλήσεις) for the genitals, while from the cold pains and repulsions (arise)."

²¹⁷ On the notion of a "standard" that comes from the patients themselves, cf. *Fract.* 1, 3.412 L., *Art.* 10, 4.102 L., *Off.* 16, 3.322 L., *Loc. Hom.* 34.1, 6.326 L.

even to the point of death. The cold (causes harm through creating) spasms, convulsions, blackenings, febrile chills.

After describing the general effects of the hot and the cold on the body, the author describes their effects on specific parts. In chapter 2, he claims that some parts of the body are more “hostile” to these qualities than others. In general, this depends on the pre-existing inclination of their “natures” (φύσεις) to the hot or the cold (*Liqu.* 2.1, 6.122 L.):

The brain and all that (comes) from such (parts) is distressed by cold and takes delight in (the) hot, even though it is colder and more solid by nature (ψυχρότερον καὶ στερεώτερον φύσει), because most of these (things) are far from the (body’s) own heat. For this reason the cold is hostile (πολέμιον) to bones, teeth, and sinews, while the hot is friendly (φίλιον), because it is from these parts that spasms, convulsions, and feverish chills arise, things which the cold produces and the hot stops.

In another passage, the author writes about the ability of heat to relax the flesh, while the cold causes it to condense, comparing it to the effects of the hot and the cold on water (*Liqu.* 2.7, 6.126 L.):

(Note) that after a hot (affusion) the body, being more dispersed (διαχυθέν), cools off, and after a cold (affusion), being more contracted (συσταλέν), heats up, just as waters that are to be cooled or heated do, on account of their fineness.

This passage closely recalls the assertion in *On Flesh* that the cold condenses while the hot disperses. This text also recalls *On Flesh* in its statement that dryness can arise from both the hot and cold (*Liqu.* 6.2, 6.130–132 L.):

Any lesions that arise from the cold, or that become rough like millet, and then ulcerate, are harmed by cold and benefited by warmth. Things that are benefited by both are swellings in the joints, gout without ulceration, most spasms. Copious cold affusions over them dry up the sweating and numb the pain; moderate numbness resolves pain. Heat too dries and softens.

Taken together, these passages suggest that such fundamental powers as the hot, the cold, and the wet—powers that the author of *On Flesh* would elevate to the rank of first principles—were an integral part of medical thinking even for doctors who had little interest in cosmology.

Further supporting a clinical origin of *On Flesh*’s three principles is the fact that other doctors

from this period were already reducing both the origin and treatment of disease to various interactions between heat, cold, and bodily fluids. In *On Places in the Human Being*, the author writes that fluxes from head occur “when the flesh is excessively cooled or heated, or has an excess or a deficiency of phlegm” (*Loc. Hom.* 9.1, 6.290–292 L.). In *Diseases II*, the author observes that the brain mortifies “if it is made too hot or too cold, or becomes more bilious or phlegmatic than usual” (*Morb. II* 5.2, 7.12–14 L.), while the author *On Regimen* notes that hot and cold baths have different effects on the body’s moisture: hot baths cause this moisture to expand, while cold baths make the moisture contract (*Vict.* 57.1–2, 6.570 L.). An even closer parallel to *On Flesh*’s cosmology can be found in the *Anonymus Londiniensis*. In this text, Hippon of Croton is said to have observed that the moisture in our body “changes through excess of heat and excess of cold, and so brings on diseases” (*Anon. Lond.* XI.35–38, trans. Jones). He is also said to have held that this moisture changes “in the direction of the wetter, or of the drier, or of the thicker, or of the finer” (ἢ ἐπὶ τὸ πλεῖον ὑγρὸν ἢ ἐπὶ τὸ ξηρότερον ἢ ἐπὶ τὸ παχυμερέστερον ἢ ἐπὶ τὸ λεπτομερέστερον, *Anon. Lond.* XI.39–41), echoing the same notions of fluidity (wet and dry) and density (thick and fine) that we find in *On Flesh*. The main difference between these two texts is that Hippon is said to have identified the hot, the cold, and the wet as the first principles of human physiology, while the author of *On Flesh* makes them the first principles of the cosmos. It is not difficult to imagine, however, how a Greek doctor could have elevated the hot, the cold, and the wet to the rank of cosmic elements. When discussing the roles of these principles in health and disease, many Greek doctors were already writing about the general properties of heat, cold, and moisture in the universe as a whole.

On Flesh’s cosmology is so deeply informed by medical thinking that the other properties the author attributes to these principles can also be paralleled in humoral theory. We have already mentioned the author’s description of a “struggle” between the hot and the cold (above, pp. 141–

142). This passage recalls a similar struggle between blood and black bile in *Diseases II*, in which blood is identified as naturally hot, while black bile is naturally cold (6a.3, 7.14 L., trans. Potter, modified):

If this patient gains the upper hand (κρατήσῃ), so that his blood is heated either as the result of what is administered or by itself, the blood is lifted, dispersed (διαχεῖται), and set in motion (κινεῖται), it takes in vapor, foams, and separates itself from the bile, and he recovers. But if he does not gain the upper hand (κρατήσῃ), the blood is cooled even more; when it has been cooled completely and given up its heat, it congeals (πήγνυται) and can no longer move, and the patient dies.²¹⁸

What is most interesting about this passage is the author's use of the verbs διαχεῖν and πηγνύναι when referring to the dispersal and congelation of blood. These are the same verbs that appear in *On Flesh*'s observation that “the cold condenses (πήγνυσι), the hot disperses (διαχεῖ), and over a long time it also dries” (*Carn.* 3.8, 8.588 L.).²¹⁹ The specific assertion that heat dries “over a long time” (ἐν δὲ τῷ πολλῷ ... χρόνῳ) may have also originated in the author's own clinical experience. In *On Regimen in Acute Diseases*, the author writes, “If the pain is not dissolved by the hot applications, you should not apply heat for a long time (πολλὸν χρόνον), for such a procedure is drying of the lung and productive of internal suppuration” (*Acut.* 22.1 (= 7 L.), 2.272 L.).

When the author of *On Flesh* describes how each part of the body came to be, he combines his first principles of the hot, the cold, the wet with two auxiliary principles: the “fatty” (τὸ λιπαρόν) and the “glutinous” (τὸ κολλῶδες). Both of these auxiliary principles are said to have arisen from the putrefaction of the cold under the influence of heat (*Carn.* 3.1–3, 8.584–586 L.):

²¹⁸ Similar struggles between heat and cold—this time between blood and phlegm—are described in *Morb. Sacr.* 7–9, 6.372–378 L., *Morb. II* 8.2, 7.16 L. Cf. also *Morb. I* 24, 6.188 L., where both phlegm and bile are said to be colder than blood, and *Flat.* 7.2, 6.100 L., 8.2, 6.100–102 L., 8.5, 6.102 L., 14.6, 6.114 L., where a similar battle takes place between hot blood and cold πνεῦμα.

²¹⁹ For the use of διαχεῖν and πηγνύναι to refer to the dispersal and condensation of the humors, see also *Aër.* 10.7, 2.48 L., *Morb. I* 24, 6.188–190 L., 33, 6.204 L., *Aff.* 16, 6.224 L., 34, 6.244 L., *Morb. Sacr.* 7.11, 6.374 L., 8.1, 6.376 L., *Fist.* 10.2, 6.460 L., *Vict.* 56.6, 6.568 L., 57.1, 6.570 L., 60.1, 6.572–574 L., 60.3–4, 6.574 L., 78.1, 6.622 L., *Morb. II* 8.2, 7.16 L., *Genit.-Nat. Puer.* 1.2–3, 7.470 L., *Morb. IV* 42.2, 7.562 L., 45.3, 7.568–570 L., 52.5, 7.592 L., 53.2, 7.594 L., *Mul. II* 184, 8.366 L.

When these things (i.e., the hot, the cold, and the wet) were thrown in disturbance (συνεταράχθη), they moved in a circle and much of the hot was left behind (ἀπελείφθη), here and there, in the earth, some in a great amount, others less so, and still others in a very small amount but many in number. As the earth was dried over time by the hot, these things, left behind (καταλειφθέντα), made putrefactions (σηπεδόνας) around themselves like tunics. And whatever from the earth's putrefaction (ἐκ τῆς γῆς σηπεδόνοσ) happened to be fatty and to have a very small portion of the wet, as it was heated over time, it very quickly burnt up and became bones. Whatever happened to be more glutinous and to have a share of the cold, meanwhile, could not be burnt up when it was heated, nor could it become dry. For it did not have any of the fatty, so as to be burnt up, nor any of the wet, so as to become dry upon being burnt up. It consequently acquired a form (ιδέην) rather different from the rest, and became sinews and vessels.

By claiming that putrefaction occurs when pockets of the hot are “left behind” (καταλειφθέντα) in the earth, the author constructs yet another analogy between the elements and humoral theory.

In medical texts, the humors were often said to stagnate, grow hot, and undergo putrefaction whenever they are “left behind” in the body. In *On the Seed-Nature of the Child*, blood that lingers in the uterus for five or six months is said to putrefy and turn to pus (*Genit.-Nat. Puer.* 15.6, 7.496 L.). Similarly, the author of *Internal Affections* observes that “when the head is filled with phlegm, it develops a disease and heat is produced, after which the phlegm putrefies in the head because it cannot move and flow away” (*Int.* 10, 7.190 L.). For the use of the verb καταλείπειν to describe “residues” of humors, there are many parallels in the Hippocratic Corpus. In both *Epidemics* and *On Joints*, it is noted that material that has been “left behind” after a purge (ἐγκαταλειφθέντα) regularly gives rise to additional complications.²²⁰ In *On Humors*, diseases of the spleen are attributed to bile that has been “left behind” after the summer (ἐγκαταλειφθῆ, *Hum.* 13, 5.494 L.), while the author of *Diseases IV* specifically refers to a “fatty and light substance” (τὸ λιπαρὸν καὶ κοῦφον) that is “left behind” (καταλείπεται) when the body is heated from the outside (*Morb. IV*

²²⁰ *Epid. II* 1.11, 5.82 L. (= *Epid. VI* 3.21, 5.302 L.), *Epid. VI* 2.6, 5.280 L., 2.7, 5.282 L., 7.7, 5.340 L., *Art.* 50, 4.222 L. (= *Mochl.* 36, 4.380 L.), 63, 4.274 L.

49.3, 7.580 L.).²²¹ This notion that residual fluids undergo putrefaction was so central to medical thinking that the author of *On Flesh* returns to this analogy several times in his text. In chapter 3, he writes that the bladder was formed when much cold was “left behind” (ἀπολειφθέν) and the surrounding portion was heated and became a tunic (3.5, 8.586 L.). In chapter 8, he observes that the liver was formed “when much of the wet was left behind (ἀπολειφθέν) with the hot and without the glutinous or the fatty” (8.1, 8.594 L.), while in chapter 13, he claims that excrement is produced when the thickest part of nutriment “is left behind (καταλείπεται) as a sediment and undergoes putrefaction” (13.2, 8.600 L.), exactly paralleling the cosmological process that is said to have given rise to the fatty and the glutinous.

These two auxiliary principles of the fatty and the glutinous add an extra layer of complexity to the author’s system. As we see in the above-quoted description of how bones, sinews, and vessels come to be, the fatty and the glutinous account for levels of dryness and density that cannot be explained by the powers of the hot and the cold to disperse and to condense, respectively. The fatty feeds and intensifies the hot, causing quick drying and hardening. The glutinous keeps matter “glued together,” shrinking and condensing as it is heated. In chapter 4, the author supports these observations by drawing an analogy with the cooking of meat: “If someone is willing to roast the sinewy and the glutinous parts (i.e., the muscles and tendons), as well as the other parts (i.e., the fat), the other parts are quickly roasted, while the sinewy and glutinous refuse to be roasted, since they have a very small portion of the the fatty. The very greasy and very fatty parts are very quickly roasted” (4.3, 8.590 L.).

Like the author’s conceptualization of the hot, the cold, and the wet, his notions about the “fatty” (τὸ λιπαρόν) and the “glutinous” (τὸ κολλῶδες) also seem to be influenced by medical

²²¹ See also *Aff.* 31, 6.244 L., *Loc. Hom.* 10.6, 6.296 L., *Ulc.* 24, 6.428 L., *Vict.* 35.3, 6.514–516 L., *Morb. IV* 49.4, 7.580 L., *Prorrh. II* 20, 9.48 L.

thinking. In the Hippocratic Corpus, the adjective κολλώδης is frequently applied to bodily fluids. *On Glands* refers to a pungent and “glutinous” flux from the head (*Gland.* 7.3, 8.562 L.), *Epidemics VII* to a sticky and “glutinous” ἰχώρ pressed out from a wound (*Epid. VII* 61, 5.426 L.), *Diseases II* to a thin, scanty pus like barley juice, “glutinous” to the touch (*Morb. II* 60.2, 7.94 L.), *Diseases of Women I* to thick, sticky, and “glutinous” menses (*Mul. I* 3, 8.22 L.), *Diseases of Women II* to a “glutinous” flux from the joints (*Mul. II* 114, 8.246 L.), and the so-called “appendix” to *On Regimen in Acute Diseases* to a cold and “glutinous” flux from the head (*Acut. App.* 9.1 (= 6 L.), 2.408–410 L.). As for λιπαρός, this adjective appears over a hundred times in the Hippocratic Corpus. It is applied to bodily evacuations (e.g., stools, urine, menses, and sweat),²²² to medical treatments (e.g., clysters, poultices, ointments, and fomentations),²²³ and to various types of food.²²⁴ Particularly noteworthy are the numerous passages in which patients are told to eat foods that are “fatty” (λιπαρός), while others are instructed to abstain.²²⁵ These passages suggest that Greek doctors were actively attributing specific properties to the fatty, and that there were some

²²² Stools: *Prog.* 11, 2.138 L., *Epid. I* 26(2) (= 13.2 L.), 2.686 L., *Epid. III* 1(3), 3.40 L., 8, 3.86 L., 14, 3.98 L., 17(1), 3.104 L., 17(13), 3.140 L., 17(16), 3.148 L., *Coac.* 621, 5.728 L. Urine: *Prog.* 12, 2.142 L., *Aph.* 7.35, 4.586 L., *Coac.* 564, 5.712 L., 571, 5.716 L. Menses: *Hum.* 3, 5.478 L., *Mul. I* 26, 8.70 L., *Mul. II* 115, 8.248 L. Sweat: *Prorrh. II* 4, 9.16 L.

²²³ Clysters: *Acut. App.* 51 (= 19 L.), 2.494 L., *Nat. Hom.* 20.4, 6.78 L., *Mul. I* 109, 8.230–232 L., *Mul. II* 157, 8.334 L. Poultices: *Aff.* 38, 6.248 L. Ointments: *Acut. App.* 65 (= 29 L.), 2.520 L., *Liqu.* 6.4, 6.132 L., *Nat. Fem.* 58, 7.398 L., *Mul. I* 35, 8.84 L., *Mul. II* 133, 8.288 L., 145, 8.322 L., 147, 8.324 L., 149, 8.326 L., 150, 8.326 L. Fomentations: *Morb. III* 12, 7.132 L.

²²⁴ *Aff.* 47, 6.258 L., 55, 6.266 L., *Vict.* 39.1, 6.534 L., 42.3, 6.540 L., 45.3, 6.544 L., 51, 6.554 L., 55.5, 6.564 L., 56.2, 6.566 L., 56.3, 6.566 L., 56.6, 6.568 L., 56.8, 6.570 L., *Int.* 6, 7.180 L. For more passages, see the following note.

²²⁵ Eat τὰ λιπαρά: *Aff.* 23, 6.234 L., 40, 6.250 L., *Loc. Hom.* 18, 6.310 L., 28.1, 6.320 L., *Vict.* 59.2, 6.572 L., 68.5, 6.596 L., 82.4, 6.632 L., *Morb. II* 27.6, 7.44 L., 47a.5, 7.66 L., 47b.2, 7.68 L., 48.4, 7.74 L., 64.5, 7.98 L., 68.2, 7.104 L., *Morb. III* 15, 7.140 L., 17, 7.156 L., *Int.* 1, 7.168 L., 20, 7.216 L., 21, 7.218 L., 29, 7.244 L., 40, 7.266 L., 41, 7.268 L., 42, 7.270 L., 51, 7.296 L., *Mul. I* 16, 8.54 L., 45, 8.104 L., 66, 8.138 L., *Mul. II* 115, 8.250 L. Abstain from τὰ λιπαρά: *Art.* 50, 4.220 L., *Epid. VII* 68, 5.432 L., *Vict.* 81.2, 6.628 L., *Morb. II* 47b.2, 7.68 L., 53.3, 7.82 L., 55.6, 7.86 L., 71.2, 7.108 L., 72.2, 7.110 L., *Morb. III* 16, 7.148 L., *Int.* 2, 7.174 L., 3, 7.176 L., 10, 7.190 L., 30, 7.246 L., *Nat. Fem.* 9, 7.324 L., 10, 7.326 L., 12, 7.330 L., *Mul. II* 118, 8.254 L., 169, 8.350 L. Note also the many prescriptions to eat or abstain from food that are “greasy” (πίων) and “oily” (ἐλαιώδης).

physical conditions in which these properties were desirable, and others in which they were not.

The fact that Greek doctors were already talking about the glutinous and the fatty in general terms suggests that the author of *On Flesh* did not invent these principles out of the blue. But what made him select these two principles in the first place, and why does he pair these principles with each other? Empedocles, Plato, and Aristotle all refer to “glutinous” (κολλώδης) or “sticky” (γλίσχρος) material that holds the body together,²²⁶ while the Aristotelian *Problemata* include three passages in which the “glutinous” (τὸ κολλώδες) responds to heat in a manner very similar to what we find in *On Flesh*.²²⁷ “Fatty” substances are often said to fuel and intensify heat, most notably in reference to the oil within a lamp, but with the exception of a single passage in Plato’s *Cratylus*, where λιπαρός and κολλώδης are included in a list of adjectives in which the letter lambda conveys a sense of slipping and gliding (Pl. *Cra.* 427b), there is no other text from the Classical period that cites these two principles side by side, let alone ranks them among the first principles of all things. A great deal of energy has been spent on trying to identify the source of these principles.²²⁸ My own suggestion is that *On Flesh*’s two principles of the “fatty” and the “glutinous” reflect the common opposition between bile and phlegm.²²⁹ In the Hippocratic Corpus, bile is frequently associated with substances that are “fatty,”²³⁰ while phlegm is described

²²⁶ Emp. DK 31 B96.4, Pl. *Ti.* 82d–e, Arist. *GA* 2.3, 737a35–b7; cf. Emp. DK 31 B34.

²²⁷ Arist. *Pr.* 2.22, 868a35–868b11, 21.6, 927b6–927b14, 21.12, 928a11–33.

²²⁸ Cf. Willerding (1914, 62), Heidel (1914, 185–186), Deichgräber (1935, 35), Kind (1936, 631–632), Thivel (1981, 266, n. 329), Orelli (1998, 135), Oser-Grote (2004, 29).

²²⁹ On the traditional pairing of these humors, see above, p. 58.

²³⁰ E.g., *Prog.* 11, 2.138 L., *Epid.* III 8, 3.86 L., *Epid.* VI 5.8, 5.318 L., 6.1, 5.322 L., *Aff.* 47, 6.258 L., *Morb.* IV 49.3, 7.580 L., 51.2–3, 7.584 L. Cf. the claim at *Acut.* 53.1–2 (= 15 L.), 2.336–342 L., that melicrat contains “something fatty” (σμηγματώδες τι) and assists in the evacuation of bile.

as “glutinous” or “sticky.”²³¹ Both bile and the “fatty” can fuel and intensify heat,²³² while phlegm has a tendency to condense and harden when it is heated.²³³ In *Diseases IV*, there are two passages that nicely illustrate both of these associations:

With the phlegm acting as a glue (κόλλης γινομένης τοῦ φλέγματος), what is melted (sc. by the heat) is expelled by the urine, while the sediment falls together, grows dense, and becomes solid like iron. (*Morb. IV* 55.4, 7.602 L.)

As the body is heated, it is primarily the watery component, which is most hostile to fire, that is evaporated as a result, while what is left behind (καταλείπεται) is the fatty and light component (τὸ λιπαρὸν καὶ κοῦφον), which is bilious (χολῶδες), and which is the primary nutriment for fire. (*Morb. IV* 49.3, 7.580 L.)

Not only do these passages specifically identify phlegm as “gluey” and bile as “fatty,” but they also describe the responses of bile and phlegm to being heated in terms remarkably similar to what we see in *On Flesh*. As in *On Flesh*, the author claims that phlegm acts as a “glue” (κόλλη), holding matter together and causing it to shrink when it is heated. Bile, meanwhile, is “fatty and light” (λιπαρὸν καὶ κοῦφον; cf. also *Morb. IV* 51.2–3, 7.584 L.), and it contributes the same fuel for intense burning that we also see in *On Flesh*.

These connections between bile and the “fatty” and between phlegm and the “glutinous” help to explain why the author of *On Flesh* decided to pair these two principles with each other. These associations can also shed light on one of the more obscure passages in *On Flesh*. In chapter 4, the author defines two “mother cities” (μητροπόλεις) within the body, one of which gives rise

²³¹ E.g., *Epid. VII* 84, 5.442 L. (γλίσχρος ὡς φλέγμα). See also *Acut.* 16.2 (= 5 L.), 2.258–260 L., 17.2–3 (= 5 L.), 2.262 L., 53.1 (= 15 L.), 2.336–338 L., *Art.* 40, 4.174 L., *Nat. Hom.* 7.2, 6.46 L., *Nat. Fem.* 17, 7.336 L., *Morb. IV* 35.2, 7.548 L., 55.4, 7.602 L., *Mul. I* 58, 8.116 L., *Arist. HA* 3.5, 515b16–18, and especially the “glutinous” and “sticky” fluxes from the head at *Acut. App.* 9.1 (= 6 L.), 2.408–410 L., *Epid. III* 13, 3.94 L., *Epid. IV* 18, 5.156 L., *Gland.* 7.3, 8.562 L. For the classification of specific humors as “glutinous,” see also *Praxag.* fr. 38, 53.

²³² For the ability of the fatty to fuel and intensify heat, see *Aff.* 38, 6.246–248 L., *Vict.* 45.3, 6.544 L., 51, 6.554 L., 55.5, 6.564 L., 56.1, 6.564 L., *Morb. IV* 49.3, 7.580 L., *Hebd.* 24, 8.649 L. For attribution of this same property to bile, see *VM* 19.5, 1.618 L., *Aër.* 9.5, 2.40 L., *Nat. Hom.* 15.2, 6.66 L., *Morb. I* 29, 6.198 L., *Morb. IV* 49.3–4, 7.580 L., *Hebd.* 28, 8.653 L.

²³³ *Morb. I* 28, 6.196–198 L., *Vict.* 54.2, 6.558 L., *Int.* 14, 7.202 L., *Morb. IV* 55.4, 7.602 L.

to the “cold and glutinous,” while the other gives rise to the “fatty” (4.1, 8.588 L.):

The brain is the mother city (μητρόπολις) of the cold and the glutinous, while the hot is the mother city of the fatty. For on being heated, the first of all things to arise when being dispersed is the fatty.

So far as I am aware, no one has adequately explained what the author is trying to say in this passage. Ermerins (1864, 505) marks the whole passage as “altogether absurd” (*omni modo absurdum*) and pointedly asks, “Who would oppose the brain with the hot?” (*quis cerebro opposuerit calidum?*). Other scholars have been equally perplexed, often complaining about the text’s egregious lack of parallelism.²³⁴ In particular, it has been pointed out that the author invokes a specific part of the body (i.e., the brain) to serve as the “mother city” for two of his fundamental principles (the cold and the glutinous), while two other principles (the hot and the fatty) are not attached to a specific part, but are rather arranged *hierarchically* so that one of them (i.e., the hot) is the “mother city” of the other (i.e., the fatty). In light of this asymmetry, many scholars have concluded that the text must be defective, with Ermerins (1864) inserting “the marrow” (ὁ μελός), Heidel (1914) “the heart” (ἡ καρδίη), and Kind (1936) “the fat” (ὁ σίαλος) as a more appropriate “mother city” for the fatty. Heidel and Kind also change the nominative τὸ θερμόν to the genitive τοῦ θερμοῦ, thereby making their preferred reservoirs the “mother city” of the fatty *and* the hot. If we accept that the author associates the glutinous with phlegm and the fatty with bile, however, then we can not only explain how the brain may be called the μητρόπολις of the cold and glutinous while the hot is the μητρόπολις of the fatty, but we can also understand—and this seems more important—why the author of *On Flesh* would have cared about these “mother cities” in the first place.

That “cold and sticky” phlegm was thought to flow from the head is widely recognized and

²³⁴ E.g., Heidel (1914, 183–184), Deichgräber (1935, 37), Kind (1936, 678–680), Huffman (1993, 195–197).

hardly needs further discussion. The author of *Diseases II* plainly states that “phlegm descends from the head (τὸ δὲ φλέγμα ἀπὸ τῆς κεφαλῆς καταβαίνει, *Morb. II* 11.1, 7.18 L.), and we have already cited a passage from the “appendix” to *On Regimen in Acute Diseases* in which the author refers to a “cold and glutinous” flux that originates in the head (ἐκ τῆς κεφαλῆς ῥεῦμα ... ψυχρὸν τε ἐὼν καὶ κολλῶδες, *Acut. App.* 9.1 (= 6 L.), 2.408–410 L.). From these passages, we can surmise that the brain is the “mother city” of the cold and glutinous insofar as diseases that are caused by the “cold and glutinous” humor (i.e., phlegm) have their origin in the brain. This is where the humor “separates out” (ἀποκρίνεσθαι), and any treatment that targets a phlegmatic disease must consider both the humor and this “source” (ἀρχή).²³⁵ On analogy with this description of the brain as the “mother city” of the cold and glutinous, we should assume that by calling the hot the “mother city” of the fatty, the author of *On Flesh* intends to say three things: (1) that diseases that are caused by the fatty humor (i.e., bile) have their origin in the hot, (2) that this is where the bile “separates out,” and (3) that any treatment that aims to eradicate bilious diseases must target both the humor and this source. When we look to other texts from the Hippocratic Corpus, this is precisely what we find. We are repeatedly told that bilious diseases are set in motion by heat, that this heat engenders diseases by causing the bile to “separate out,” and that doctors should combine the purging of bile with the application of cooling treatments to counteract the source of this ἀπόκρισις. We see as much in the above-quoted passage from *Diseases IV*, in which the author writes that the heating of the humors causes the watery component (τὸ ὑδρωποειδές) to evaporate, while the bilious (τὸ χολῶδες) is left behind (*Morb. IV* 49.3, 7.580 L.). Other works in the Hippocratic Corpus also refer to this process of bile-production, most notably in reference to

²³⁵ For the treatment of diseases at their “source,” see above, p. 61.

the heating of moisture in the belly. In Chapter 3, we noted that the heating of stagnant moisture in the belly was commonly thought to produce “breaths” (above, pp. 79–80). As these breaths make their way to the head, they leave a residue behind, and this residue is concentrated bile.²³⁶ Other texts refer to the production of bile in the lungs, the bladder, the uterus, and other parts, associating its appearance with the separating out (ἀπόκρισις) of a watery exhalation from a fatty, bilious residue.²³⁷ Once the watery component is separated out, it can be thickened and transformed into phlegm.²³⁸ The bile, meanwhile, causes fevers to flare-up, producing both intermittent paroxysms and the constant burning of “ardent” fevers.²³⁹ Since the lower cavity was thought to be a major site of bile-production, Greek doctors carefully inspected the vomit, stools, and urine of their patients, checking whether the bile was still mixed with other humors or whether it had become “unmixed” (ἄκρητος) and “concentrated” (κατακορής).²⁴⁰ In some of

²³⁶ Cf. *Acut.* 50 (= 14 L.), 2.332 L., *Acut. App.* 48–51 (= 18–19 L.), 2.486–496 L., *Aff.* 11, 6.218–220 L., 20, 6.228–230 L., 47, 6.258 L., *Morb. II* 69, 7.104–106 L., *Morb. III* 14, 7.134 L., *Nat. Fem.* 89, 7.408 L., *Mul. I* 2, 8.18 L., 8, 8.36 L., 16, 8.54 L., *Judic.* 5, 9.276 L. See also *VM* 19.5, 1.618 L., *Aër.* 7.2, 2.26 L., *Epid. III* 17(3), 3.116 L., 17(13), 3.138 L., *Aph.* 7.42, 4.588 L., *Epid. V* 18, 5.218 L., *Epid. VII* 1, 5.364–366 L., *Prorrh. I* 117, 5.548–550 L.

²³⁷ *Morb. I* 18, 6.172 L., 29, 6.200 L., *Mul. II* 121, 8.262 L., *Cord.* 11, 9.88–90 L., *Oss.* 17, 9.192 L. Note also *Vict.* 89.7, 6.648 L., where a “fire-like” (πυροειδές) dream apparition indicates an ἀπόκρισις of bile, and *Int.* 30, 7.244 L., where bile is set in motion by the heat of the sun (γίνεται δὲ διὰ θερμασίην τοῦ ἡλίου, χολῆς κινηθείσης).

²³⁸ Most Greek doctors seem to have envisioned the “separating out” of phlegm as a two-stage process involving an alternation of heat and cold: the heat first separates out the watery component, then the cold makes this watery component condense into phlegm. Cf. *Aër.* 3.1–2, 2.16 L., 7.2, 2.26 L., *Acut.* 16.2 (= 5 L.), 2.258–260 L., 17.2–3 (= 5 L.), 2.262 L., *Epid. VII* 11, 5.382 L., *Nat. Hom.* 7.6, 6.48 L., *Flat.* 10.1–2, 6.104–106 L., *Morb. Sacr.* 10.2, 6.378 L., 13.4, 6.386 L., *Morb. IV* 52.1–2, 7.590 L. This two-stage process may be reflected in *On Flesh*’s assertion that “on being heated, the first of all things (τὸ πρῶτον πάντων) to arise when being dispersed is the fatty” (4.1, 8.588 L.). Note also the description of rain water at *Aër.* 8, 2.32–36 L., where the production of rain follows the same two-stage process of evaporation and condensation. The author of this text in fact seems to be drawing an implicit analogy between rain water and phlegm, as he observes that rain water contains certain impurities that can give rise to a sore throat, coughing, and hoarseness.

²³⁹ Cf. *Nat. Hom.* 15.2, 6.66 L., *Morb. I* 29, 6.198 L., *Morb. IV* 49.4, 7.580 L., *Hebd.* 28, 8.653 L. See also the passages cited above, n. 232.

²⁴⁰ The adjectives “unmixed” (ἄκρητος) and “concentrated” (κατακορής) are only applied to bilious evacuations, never to evacuations that are phlegmatic (the only exception appears to be the highly schematized discussion of purgative drugs at *Nat. Hom.* 6.3, 6.46 L.). For references to bilious evacuations as “unmixed,” see *Acut.* 53.2 (= 15 L.), 2.340–342 L., 54.1 (= 15 L.), 2.342 L., *Epid. I* 2, 2.608 L., 26(2), 2.684–686 L., 26(4), 2.692 L., 26(5), 2.694 L., 26(9), 2.704 L., 26(13), 2.714 L., *Epid. III* 1(1), 3.26 L., 1(5), 3.48 L., 1(6), 3.52 L., 17(3), 3.116 L., 17(13), 3.140 L., *Fract.* 43, 3.554 L., *Art.* 19, 4.132 L., 31, 4.146 L., *Mochl.* 9, 4.354 L., *Epid. IV* 2, 5.144 L., *Epid. V* 61, 5.242 L., 79,

these passages, “unmixed” evacuations are described as fatty (λιπαρός),²⁴¹ while evacuations that contain a mixture of bile and phlegm are said to be sticky (γλίσχρος).²⁴² An analogy with the practice of mixing water with wine probably reinforced this theory about “mixed” and “unmixed” bile. Just as wine is “stronger” and more likely to heat the body when not diluted with water, so bile is “stronger” and more likely to cause problems when separated out from its watery component. Many texts in the Hippocratic Corpus actually prescribe either unmixed wine (οἶνος ἄκρητος) or mixed/watery wine (οἶνος κεκρημένος/ὕδαρής) for problems in the belly, where unmixed wine counteracts a concentration of water, while watery wine counteracts a concentration of bile. These prescriptions can be reversed, however, when the wine is followed by a purge, as Greek doctors tended to think that purges draw out humors through the principle of “like to like.”²⁴³ Once the bile had become fully unmixed (i.e., fully separated from the watery component), Greek doctors thought that the disease had reached a critical point. Depending on the circumstances, the bile could now be fully evacuated, it could migrate to another location in the body, or it could be further heated and dried to produce black bile (μέλαινα χολή). In *Airs Waters Places*, the author describes the production of black bile in the same manner that *Diseases IV* describes the production of bile: “of the bile, the wettest and most watery part is consumed (sc.

5.248 L., 88, 5.252 L., 98, 5.256 L., *Epid. VII* 1, 5.364 L., 29, 5.400 L., 33, 5.402 L., 43, 5.410 L., 67a, 5.430 L., 92, 5.448 L., *Coac.* 39, 5.594 L., 389, 5.668–670 L., 437, 5.682 L., 549, 5.708 L., *Nat. Hom.* 6.3, 6.46 L.; cf. *Prog.* 18, 2.158 L. Contrast the references to “watery bilious” (ὕδατόχολος) evacuations at *Epid. I* 26(10), 2.706 L., *Epid. III* 17(2), 3.110 L., *Prorrh. I* 81, 5.530 L., *Coac.* 67, 5.598 L., 131, 5.610 L., and the designation of watery stools as “non-bilious” (ἄχολος) at *Epid. II* 3.1, 5.100 L., *Epid. IV* 15, 5.152 L., 45, 5.186 L., *Prorrh. I* 98, 5.536–538 L.

²⁴¹ E.g., *Epid. I* 26(2), 2.686 L. (διαχωρήματα ἄκρητα, χολώδεα, λεῖα, λιπαρά). See also *Epid. III* 14, 3.98 L., 17.1, 3.104 L., 17.16, 3.148 L.

²⁴² E.g., *Prog.* 11, 2.138 L., *Epid. IV* 18, 5.154 L., 26, 5.170 L., 27, 5.172 L., *Coac.* 564, 5.712 L., 612, 5.726 L. Note also *Epid. II* 2.11, 5.114 L. (“He passed sticky material on the eleventh day, and the little surrounding fluid was bilious,” trans. Smith), and the description of evacuations as “gluey” (γλοιώδεις) at *Epid. VII* 2, 5.368 L.

²⁴³ Cf. especially *Nat. Hom.* 6.3, 6.44–46 L., and Soph. fr. 854 Radt.

by heat), while the thickest and most pungent part is left behind” (*Aër.* 10.12, 2.50 L.).²⁴⁴ From these passages, we can clearly see that bile and its derivatives were commonly believed to arise from the heating and drying of fluids within the body. This is in fact why bile came to be associated with dryness,²⁴⁵ why it was said to arise most abundantly in the summer,²⁴⁶ and why bilious diseases were often treated with cooling agents.²⁴⁷ These cooling agents were not directed against the bile itself, but against the heat that was separating the bile out. In the same way that a flux of phlegm would be counteracted by attending to the head, an excessive production of bile was counteracted by attending to the heat.²⁴⁸ And it is precisely with an eye to treatment that the author of *On Flesh* refers to the brain as the “mother city” of the cold/glutinous and to the hot as the “mother city” of the fatty. Just as a mother city can always send out another colony, a disease will continue to ravage the body until the doctor has treated both the affection and its source.

If a theory of pathology lies behind this riddling passage, we should ask to what extent the

²⁴⁴ For the transformation of bile into black bile, see also *Prog.* 14, 2.144–146 L., *Epid.* II 3.15, 5.116 L., *Epid.* VI 6.1, 5.322 L., 6.14, 5.440 L., *Morb.* I 30, 6.200 L., *Anon. Lond.* XIX.33–40 (Menecrates of Syracuse), and compare *Nat. Hom.* 7.9, 6.50 L. On black bile in general, see Müri (1953), Flashar (1966), Pigeaud (1984), van der Eijk (1990), Pormann (2008).

²⁴⁵ Among the tell-tale signs of bilious affections were thirst and a dry, bitter tongue. Cf. *Epid.* III 17(3), 3.112–116 L., 17(9), 3.128 L., *Epid.* V 80, 5.250 L., 98, 5.256 L., *Epid.* VI 5.8, 5.318 L., *Epid.* VII 3, 5.368–370 L., 84, 5.442 L., 85, 5.444 L., *Morb.* I 29, 6.198 L., *Aff.* 11, 6.218–220 L., 15, 6.222 L., *Vict.* 82.1, 6.630 L., *Superf.* 34, 8.504–506 L., *Hebd.* 28, 8.653 L. Note also *Aër.* 10.6, 2.46 L., and Polybus’ assertion that both yellow bile and black bile are “dry” (above, p. 57).

²⁴⁶ At *Hum.* 14, 5.496 L., the summer is explicitly said to be *χολοποιός* (“productive of bile”). Since the summer, being hot and dry, lacks moisture of its own, the only way that it could *make* bile is by heating and drying bodily fluids. The association of black bile with autumn (above, pp. 57–58) may also have something to do with the fact that autumn is a “dry” season. Thus, the bile that arises in the summer will be further dried and transformed into black bile in the autumn. Cf. *Aph.* 3.14, 4.492 L., *Epid.* VII 82, 5.436–438 L.

²⁴⁷ E.g., *Epid.* V 42, 5.232 L., *Nat. Hom.* 20.3, 6.78 L., *Aff.* 11, 6.218 L., 14, 6.222 L., *Morb.* II 19.2, 7.32 L., 40.5, 7.56–58 L., 41.3, 7.58 L., 46.4, 7.64 L., 67.3, 7.102 L., 68.2, 7.104 L., 74.2, 7.112 L., *Morb.* III 17, 7.156–160 L., *Int.* 4, 7.178 L., 39, 7.262 L., *Mul.* I 52, 8.110 L.

²⁴⁸ Once the bile-production was shut off by cooling down the belly, the bile could then be treated by either removing it completely, e.g. with vomiting or laxatives, or by breaking it up and re-diluting it with other humors. A popular method for breaking up bile was to administer acidic foods and drinks (e.g., vinegar). According to the author of *On Regimen in Acute Diseases*, acid humors break up bile and help it mix back into phlegm (*ἐκφλεγματοῦται*, 61, 2.356–358 L.). Cf. Herodicus of Cnidos’ opposition between the “acid” (*τὸ ὀξύ*) and the “bitter” (*τὸ πικρόν*) at *Anon. Lond.* IV.40–V.34.

rest of *On Flesh* is written with an eye to pathogenesis. To start, it is worth noting that the specific parts that the author describes all have special significance within Greek theories of health and disease. Not only does the author describe the vessels and hollows through which both πνεῦμα and humors can travel (ch. 3), but most of the other parts that he emphasizes (e.g., the lungs, the flesh, the liver, the spleen, the joints, and the spinal marrow) are places into which humors were commonly thought to flow and get stuck. In *On Places in the Human Being*, the author lists seven fluxes from the head, each of which gives rise to a different class of ailments (*Loc. Hom.* 10–23, 6.294–314 L.). The destinations of these fluxes are the eyes, the ears, the nose, the lungs, the flesh, the spine, and the joints, while a similar list of seven fluxes in *On Glands* replaces the flux to the flesh with one to the throat (*Gland.* 11–14, 8.564–570 L.). Other texts describe fluxes that originate in the belly and travel not only to the parts listed above, but also to the liver, the spleen, the kidneys, the bladder, the intestines, the skin, and the teeth. All of these parts, together with the hair and the nails, were commonly inspected for signs of disease. They were the parts in which humors were most likely to become fixed, and hence the most important parts for diagnosis and treatment.

This connection between *On Flesh*'s anthropogony and humoral theory opens up many interesting avenues for our analysis of this text. The author may not simply be accounting for the color, shape, texture, and density of the parts, but also, and more importantly, for their role in pathogenesis. Consider, for example, the author's description of flesh, which is said to have arisen when “the cold stopped, congealed, and produced flesh, while the glutinous became caverns” (τὸ μὲν ψυχρὸν ἔστησε καὶ συνέπηξε καὶ ἐποίησε σάρκα, τὸ δὲ κολλῶδες τρώγλαι ἐγένοντο, 9.2, 8.596 L.). In this passage, the author is not simply describing the physical appearance of flesh, but he is also providing the necessary background for explaining its most common affections. In particular, there are two affections of the flesh that seem to be explained by this passage. The first

is the tendency of flesh to melt and flow away, which flesh was commonly thought to do when exposed to excessive heat.²⁴⁹ The second relates to the author's claim that flesh contains "caverns" (τρῶγλαι). Greek doctors widely believed that if a flux is directed toward the flesh, the foreign moisture will be retained, and that some patients (e.g., women and the elderly) will retain more moisture while others (e.g., men and the young) will retain less moisture, owing to the fact that the flesh of the first group is more porous, while the flesh of the second group is more dense.²⁵⁰

On Flesh's descriptions of other parts of the body may be similarly tied to their role in pathogenesis. Quick heating of the glutinous creates bones that are "spongy" (σπυραγγώδης, 3.7, 8.588 L.), a class of bones that *On Wounds in the Head* singles out for their tendency to suppurate after injury (*VC* 18.1, 3.250 L.). The same combination of the glutinous and extreme heat gives rise to the lungs, which are also described as "spongy" (σπυραγγώδης, 7.1, 8.594 L.), and which were similarly notorious for their ability to attract and retain morbid humors. The spleen and the joints are both said to contain glutinous material in the form of fibers and synovial fluid (9.1, 8.594 L., 10, 8.596–598 L.), which would explain their well known ability to swell and harden to an excessive degree, as any foreign moisture that enters these parts will become stuck and unable

²⁴⁹ On the melting of flesh under the influence of heat, see *Aër.* 7.3, 2.26 L., *Flat.* 12, 6.108–110 L., *Morb. I* 15, 6.168 L., *Aff.* 22, 6.232–234 L., *Loc. Hom.* 7.1, 6.290 L., 9.2, 6.292 L., 24.1, 6.314 L., *Vict.* 54.2, 6.558 L., 60.1, 6.572 L., 65, 6.582 L., 76.1, 6.618 L., *Morb. II* 57.2, 7.88 L., *Int.* 22, 7.220 L., *Morb. IV* 45.2, 7.568 L. I have already discussed this process in reference to dropsy in my analysis of *On Breaths* (above, pp. 90–91). Since the author of *On Flesh* identifies the flesh as a congealed mass of the cold, he would have attributed its melting to a simple overpowering of the cold by the hot (see above, p. 142).

²⁵⁰ On the retention of fluids by the flesh, see *De arte* 10.3, 6.16–18 L., *Morb. I* 20, 6.176–178 L., *Aff.* 19, 6.228 L., *Loc. Hom.* 10.3–6, 6.294–296 L., 21, 6.312–314 L., 27.1, 6.318 L., 29, 6.322 L., *Morb. II* 1.2, 7.8 L., and X. *Eq.* 1.5. On the distinction between women and men, see *Nat. Hom.* 21.2, 6.82 L., *Mul. I* 1, 8.10–14 L., *Gland.* 16, 8.570–572 L. On the old vs. the young, see *Morb. I* 22, 6.184–186 L. These differences could also explain why patients with dense flesh were thought to experience more trouble in getting rid of a disease, since the narrow passages in their flesh would make it harder for stagnant moisture to flow away.

to flow away.²⁵¹ This glutinous material might also explain why the spleen and the joints are especially prone to accumulating phlegm, since this humor would be attracted to the glutinous by the principle of “like to like.” A similar instance of “like to like” attraction may also explain why the author of *On Flesh* makes both the spleen and the liver contain large quantities of the hot, since these two parts were often thought to attract the two “hot” humors, blood and bile.²⁵² Finally, regarding *On Flesh*’s assertion that the heart arose when much of the glutinous and the cold were heated by the hot and became “hard and sticky flesh” (κρέας ... σκληρόν καὶ γλίσχρον, *Carn.* 5.1, 8.590 L.), we may compare a similar passage from *Diseases IV* in which the author states that the heart does not feel pain, “the reason being that the heart is a hard and dense object” (στερεὸν γάρ τι χρῆμα καὶ πυκνὸν ἔστιν ἡ καρδίη, *Morb. IV* 38.1, 7.554 L.).

An interest in pathology may also explain the author’s decision to follow his anthropogony with discussions of hearing, smell, sight, and speech, as the disruption of these functions was commonly associated with fluxes to the ears, the nose, the eyes, and the throat.²⁵³ In the Classical period, medical writers often commented on the normal functioning of these parts when discussing their impairment. The author of *On Places in the Human Being*, for example, opens his general account of human φύσις with discussions of hearing, smell, and sight (*Loc. Hom.* 2, 6.278–

²⁵¹ For a similar explanation of swelling and hardening, see *Gland.* 7.2–3, 8.560–562 L. In this passage, the author claims that an influx of pungent and “glutinous” (κολλώδης) material will make the tonsils fill up with fluid (φλεγμαίνει), swell (συνοιδίσκεται), and become tense (συντείνει).

²⁵² On the innate heat of these humors, cf. Polybus’ description of the humors in *On the Nature of the Human Being*. Diseases in the liver and the spleen were often said to reach a crisis in the form of bloody noses (e.g., *Prog.* 7, 2.124–130 L.), while the author of *Diseases IV* specifically observes that the liver attracts bile to itself by the principle of “like to like” (*Morb. IV* 40.1, 7.560 L.). Note also *Epid. VI* 2.25, 5.290 L., where the right side of the body is said to be “more bilious and more blooded, to the extent that that is the warmer area in animals” (trans. Smith).

²⁵³ Cf. *Acut. App.* 6.1 (= 4 L.), 2.402–404 L. (speech), *Epid. VII* 9, 5.380 L. (speech), *Morb. I* 3, 6.144 L. (sight and hearing), *Loc. Hom.* 10.3, 6.294 L. (sight), *Morb. Sacr.* 14, 6.386–388 L. (sight and hearing), *Int.* 12, 7.194 L. (speech), 18, 7.212 L. (hearing and sight), 40, 7.264 L. (speech), 48, 7.284–286 L. (sight), *Prorrh. II* 27, 9.60 L. (sight and hearing). Wenskus (1995) draws a similar conclusion about the purpose of this section.

280 L.), a passage that anticipates his later description of three fluxes to the nose, the ears, and the eyes (*Loc. Hom.* 11–13, 6.296–302 L.). Similarly, the author of *Diseases II* describes both sight and hearing when discussing diseases of the eyes and the ears (*Morb. II* 1.1, 7.8 L., 4.2, 7.10–12 L.), while the author of *Diseases IV* briefly explains how humans emit and articulate sound before noting that “I have given a better explanation of this matter in my discussion of pneumonia” (*Morb. IV* 56.1, 7.604–604 L.).²⁵⁴ There is even a passage in *On Flesh* in which the author seems to explicitly connect his discussion of hearing, smell, sight, and speech with the pathological conditions that impair these functions. “Whenever the nostrils are made wet,” he writes “they cannot smell, since the brain does not draw the air to itself. Along the same lines, when the brain melts and sends very much fluid from itself to the palate, the windpipe, the lung, and the rest of the cavity, people recognize this and say there is a downward flux from the head” (16.3, 8.604 L.).²⁵⁵

Such, I think, is the spirit of *On Flesh*. The author’s goal is not simply to speculate for the sake of speculation, but to give the doctor insight into the origin and treatment of disease. In his opening remarks, the author claims that his discussion of “the things on high” (τὰ μετέωρα) will only extend to what is relevant for medicine (1.1–2, 8.584 L.):

Regarding the things leading up to this account (τὰ μέχρι τοῦ λόγου τούτου), I make use of common opinions held by others before me as well as myself. For it is necessary to set down a common starting point for my opinions when intending to compile this account on the physician’s art. Concerning the things on high (τῶν μετεώρων) I also need not speak, except insofar as I will make an exposition on humans and the other animals, how they grew and came to be, on what soul is, on what being healthy is, on what being sick is, on what is bad and good for humans, and from what they die; but now I publish opinions that are my own.

²⁵⁴ On the ability of pneumonia to change a patient’s voice, note the reference to a φωνὴ περιπλευμονικὴ at *Epid. VII* 85, 5.444 L.

²⁵⁵ On this author’s selection of hearing, smell, sight, and speech as the four processes impaired by fluxes from the head, cf. *Anon. Lond.* VIII.35–IX.4, where Aias (or Abas?) is said to have claimed that “the brain is purged by way of nostrils, ears, eyes, and mouth.”

In this passage, the author refers to two λόγοι (“discourses” or “accounts”) that lie outside the limits of his own account. The first leads up to his account (τὰ μέχρι τοῦ λόγου τούτου) both chronologically and intellectually, as it consists of the common opinions that the author shares with his predecessors (οἱ ἔμπροσθεν) and which provide the “starting point” (ἀρχή) for his own contribution to the art. The second λόγος lies outside the author’s account inasmuch as it is *irrelevant* to medicine. “Concerning the things on high” he writes, “I also need not speak (οὐδὲ δέομαι λέγειν), except insofar as I will make an exposition on humans and the other animals, how they grew and came to be, on what soul is, on what being healthy is, on what being sick is, on what is bad and good for humans, and from what they die; but now I publish opinions that are my own” (1.2, 8.584 L.).²⁵⁶ Interestingly, the author only fulfills the first of his announced topics (“humans and the other animals, how they grew and came to be”). The soul is never mentioned, nor do we get explicit definitions of health and sickness, of what is “bad” and “good” for human beings, or an explanation of how our bodies transition from life to death. Together with the author’s claim in chapter 19 that he will discuss some matters on another occasion (ἐγὼ φράσω ἐν ἄλλοισιν, 19.7, 8.610 L.), these omissions suggest that *On Flesh* originally formed part of a cycle of texts, not unlike the works of Aristotle or the medical treatises *Diseases IV*, *On the Seed-Nature of the Child*, and *Diseases of Women I*, all of which contain multiple cross-references to the other works within their cycle.²⁵⁷

²⁵⁶ Incidentally, this reading of the author’s proem as the identification of two λόγοι that lie outside his own λόγος—one because it is *implicit* and the other because it is *irrelevant*—speaks in favor of the manuscripts’ οὐδὲ δέομαι λέγειν, which many scholars have attempted to emend, changing the adverbial οὐδέ either to οὐδέν or to οὐ. In chapter 19, the author repeatedly follows δέ with an adverbial καί (“and ... also”), while δέ ... οὐδέ (“and ... also not”) is simply a negation of this phrase.

²⁵⁷ On this latter cycle of texts, see Lonie (1981) and Craik (2009b). Other texts that have sometimes been attached to this cycle include *Diseases of Unwed Girls* and *On Glands*. *On Flesh* contains numerous affinities with this cycle, including a passage in *On Flesh* (*Carn.* 19.1, 8.610 L.) that repeats the same claim to have seen an aborted fetus that appears in *On the Seed-Nature of the Child* (*Genit.-Nat. Puer.* 13, 7.488–492 L.).

Although the author of *On Flesh* claims to omit irrelevant speculations about “the things on high,” what he defines as medically relevant goes well beyond what a modern reader might expect. For example, there does not appear to have been any practical need for the author to claim that the hot, the cold, and the wet are the first principles of everything in the universe, let alone for him to postulate the existence of three cosmic strata that divide the universe into αἶθήρ, earth, and ἄήρ. There is also no clear therapeutic reason for the author to have claimed that the fatty and the glutinous arose from the putrefaction of the earth, nor for him to have argued at length that the number seven plays a universal role in regulating the lives of human beings. Such details suggest that the author of *On Flesh*, like the author of *On Breaths*, is at least partly driven by a separate “cosmological impulse,” a belief that high-level generalizations—the absolute highest one can find—are inherently desirable and directly relevant to the medical art.

As we turn to our final work by a doctor-cosmologist, we will see this cosmological impulse taken to its extreme. *On the Nature of the Human Being*, *On Breaths*, and *On Flesh* all equate the first principles of medicine with the first principles of the cosmos, but none of these authors attempts to create a truly comprehensive account of the sort that we traditionally associate with the inquiry into nature. This is not the case with *On Regimen*, whose author constructs the most detailed, non-fragmentary description of the cosmos that survives from the pre-Platonic period. My analysis of this treatise will by necessity be much longer than the analyses I have offered for the other texts by doctor-cosmologists, but as we will see, such length is required just to skim the surface of this complex and extremely important work.

Chapter 5: *On Regimen*

On Regimen is the longest and by far the most complicated text by a doctor-cosmologist to have survived from the Classical period.²⁵⁸ It originally circulated in three “books,” i.e., three papyrus scrolls, although there is a modern tendency—here discarded—to divide the third book into two, thereby bringing the total to four.²⁵⁹ Already in antiquity, some readers of *On Regimen* were attempting to identify its author.²⁶⁰ Other than Hippocrates, the most commonly cited candidates were Ariston (the “student” of Petron) and Philistion of Locri,²⁶¹ although Galen says that others attributed it to Euryphon, Phaon, Philetas, or Pherecydes, the last of whom may be identical with the sixth-century BCE cosmologist from Syros.²⁶² Modern attempts to attribute *On Regimen* to Herodicus of Selymbria, the supposed “inventor” of regimen, have found few endorsements,²⁶³ nor has much been made of Jones’ unpersuasive suggestion that the author is not a practicing doctor but rather a “health expert.”²⁶⁴ More recently, Smith has argued that the

²⁵⁸ For good overviews of previous scholarship on this text, see van der Eijk (2004) and Bartoš (2009). The best edition is that of Joly (1984), while the only complete English translation is by Jones (1931). I completed this chapter before the appearance of Bartoš (2015), the first comprehensive study of *On Regimen* since Joly (1967). After some consideration, I have decided to leave the chapter as is, saving my thoughts on this book for a later revision.

²⁵⁹ On the inappropriateness of this division, see Jouanna (1989), who concludes that “on ne devrait plus parler du livre IV du *Régime*, qui est une invention des éditeurs modernes depuis Littré.”

²⁶⁰ For possible evidence of an ancient commentary on this text, see Marganne (2000).

²⁶¹ Ariston and Philistion are included in all of Galen’s lists of potential authors of *On Regimen* (*De ind.* 26, *De alim. fac.* 6.473 K., *In Hp. Acut. comm.* 15.455–456 K., *In Hp. Aph. comm.* 18a.8–9 K.). As I noted in Chapter 1, Philistion was widely recognized as an authority on dietetics, and he may have also emphasized the same two principles of fire and water as the author of *On Regimen* (see above, n. 32). As for Ariston, his identification as the “student” of Petron suggests at least a tangential connection with cosmological medicine. At Anon. Paris. *De morbis acutis et chroniis* 10 (p. 72,3–12 Garofalo), Ariston is said to have claimed that the esophagus performs the same function in the body as the brace does in a ship, recalling the sort of analogies that *On Regimen* presents as key to all medical inquiry.

²⁶² On Pherecydes of Syros, see Schibli (1990). On Euryphon, see Manetti (2008a). Phaon and Philetas are otherwise unknown and could well be ancient corruptions of “Philistion.”

²⁶³ For the attribution of *On Regimen* to Herodicus or to one of his “students,” see Jones (1947, 49), Bourgey (1953, 129, n. 2), Kahn (1960, 189, n. 2), Ducatillon (1977, 118). Manetti (2005) discusses the various testimonies about doctors named Herodicus, who are in fact very difficult to tease apart.

²⁶⁴ Jones (1931, xlv, n. 5).

author was none other than Hippocrates.²⁶⁵ However, this attribution suffers from all the same problems that have undermined every modern attempt to answer the “Hippocratic Question,”²⁶⁶ inasmuch as our two best sources for the views of Hippocrates are the *Anonymus Londiniensis* and Plato’s *Phaedrus*, both of which refer to ideas that were shared by numerous doctors of the Classical period, too many to define them as exclusively “Hippocratic.”²⁶⁷ We are therefore left in a position where, on the basis of this testimony, virtually *every* work in the Hippocratic Corpus could potentially be identified as genuine. Most scholars have accordingly abandoned the Hippocratic Question as unanswerable and ultimately unimportant, a concession that will make way for more fruitful investigations into what early Greek medicine is all about.²⁶⁸ As for the date of *On Regimen*, a potential *terminus ante quem* is provided by Aristotle. In *Divination in Sleep*, Aristotle describes an approach to dream interpretation that is remarkably similar to what we find in *On Regimen*, down to what appears to be a reference to prodiagnosis, i.e., the method of identifying “the diseases and other affections about to occur in our bodies” (τῶν νόσων καὶ τῶν ἄλλων παθημάτων τῶν ἐν τοῖς σώμασι μελλόντων γίνεσθαι, Arist. *Div. somn.* 1, 463a), that the author of *On Regimen* proudly claims to have invented.²⁶⁹ A more precise dating of *On Regimen* to this or that decade of the fifth or fourth century BCE is more difficult to obtain and, frankly, unnecessary for our purposes. So long as this work can be placed in the Classical period, what really matters is

²⁶⁵ Smith (1979, 44–60), reiterated in Smith (1999).

²⁶⁶ For explicit rejections of Smith’s thesis, see Mansfeld (1980) and Lloyd (1991, 195–196).

²⁶⁷ On the testimony of the *Anonymus Londiniensis*, see above, pp. 74–77. On Plato’s *Phaedrus*, see above, p. 129.

²⁶⁸ There is a longstanding myth, one that originated in antiquity, that Hippocrates made some great contribution to medicine, and that all other doctors owe to him a certain debt. In reality, we have no indication that Hippocrates was significantly different from any other writer on medicine, while his fame in his lifetime was probably due more to his *practical* activities as a teacher and a healer rather than to anything *theoretical* that he may have proposed.

²⁶⁹ For a more detailed discussion of Aristotle’s potential knowledge of *On Regimen*, see van der Eijk (1995, 454–455), with bibliography. Kirk’s (1954, 26–28) detection of Peripatetic influence in *On Regimen* betrays a profound misunderstanding of this text.

not when it was written, but rather what it presupposes.²⁷⁰

The author of *On Regimen* claims that all animals, including humans, are composed of fire and water. Fire contains the hot and the dry, water the cold and the wet, but they also share certain properties with each other, as “fire has the wet from water, for there is moisture in fire, and water has the dry from fire, for there is dryness in water, too” (4.1, 6.474 L.). The author also notes that “fire has the power to move everything in every circumstance (πάντα διὰ παντὸς κινῆσαι), while water has the power to nourish everything in every circumstance (πάντα διὰ παντὸς θρέφαι)” (3.1, 6.472 L.), drawing on traditional associations between heat and movement and between moisture and nourishment that were frequently invoked in early Greek science.²⁷¹ In Book 1, the author uses these two principles to describe both the shared nature of all human beings (ch. 3–24) and the particular constitutions of different classes of human beings (ch. 25–36). In Book 2, he then applies these same principles to the “powers” (δυνάμεις) of the external factors that can influence a patient’s health, including geographical locations (ch. 37), winds (ch. 38), food and drink (ch. 39–56), and different forms of physical activity (ch. 57–66). In Book 3, the author presents his great discovery of “prodiagnosis,” a combination of prognosis and diagnosis that identifies an ailment before the patient feels its effects (ch. 67). After describing the adjustments that every person must make as one season gives way to the next (ch. 68), the author records the signs, both on the body and in dreams, that will identify an imbalance in either eating or exercise before it gives rise to a full-blown disease (ch. 69–93).

²⁷⁰ Peck (1928), Jouanna (1966), and Sisko (2006) have all claimed that Plato makes use of *On Regimen* in the *Timaeus*. If this is correct, then the *terminus ante quem* would be pushed back to around 360 BCE, the conventional date for Plato’s dialogue. Joly (1984, 44–49) suggests a date of around 400 BCE, while Jaeger (1944, 33–40) argues that the work was written by a contemporary of Plato, well into the fourth century. In the end, such quibbles are of little importance. At the very least, they should not distract us from the more serious project of understanding the contents of this work.

²⁷¹ On the wide acceptance of these associations, see Kahn (1960, 109, n. 2).

The author *On Regimen* presents his ideas in an impressively systematic manner. He also makes use of implicit analogies, refers only indirectly to the structure of the universe, and shows an unusual predilection for concise, telegraphic phrases, all of which requires a great deal of unpacking on the part of the interpreter. For a good introduction to the complexity of this work, we may turn to chapter 3, where the author introduces his two main principles of fire and water (3.1, 6.472 L.):

Both the human being and all other animals are composed of two things, different in their power (δύναμις) but complementary in their application (χρήσις), fire and water. Together, these things are sufficient in themselves (αὐτάρκεια) both for each other and for all other things; when separated, however, they are not sufficient either for themselves or for anything else.

What is most notable about this passage is the author's reference to "self-sufficiency" (αὐτάρκεια). When taken as a pair, fire and water are "sufficient in themselves (αὐτάρκεια), both for each other and for all other things," but when these elements are separated, they are no longer sufficient "either for themselves or for anything else." By calling this combination of elements "self-sufficient," the author implies that they are self-supporting, independent, and not in need of anything else. In chapter 35, he observes that the blend of fire and water that is "most sufficient in itself" (αὐταρκέστατον) is the one in which the wettest fire and the driest water are mixed with one another, since the fire in this circumstance is not "in need of nourishment" (τῆς τροφῆς ἐνδεέστερον) from any other source than the moisture with which it is mixed, while the water is not "in need of movement" (κινήσιος ... δεόμενον) from any other source than the fire that is its neighbor (35.1, 6.512–514 L.). A similar opposition between self-sufficiency and "being in need" can be found in *On Regimen in Acute Diseases*. In this text, the author complains about doctors who indiscriminately apply the same treatment in every case, chiding them for not applying supplementary treatments to fit the needs of the particular situation: "If one does not provide the additional treatments that this mode of treatment ... needs (δέεται) to be sufficient in itself

(αὐτάρκης), manifold harm will result” (*Acut.* 16.1 (= 5 L.), 2.256 L.). The additional treatments that this author has in mind are the emptying of the bowels for those in whom they are obstructed, and the relieving of pains in the side for those afflicted with this condition. If these additional treatments are not applied, the administration of barley gruel will only exacerbate the disease. In another passage, the same author attacks *Cnidian Signs* for allegedly prescribing the same treatment in every case. In response, the author remarks that “if these remedies were good and suited (ἁρμόζοντα) to the diseases for which they are recommend, they would be much more worthy of praise because, while few, they would be sufficient in themselves (αὐτάρκεια). But as it is, this is not the case” (*Acut.* 3.1 (= 1 L.), 2.226 L.). Again, the author asserts that treatments must be adapted to the individual situation. It is only when they fulfill this requirement of “fitness to the situation” (ἁρμογία) that they can rightly be called “self-sufficient.” In other texts, treatments are freely described as “sufficient in themselves.” In these cases, the treatments enjoy αὐτάρκεια because they are simple and yet retain their effectiveness even when all other variables change. In *On Joints*, the author writes that “perforating cautery is exceedingly sufficient in itself (αὐταρκέστατον) for all cases of aggravated wounds” (*Art.* 40, 4.176 L.), while *On the Application of Liquids* claims that “sweet wine, applied continuously, is sufficient in itself (αὐταρκες) for all cases of chronic wounds” (*Liqu.* 5.1, 6.128 L.). In both passages, the authors claim that doctors do not need to apply other treatments when making these prescriptions. These treatments are “sufficient in themselves” inasmuch as they are simple and yet apply *universally* to all members of the specified class.

In the light of these parallels, it is worth considering whether the author of *On Regimen* is drawing an implicit analogy between the elements and medical treatments. We might observe that when the author refers to fire and water as different in their “power” (δύναμις) but complementary in their “application” (χρήσις), he employs two terms that could just as easily be

applied to “powers” and “applications” of treatments. The term “power” (δύναμις) is frequently associated with treatments in *On Regimen*, as the author observes that different foods, drinks, and exercises all have a different “power” to change what is happening in the body.²⁷² The word χρήσις is even more interesting, as both the noun χρήσις and the verb χρῆσθαι are the standard terms in Greek medicine for the “use” or “application” of treatments,²⁷³ while the association of this term with *elements* is unusual to say the least. What really confirms the analogy between the elements and treatments, however, is the second chapter of *On Regimen*, in which the author defines what “anyone who intends to write correctly about human regimen” (2.1, 6.468 L.) must consider before treating a patient. First, the doctor should “know and discern” (γινῶναι καὶ διαγινῶναι) the nature of the patient as a whole: he must know the patient’s “original constitution” (ἡ ἐξ ἀρχῆς σύστασις) and discern the component that has “gained the upper hand” (τὸ ἐπικρατέον ἐν τῷ ἀνθρώπῳ, 2.1, 6.468 L.). What the author means in this sentence has been the source of some confusion, but it can be clarified by looking through the rest of Book 1. The “original constitution” denotes the aspects of one’s φύσις that remain the same from birth to death, namely one’s gender and innate disposition toward a certain blend of fire and water (= ch. 32, 34–36), while “what has gained the upper hand” denotes the aspects of one’s φύσις that change over the course of a person’s life, i.e., the differences between children, youths, adults, and the elderly, which the author attributes to a cyclical “gaining the upper hand” of fire and

²⁷² *Vict.* 2.1–2, 6.468–470 L., 39.1, 6.534 L., 61.1, 6.574 L. On the medical use of the term δύναμις, which literally denotes a “capacity” (< δύνασθαι) to act or be acted upon, see Plamböck (1964) and von Staden (1998).

²⁷³ On the verb χρῆσθαι, we may simply note the passage from *On the Application of Liquids* quoted above (οἶνος δὲ γλυκὺς, ὅσα χρόνια τρώματα, συνεχέως χρωμένῳ αὐτάρκες, *Liqu.* 5.1, 6.128 L.). The noun χρήσις is applied to treatment at *VM* 4.1, 1.578 L., *Off.* 4, 3.286 L., *Ulc.* 2.3, 6.404 L., *Mul. II* 113, 8.244 L., *Medic.* 3, 9.208 L., 12, 9.218 L., *Praec.* 7, 9.260 L., and in the title of *On the Application of Liquids* (Περὶ ὑγρῶν χρήσιος).

water within the body (ch. 33).²⁷⁴ After determining the patient's φύσις, both what is innate from birth and what is due to the person's age, the doctor must further learn the "powers" (δυνάμεις) of the various foods and drinks that a patient might consume, both the powers that these substances have "by nature" (κατὰ φύσιν) and those which they acquire "through necessity and human art" (δι' ἀνάγκην καὶ τέχνην ἀνθρωπίνην, 2.1, 6.468 L.). "But even when all this is known," the author writes, "the patient's treatment is not yet sufficient in itself (οὐπω αὐτάρκης ἡ θεραπεία τοῦ ἀνθρώπου), since the patient cannot maintain health through eating without also taking exercise" (2.2, 6.468 L.). This claim that neither eating nor exercise is "sufficient in itself" (αὐτάρκης) recalls the author's assertion that when fire and water are taken separately, they are not "sufficient in themselves," either in relation to each other or to anything else (3.1, 6.472 L.), and the parallel grows even stronger when the author notes that "foods and exercises have opposite powers (δυνάμιας), but they are complementary (συμφέρονται) in their contribution to health" (2.2, 6.468–470 L.), mirroring his assertion that fire and water are "different in their power (δύναμις) but complementary (συμφόρον) in their application" (3.1, 6.472 L.). The author continues his account of "what the doctor should know" by claiming that physicians should adjust their prescriptions to fit the needs of individual situations (2.2, 6.470 L.):

One should discern ... the due proportions (συμμετρίας) of exercises to the amount of foods, to the nature of the patient, to the ages of individuals, to the seasons of the year, to the changes of the winds, to the situations of the regions where people live, and to the constitution of the year. It is also necessary to recognize the risings and settings of the stars in order to know how to guard against changes and excesses in foods, drinks, winds, and the whole cosmos—the very things from which diseases arise in human beings.

Like other doctors from the Classical period, the author of *On Regimen* asserts that treatments

²⁷⁴ Note the appearance of the phrase ἡ ἐξ ἀρχῆς σύστασις at *Vict.* 32.6, 6.510 L., and the frequent use of the verb ἐπικρατεῖν in chapter 33. In chapter 2, the reference to the component that has "gained the upper hand" cannot refer to a concentrated humor or an otherwise noxious imbalance, as this would be a part of the patient's διάθεσις rather than his φύσις (see above, n. 70).

must be adapted to fit the needs of particular situations. The doctor must carefully consider all the factors that can influence human health, and then aim for the “due proportion” (συμμετρία) like an archer trying to hit a moving target.²⁷⁵ Whereas other Greek doctors might have stopped at this point, the author of *On Regimen* pushes the matter even further, claiming that “even when all these things are discerned, the discovery is not yet sufficient in itself” (οὐπω αὐτάρκες τὸ εὑρημα, 2.3, 6.470 L.). This repetition of the adjective αὐτάρκης clearly shows that the author is deeply concerned with the concept of self-sufficiency. Medicine is not yet sufficient in itself, he claims, because it is impossible to discover “a measure and proportionate number (μέτρον καὶ ... ἀριθμὸς σύμμετρος) of foods and exercises in accordance with the nature of each patient, without any imbalance toward either excess or deficiency” (2.3, 6.470 L.). Because the doctor cannot accompany a patient at all times, “it is impossible to set down (ὑποθέσθαι) foods and exercises with precision (ἐς ἀκρίβειαν),” since “if there arises even a slight deficiency of one thing or another, it is inevitable that, over time, the body will be overcome (κρατηθῆναι) by the excess and fall sick” (2.3, 6.470–472 L.).²⁷⁶ The author uses these observations about the impossibility of precision (ἀκρίβεια) and about the inevitability of disease to justify his great discovery of prodiagnosis. We will discuss this system in more detail below, but for the time being, suffice it to say that both the system of prodiagnosis and the author’s cosmology of fire and water appear to have been motivated by a similar set of concerns. On both fronts, the author seeks to overcome the many differences that exist between individual cases, uncovering a limited number of

²⁷⁵ The specific term for this target is the καιρός, a word that the author of *On Regimen* employs at 2.1, 6.468 L., and 7.2, 6.480 L. For a general discussion of the καιρός in Greek medicine, see Trédé (1992) and cf. above, p. 101.

²⁷⁶ Note the parallel with *On Ancient Medicine*. In both texts, the authors claim that it is impossible to “set down” (ὑποθέσθαι) treatments without adapting them to fit the needs of particular situations. As we will see below, the author of *On Regimen* expresses many of the same concerns about oversimplification and about individual variation that we see in *On Ancient Medicine*. Where these authors differ is that the author of *On Ancient Medicine* rejects *all* ὑποθέσεις, equating causal reductionism with therapeutic reductionism, while the author of *On Regimen* “sets down” his first principles as a means of overcoming the doctor’s inability to “set down” treatments.

principles that are “sufficient in themselves” and not in need of anything else. The cosmology of fire and water is “sufficient in itself” insofar as everything in the universe can be reduced to these two principles, while prodiagnosis is “sufficient in itself” insofar as it provides a reliable guide for preventing all forms of disease.

The author continues on this theme of “self-sufficiency” when he describes powers of fire and water to move and to nourish, respectively (3.1–3, 6.472–474 L.):

Now each of them has the following power (δύναμις): fire has the power to move everything in every circumstance (πάντα διὰ παντός κινήσαι), and water has the power to nourish everything in every circumstance (πάντα διὰ παντός θρέφαι). Each one dominates and is dominated in turn (κρατεῖ καὶ κρατεῖται), to the maximum and minimum of what is possible. For neither is able to dominate completely for the following reason. The fire, as it advances to the limit of water, lacks nourishment, while the water, as it advances to the limit of fire, lacks motion. The water therefore stops at that point, and when it stops, it no longer maintains the upper hand (οὐκέτι ἐγκρατές ἐστίν), but it is at once consumed as nourishment for the assailing fire. And it is for these reasons that neither is able to dominate completely. If either of them had been vanquished (κρατηθεῖν) in the past, none of the things that now exist would be as they are now; but since they *are* as they are now, fire and water will always be the same (αἰεὶ ἔσται τὰ αὐτά), and neither of them will fail, either separately or together. So fire and water, as I said, are sufficient in themselves (αὐτάρκεια) for everything in every circumstance (πᾶσι διὰ παντός), to the maximum and minimum alike.

In this passage, the author stresses not only that fire and water can sustain “all things in all circumstances” (πάντα διὰ παντός), but also that they are locked in a continuous cycle of advancement and retreat, a cycle that governs *other* cycles which occur in every corner of the universe. The author describes this cycle as one of “dominating” (κρατεῖν) and “being dominated” (κρατεῖσθαι), of one power advancing to its limit before turning around and allowing the other power to dominate in its turn. In the above-quoted passage, the author writes that fire first dominates water, “attacks” it, and grows in strength until it reaches a point where it no longer has sufficient nourishment, at which point the fire loses its dominance and starts to retreat, while the newly dominant water advances to the point where it, too, needs the assistance of its adversary. As we noted above, a similar principle of opposite interdependence can also be found

in *On the Nature of the Human Being* (above, pp. 58–59). Both authors support the principle by pointing to the continuing existence of everything in the universe, and they both seem to have applied it, first and foremost, to the regular cycles that exist within the cosmos.²⁷⁷ In chapter 68, the author notes that the solstices, which the Greeks called “turning points” (τροπαί, the same term for the “routing” of an enemy), are the points in the year when winter and summer have reached their extremes, after which they become “more gentle” (μαλακωτέρη, 68.8, 6.598 L.) and start to give way, reaching a perfect balance at the spring and fall equinoxes (ἰσημερίαι, literally “equality of the parts”) before advancing to the opposite extreme.²⁷⁸ As we see in this example, the pendular cycle between fire and water “dominating” and “being dominated” is governed by two laws that are by no means intuitive, but are nevertheless central to the author’s system. The first requires that the element which has “gained the upper hand” must retain its dominance until it has reached its extreme, with no switching of directions mid-course. The second requires that, after this extreme has been reached, the prevailing element must give way to its opposite, even if it still appears to be stronger than its adversary (as would be the case on the first day after a solstice). The author sees this cycle of “dominating” and “being dominated” repeated throughout the cosmos. It governs the alternation of day and night, the lengthening and shortening of the days, the waxing and waning of the moon, and what is conventionally known as “life” and “death.”

The cycle and life and death is especially interesting, as it forms part of a more general cycle

²⁷⁷ Note especially Polybus’ assertion that “none in fact of these (i.e., the hot, the cold, the dry, and the wet) would last for a moment without all the things that are present in this cosmos, but if one were to fail all would disappear, for by the same necessity all things are constructed and nourished by one another” (ἀπὸ γὰρ τῆς αὐτῆς ἀνάγκης πάντα συνέστηκε τε καὶ τρέφεται ὑπ’ ἀλλήλων, *Nat. Hom.* 7.8, 6.48–50 L.).

²⁷⁸ On the solstices (τροπαί), see *Vict.* 68.7, 6.598 L., 68.13, 6.604 L. On the equinoxes (ἰσημερίαι), see *Vict.* 68.9, 6.000 L., 68.13, 6.604 L. At 68.9, 6.600 L., the author refers to spring as “well mixed” (εὐκρητος), recalling Eryximachus’ implicit analogy between the seasons and the humors in Plato’s *Symposium* (above, p. 29).

of creation and destruction. Fire and water are in constant motion. They move to this or that extreme as each element dominates and is dominated in turn, and at any given moment, this ever-changing mixture can experience an ἀπόκρισις, separating off invisible “seeds” (σπέρματα) and “animals” (ζῷα) that will eventually give rise to visible objects (4.1, 6.6.474 L.). The constant change in the mixture of fire and water guarantees that the various secretions that separate off from this mixture will have “many different forms” (πολλὰς καὶ παντοδαπὰς ἰδέας) and that the resulting objects will be “by necessity dissimilar” (ἀνόμοια ἐξ ἀνάγκης, 4.1, 6.474 L.). The author also stresses that these secretions are “in no way like one another either in appearance or in power” (οὐδὲν ὁμοίων ἀλλήλοισιν οὔτε τὴν ὄψιν οὔτε τὴν δύναμιν, 4.1, 6.474 L.; cf. *Vict.* 22.1–2, 6.494 L.), since different mixtures of fire and water will by necessity give rise to different properties. Just after this statement, the author observes that when human beings talk about “life” and “death,” we are not really using the proper terms (4.2, 6.474–476 L.):

Of all things, nothing perishes, nor does anything come to be that did not exist before, but things change by mixing and separating. Humans, however, hold the belief that what increases by moving from Hades to the light, comes to be, and what decreases, by departing from the light to Hades, perishes. For they put more faith in the eyes than in reason (γνώμη), though the eyes are incapable of judging even the things that they see. For my part, I will use reason (γνώμη) for the following exposition. For there are living things both there (in the realm of invisible) and here (in the realm of the visible). And if there is a living thing, death is impossible, unless everything dies along with it. For whither would they go to die? Nor is it possible for what is not (τὸ μὴ εἶν) to come to be. For whence will it have existence? But all things increase and decrease to the maximum and minimum of what is possible.

As the author stresses in this passage, the process of “coming to be” is simply an increasing in the size of some pre-existing seed. The seed grows by adding material to its frame, eventually acquiring a size that can be seen with the human eye. “Perishing,” meanwhile, is simply a decreasing in size, a passing from the realm of the visible to that of the invisible. “If there is a living thing, death is impossible, unless everything dies along with it.” This statement recalls the author’s assertion that “if either of them (i.e., fire or water) had been vanquished in the past,

none of the things that now exist would be as they are now; but since they *are* as they are now, fire and water will always be the same, and neither of them will fail, either separately or together” (3.3, 6.474 L.). The real movement “from the light to Hades” is not a passing from life to death, but rather a passing from the visible to the invisible. Hades, in this instance, is not the irredeemable destruction that we normally call “death,” but simply a shrinking in size, a movement from what can be seen by the eyes to what can only be seen by the mind. Behind this statement, there is an obvious play on the name “Hades” (Ἅιδης), which in Greek recalls the adjective αἰδής, “invisible.” Death is not really “death” but rather one of two extremes in an ever-repeating cycle of growth and diminution, a “separating off” that will later be counterbalanced by a subsequent act of mixture.

This author’s emphasis on the cycle of life and death, wherein “death” never really exists, has traditionally been read as an unimportant feature of *On Regimen*. The author, it is said, is simply stressing the bromide that “nothing comes from nothing,” while any reference to “life” and “death” can simply be attributed to his unusual decision to mimic the stylings of Heraclitus. Kirk (1954, 21) is especially cold in his assessment, noting that “there are places in these chapters where I would say that the author (unlike Heraclitus) simply did not know what he meant.”²⁷⁹ Joly (1984, 26) usually rushes to this author’s defense, but even he thinks the passage is insignificant, writing that “ces passages ne jouent pas un rôle fondamental dans la pensée d’ensemble du livre I: c’est plutôt une sorte de parenthèse généralisante qui s’écarte très provisoirement du propos spécifique de l’auteur, qui est l’homme, la nature de l’homme.” As we will soon see, however, this passage is in fact extremely significant and indeed *fundamental* to our understanding of this text. It points to an entire eschatological system that lies at the heart of *On*

²⁷⁹ A similar stance is taken by Barnes (1983, 100), who calls these chapters a “breathless and muddled farrago.” See also the withering criticism of Freeman (1946, 130–131).

Regimen, a system that must be understood before we can appreciate the full significance of this work.

These references to the permanence of “life” and to the non-existence of “death” are central to the author’s thinking. They are not a stylistic ploy to give the text “philosophical” authority, but rather a reflection of the author’s deeply held beliefs about the soul, the gods, and the overlapping “geographies” of the body and the cosmos. For the rest of this chapter, I would like to reconstruct what the author has to say about each of these topics. I will start with the geography of the cosmos and the general characteristics of animals and plants, after which I will then move to the “geography” of the human body, a structure that the author explicitly calls an “imitation of the whole” (ἀπομίμησιν τοῦ ὅλου, 10.1, 6.484 L.). While describing the structure of the body and the nature of health and disease, I will have a good deal to say about the role of the doctor in restoring and maintaining a person’s health. I will also, inevitably, focus on the soul, a fiery entity that dominates every aspect of this author’s thinking. This discussion of the soul will eventually lead us to consider what this author has to say about the nature of “intelligence” (γνώμη) and about the proper method for both discovering and communicating insights about the “whole” (τὸ ὅλον). It will also bring us to one of the most important aspects of this text: the relationship between humans and the gods and what it means to be “divine” in a world of constant change. So far as I am aware, this system has never been outlined in all its complexity. Some important studies have focused on what the author has to say about the soul,²⁸⁰ but no one has yet drawn the text’s many threads together into a truly comprehensive account. The production of such an account has been discouraged, in part, by the sheer length and complexity of *On Regimen*. It has also been hampered by a long tradition of viewing the text as the work of an

²⁸⁰ E.g., Hüffmeier (1961), Jouanna (1966), (1998), Hankinson (1991), Gundert (2000), van der Eijk (2004), Bartoš (2009).

“eclectic,” who cannot be held responsible for the details within his own system. For some scholars (e.g., Fredrich 1899), *On Regimen* was simply a cut-and-paste job by a mindless compiler. Others have resisted such an extreme characterization,²⁸¹ but it is still generally supposed that the best way to understand *On Regimen* is to catalogue its various “debts.” With one passage supposedly attributable to Heraclitus, another to Empedocles, another to Anaxagoras, there has been little incentive to consider the work as an interconnected whole. In what follows, I will treat *On Regimen* as the work of an author in full control of his text. By adopting this perspective, we will see that *On Regimen* is a highly regular, unified, and richly detailed text. It is built around the assumption that the immortality of the soul cannot be separated from the discussion of health and disease, and that everything in the universe is guided by a cosmic intelligence that is centered in the sun, is comprised of the strongest fire, and is the ultimate source from which all other divinities branch off.

The author of *On Regimen* divides the cosmos into two parts. At the center of the cosmos lies the earth, which is primarily composed of water, while at the periphery there are the heavens, which are primarily composed of fire. The author believes that the earth is either a sphere or a flat disk with two frozen poles and a hot and dry band across its diameter.²⁸² This central band is hot and dry because it is closest to the sun (i.e., because the sun moves along this line),²⁸³ while the two poles are frozen because they lie farthest from the sun and therefore manifest the extreme ascendancy of water.²⁸⁴ Between the north pole and the central band, there is an inhabited zone,

²⁸¹ E.g., Heidel (1914, 152–154), Diller (1959), Joly (1960), (1967), (1984).

²⁸² *Vict.* 37.1, 6.528 L., 38.2–3, 6.530–532 L.

²⁸³ *Vict.* 37.1, 6.528 L.

²⁸⁴ I.e., they are cold and wet and *frozen* because the water is at its most dominant, not moving because it contains the least fire. For the definition of ice as the strongest form of water, cf. *Vict.* 3.2, 6.474–474 L., 65.2, 6.582 L., 89.2, 6.644 L.

the οἰκουμένη, which includes the Mediterranean and its encircling lands.²⁸⁵ There is another inhabited zone in the south, although its geography and the nature of its inhabitants are left unspecified.²⁸⁶ All winds (πνεύματα) originate from the frozen poles.²⁸⁷ They start out cold and wet, and then become hotter, colder, drier, wetter, more sickly, or healthier depending on the regions through which they blow.²⁸⁸ The winds that originate from the south have the effect of cooling and moistening the southern οἰκουμένη, while they become hot and dry as they pass the central desert and then change again when they cross the Mediterranean, thereby explaining why south winds are hot and dry in Libya but hot and wet in Greece.²⁸⁹ The winds that originate from the north pole cool and moisten the northern οἰκουμένη. While passing the equator, they lose much of their water to the thirsty desert, and thus arrive in the south with the powers of heating and drying.²⁹⁰

The surface of the earth is divided into two components, land and sea. The land is covered with vegetation,²⁹¹ while the sea provides nourishment for some animals and destruction for others.²⁹² Between the frozen poles and the parched central band, each οἰκουμένη experiences a cycle of evaporation and precipitation. As the sun sends its rays down to earth, it draws up

²⁸⁵ *Vict.* 38.2, 6.530–532 L.

²⁸⁶ *Vict.* 38.3, 6.532 L.

²⁸⁷ *Vict.* 38.2–3, 6.530–532 L.

²⁸⁸ *Vict.* 38, 6.530–534 L., 68.12, 6.604 L.

²⁸⁹ *Vict.* 38.3–4, 6.532 L.

²⁹⁰ The author also makes a passing reference to the west wind, which blows during the spring (*Vict.* 68.8, 6.598 L.). He does not explain how this wind comes to be, although it seems to be connected to the changes in the seasons; cf. *Vict.* 2.2, 6.470 L.

²⁹¹ *Vict.* 37.1, 6.528 L., 38.4–6, 6.532–534 L.

²⁹² *Vict.* 10.1, 6.484 L.

moisture from anything that is wet—not only the sea, but also animals and plants.²⁹³ Some of this moisture gathers into clouds before falling back to earth.²⁹⁴ The rest is presumably swept into the αἰθήρ, where it provides nourishment for the heavenly bodies. Much of the precipitation that falls upon the earth is assimilated into plants.²⁹⁵ Plants resemble animals inasmuch as they contain both humors and flesh,²⁹⁶ but they do not have intelligence (γνώμη), which for the author of *On Regimen* implies that they do not have a soul.²⁹⁷ The humors that are contained within plants are the same humors that can nourish the bodies of animals. Just as animals “cook” humors in their bellies, so plants “cook” their humors by the heat of the sun. This cooking ripens the juices in fruits, transforming them from acid to sweet, while further coction transforms the sweet juice of grapes into wine, and it ultimately completes the cycle back to acid (ὀξύς) by transforming wine into vinegar (ὄξος).²⁹⁸ As these juices ripen, the fire within them steadily increases to the point where they no longer contain any nutriment. Acidic fruits cool and moisten, sweet fruits warm

²⁹³ For the evaporation of moisture from winds and the sea, see *Vict.* 38.2–3, 6.530–532 L., 38.6, 6.534 L. For the sun’s drawing of moisture from animals and plants, see *Vict.* 37.1, 6.6.528 L., and compare 38.4–5, 6.532–534 L., 68.4, 6.596 L., 68.10, 6.600 L., 68.12, 6.602 L., 68.14, 6.604 L., 70.3, 6.608 L., 72.2, 6.612 L., 90.7, 6.656 L., 93.1, 6.660 L., 93.5, 6.662 L.

²⁹⁴ *Vict.* 37.2, 6.528 L., 89.2, 6.644–646 L., 89.13, 6.652 L.

²⁹⁵ *Vict.* 10.1, 6.484 L., 90.1, 6.652–654 L., 90.3, 6.654 L.

²⁹⁶ Humors (χυλοί, χυμοί): *Vict.* 40.1, 6.536 L., 42.1, 6.538 L., 43.2, 6.540 L., 45.4, 6.544 L., 54.5, 6.560 L., 54.8, 6.560 L., 55.2, 6.562 L., 55.3, 6.562 L., 55.4, 6.564 L., 68.3, 6.594 L. Flesh (σάρξ, σάρκες): *Vict.* 45.1, 6.542 L., 45.3, 6.544 L., 45.4, 6.544 L., 55.5, 6.564 L. The two are paired together at *Vict.* 45.4, 6.544 L. For other comparisons between the bodies of animals and the structure of plants, see *Vict.* 65.2, 6.582 L. (over-drying of the flesh makes it hard and “wood-like,” ξυλώδης), 68.6, 6.598 L. (the body must be exposed to winter cold just as trees must be exposed to the cold in order to grow strong and produce fruits), 68.9, 6.600 L. (we should prepare our bodies for summer just as the trees prepare for summer by provisioning themselves with shade and healthy growth), 89.11, 6.650 L. (tumors “grow” in the flesh just as plants “grow” in the earth), 90.3, 6.654 L. (fruits correspond to our reproductive “seed”).

²⁹⁷ *Vict.* 68.9, 6.600 L. On this topic, see below, p. 233.

²⁹⁸ At *Vict.* 55.3, 6.562 L., the author uses the adjective “wine-like” (οἰνώδης) to denote fruits that have not quite ripened since these fruits lie between the acid and the sweet, just as wine lies between sweet must (γλεῦκος) and acid vinegar (ὄξος). On the opposition between the sweet and the acid (τὸ γλυκὺ καὶ τὸ ὀξύ), see *Vict.* 18.3, 6.492 L., 52, 6.554–556 L., 54.7–8, 6.560 L., 55.2–4, 6.562–564 L., 56.5–7, 6.568 L., and cf. *Vict.* 76.1, 6.618 L., 77.1, 6.620 L. On the ripening of fruits, see *Vict.* 55, 6.562–564 L., 68.11, 6.602 L.

and moisten, wine warms and dries, while vinegar cools and dries because its fire consumes all the loose moisture in the body.²⁹⁹

In addition to plants, the earth is also home to animals, a category to which we humans belong.³⁰⁰ Different animals thrive in different environments, while their varying diets, activities, and habitats change the qualities of their humors and flesh.³⁰¹ The flesh of animals is constructed primarily out of water, while their growth, movements, sensations, and thoughts are directed by a fiery soul.³⁰² What makes one species differ from another is the specific arrangement of the watery body around this fiery soul.³⁰³ The individual parts of the body are present from the beginning, even when the smallest seed of an animal separates off from a larger mass.³⁰⁴ When this seed first separates off, the watery body dominates the fiery soul and prevents the animal from growing. These invisible seeds of animals do not begin to grow until they are breathed into the body of another animal, where they are then nourished and, if everything attains the proper “attunement” (ἁρμονία), have the potential to be combined with another seed when their host engages in sexual intercourse. The author specifically says that these seeds are breathed in by animals that are “large” (6.3, 6.480 L.) and in whom respiration occurs (25.1, 6.496 L.), a designation that distinguishes the invisible, free-floating “seeds” of animals from those that have

²⁹⁹ Acidic foods cool and moisten: *Vict.* 52.3, 6.556 L. 55.3, 6.562 L. Sweet foods warm and moisten: *Vict.* 55.3, 6.562 L., 55.4, 6.564 L. Wine warms and dries: *Vict.* 52.1–3, 6.554–556 L. Vinegar cools and dries: *Vict.* 52.4, 6.556 L., 56.1, 6.564 L., 56.8, 6.570 L., 79.2, 6.624 L., 81.2, 6.628 L., cf. *Vict.* 42.1, 6.540 L. For the cooling that comes when the flesh is emptied of moisture, thereby allowing cold πνεῦμα to fill the empty space, see *Vict.* 57.1, 6.570 L., 60.1, 6.572 L., 60.4, 6.574 L., 66.7, 6.586 L., 83.1, 6.634 L.

³⁰⁰ *Vict.* 3.1, 6.472 L., 7.1, 6.480 L., 22.2, 6.494 L.

³⁰¹ *Vict.* 28.4, 6.502 L., 41.2, 6.538 L., 46.1–4, 6.544–546 L., 56.4, 6.566–568 L.

³⁰² To date, Hüffmeier (1961, 69–82) has provided the most comprehensive discussion of the soul in *On Regimen*. See also the works cited in n. 280, above.

³⁰³ *Vict.* 6.3, 6.478–480 L.

³⁰⁴ On the inseparability of the fiery soul from its watery body, see Bartoš (2009).

acquired both respiration and “life” after uniting with another seed.³⁰⁵ In human beings, this union of seeds takes place in the womb. Both the male and the female secretes a seed that contains a mixture of fire and water. On its own, the fire in each seed is overpowered by its watery body, but when it falls upon and mixes with the fire in the other seed, they have enough strength to “dominate” the water in turn.³⁰⁶ This mixture then initiates an ascendancy of fire that lasts from the formation of the embryo to the mid-point of the animal’s life, at which point the growing soul will run out of nutriment and yield to the oncoming water.³⁰⁷ From middle age to “death,” the ascendancy of water gradually forces the soul out of our bodies. “Death” occurs when the last remnant of the soul separates off into the realm of the invisible (διακρίνονται ἐς τὸ ἄδηλον, 29.2, 6.504 L.). After the soul separates off, it can be inhaled by another animal, thereby starting the whole cycle again. In some cases, this cycle of inhalation and exhalation might become broken, allowing the soul to move up into the heavenly realm.

As the soul travels through the heavens, it will encounter three “circuits” (περίοδοι) that are located progressively farther from the earth. The circuit that is closest to the earth belongs to the moon, the uppermost circuit belongs to the stars, while the middle circuit belongs to the sun.³⁰⁸

³⁰⁵ This detail has eluded previous commentators on this text. The key is to note that the invisible seeds of animals (i.e., animals that are “small”) are secreted during the alternating ascendancies of fire and water (4.1, 6.474 L.), and that respiration is acquired only after these seeds begin to grow in size (9.1, 6.482 L.). The author is clearly *not* drawing an otherwise superfluous distinction between different species of fully grown animals. For this author, size is inextricably linked to his cycle of growth and diminution, in which “death” is simply a return to the realm of the invisibly small.

³⁰⁶ *Vict.* 30.1, 6.504 L. At *Vict.* 9.1, 6.482 L., and 29.2, 6.504 L., the author uses the verb ζωπυρεῖσθαι (“to be imbued with the fire of life”), a term that nicely encapsulates his idea that what we call “life” begins when fire “gains the upper hand” over water.

³⁰⁷ *Vict.* 25, 6.496–498 L., 33, 6.510–512 L. For the consumption of the available nutriment as the cause of this “retreat,” see *Vict.* 29.2, 6.504 L. In *Epidemics I*, older people are similarly described as “those in whom the hot is now being dominated (sc. by the cold)” (ὅσοις ἤδη τὸ θερμὸν κρατεῖται, *Epid. I* 12, 6.638 L.). This passage suggests that *On Regimen*’s conception of aging, wherein heat first “dominates” and then “is dominated” by the cold, draws on a belief that was already circulating among Greek doctors by the late fifth century BCE.

³⁰⁸ *Vict.* 10.2, 6.486 L.

At the limit of the uppermost circuit, there is a hard shell (τὸ περιέχον) beyond which nothing can pass,³⁰⁹ while the lowermost circuit is bounded by the ἄήρ, a layer of moist air that is home to all meteorological phenomena.³¹⁰ This strip of moist ἄήρ is distinct from the dry αἰθήρ that is home to the heavenly bodies.³¹¹ It is pervaded by a mixture of fire and water that is customarily referred to as πνεῦμα,³¹² in which the fiery component gives πνεῦμα its movement just as fiery souls provide movement for living things. The heavenly bodies exchange substances with each other, and they can also send substances down to earth. Like the winds that change their quality depending on the regions through which they blow, the material that comes down from the αἰθήρ can be either pure or impure, healthy or diseased, presumably acquiring its impurities as it travels through the ἄήρ.³¹³ The phases of the moon reflect the cyclical dominance of fire and water within this circuit.³¹⁴ The fire overpowers the water until it reaches its limit (i.e., a full moon), after which the fire turns around and then retreats, allowing the water in its turn to “gain the upper hand.” Different stars rise and set at different points in the year, coinciding with the changes in the seasons.³¹⁵ The sun also changes over the course of the year, as its light (φῶς) is

³⁰⁹ *Vict.* 10.2, 6.486 L.

³¹⁰ *Vict.* 10.1–2, 6.484–486 L., 89.2, 6.644 L., 89.13, 6.652 L.

³¹¹ On the dryness of αἰθήρ, note the association of “clear sky” (αἰθρία) with dryness at *Vict.* 89.6, 6.646 L.

³¹² *Vict.* 89.13, 6.652 L.

³¹³ *Vict.* 89.12, 6.650–652 L. On the essential “healthiness” of the αἰθήρ, note the reference to ἄήρ corrupting the heavenly bodies at 89.2, 6.644 L., and compare *Epid.* VI 4.17, 5.310: “Of natural waters, what is separated off (ἀποκριθέν) from the αἰθήρ with thunder is good, while what comes out of a storm is bad.”

³¹⁴ *Vict.* 5.1, 6.476 L.

³¹⁵ *Vict.* 2.2, 6.470 L., 68.2, 6.594 L., 68.7–8, 6.598 L., 68.10–11, 6.600–602 L., 68.13–14, 6.604 L. In chapter 68, the author mentions two major constellations, the Pleiades and Arcturus. The rising of the Pleiades marks the beginning of summer (cf. Hes. *Op.* 383–384, 571–573), the rising of Arcturus marks the beginning of autumn (cf. Hes. *Op.* 609–611), and the setting of the Pleiades marks the beginning of winter (cf. Hes. *Op.* 619–621). The author identifies the beginning of spring as the spring equinox, whereas Hesiod (*Op.* 564–567) associates it with the evening rising of Arcturus. Cf. Thphr. *Sign.* 6–7, where the year is divided by the two solstices, two equinoxes, and the rising and setting of the Pleiades.

locked in a constant struggle with darkness (σκότος). The longest day of the year is the summer solstice, when fire/light is at its most dominant, while the shortest day of the year is the winter solstice, when water/darkness has reached its extreme.³¹⁶ Another manifestation of the struggle between light and darkness can be seen in the alternation between day and night.³¹⁷ Light and darkness pass through two realms, one denoted as “Zeus” and the other as “Hades.” During the day, there is light in the realm of Zeus and darkness in that of Hades, while during the night, there is darkness in the realm of Zeus and light in that of Hades. One presumes that the realm of Hades is to be identified as the other side of the earth, the side that we cannot see (see above, p. 175). This is the area through which the sun passes on its night-time journey, circling back to the east after setting in the west. The realm of Zeus, meanwhile, is the observable sky, presumably the equivalent of αἰθήρ. The fire in this αἰθήρ is stronger than any other fire in the universe, and its power is concentrated in the sun.

The author of *On Regimen* seems to have believed that the sun is the most important entity in the cosmos. When he prescribes prayers to the gods, it is Helios who comes first (89.14, 6.652 L.), while he equates the “hottest and strongest” fire in our bodies with the circuit of the sun, observing that the central fire in our bodies “steers all things in all circumstances, both these things here and those things there, never coming to rest” (10.3, 6.486 L.). He also claims that our bodies’ hottest and strongest fire contains “soul, mind, thought, movement, growth, diminution, change, sleep, and waking” (10.3, 6.486 L.) and that “from the division of one soul there arise other souls, more or less numerous, greater or smaller in size” (16.2, 6.490 L.). In light of these passages, I would like to suggest that the author of *On Regimen* views the sun as the equivalent of

³¹⁶ *Vict.* 5.1, 6.476 L., 68.7, 6.598 L.

³¹⁷ *Vict.* 5.1, 6.476 L.

the soul within our bodies. Its fire is the “one soul” from which all other souls branch off, the director of the universe as a whole. Anything else that possesses either intelligence or movement is merely an emanation of this fire, and it represents a unitary god from which all other divinities branch off.³¹⁸

We have already mentioned the “ascendancy” and “retreat” of the soul within our bodies. Its ascendancy begins when the male and female seeds are mixed together, and it ends when the animal reaches middle age. At this point, the fire loses its dominance to water, and our fiery soul is gradually forced out of the body from middle age until the moment that we “die.” To explain how two souls can initially mix together, the author compares two sets of coals that are burning at different temperatures and then allowed to mix together. Even though one set of coals is stronger and the other is weaker, the coals will eventually become indistinguishable from one another, burning at precisely the same intensity.³¹⁹ The author then adds that, at a certain point, the fire within these coals will have consumed all the available nutriment. At this point, the fire will “separate off” into the realm of the invisible (διακρίνονται ἐς τὸ ἄδηλον) in the same way that the human soul will separate off after water acquires dominance over fire (29.2, 6.504 L.). Another analogy with the separating off of the soul from the body can be found in chapter 44. In this passage, the author notes that freshly cooked foods are drier than foods that are “old” (παλαιά), since freshly cooked foods are “closer to the fire” (ἔγγιον τοῦ πυρός), while “as they grow old (παλαιούμενα) they breathe out the hot component and bring the cold into themselves” (τὸ μὲν θερμὸν ἐκπνέει, τὸ δὲ ψυχρὸν ἐπάγεται, 44.1, 6.542 L.). The author does not explicitly

³¹⁸ I will elaborate on each of these points over the course of this chapter.

³¹⁹ *Vict.* 29.2, 6.504 L. Littré (1849) wrongly inserts a μή in this passage, as if the author were saying that one set of coals is burning while the other is not. The author’s point, of course, is that *both* sets of coals are burning, just as both souls are primarily composed of fire. One is burning more strongly than the other, but they will burn with the same intensity after they are mixed together. Jones (1931) gets this right, while Joly (1984) follows Littré.

refer to the soul in this passage, but he is clearly thinking about the lives of human beings. Just as foods become cold and wet as they age, so too do humans grow cold and wet as they approach the end of their lives. We “breathe out” our fiery soul and replace it with cold water in the same way that foods gradually “breathe out” their heat and replace it with an “inhalation” of watery πνεῦμα. In chapter 25, the author adds a further detail to this process, observing that just as we exhale portions of our soul when water dominates fire, so too can we *inhale* souls and temporarily house them when fire dominates water (25.1–2, 6.496–498 L.):

The soul of the human being, possessing a mixture of fire and water and parts of a human being, enters into every animal that breathes and in particular into every human being, both the younger and the older. However, it does not grow in all of them in the same way. In young bodies, because the revolution (of the fiery soul) is rapid and the body is growing, (the incoming soul) is engulfed in fire (ἐκπυρουμένη), thinned out, and consumed for the growth of the body. In older bodies, because the movement (of the fiery soul) is slow and the body is cold, (the incoming soul) is consumed for the diminution of the human being. Bodies that are at their peak and in the fertile period of life are able to provide (these souls with) nourishment and growth. A human sovereign is strong when he is able to provide nourishment for many human beings, but he is weaker when they abandon him. A similar circumstance applies to all bodies. They are very strong when they are able to provide nourishment for many souls, but they are weaker when these (souls) depart.

This passage describes what happens in our bodies during two distinct stages in a person’s life.

The first stage is when the body is young and fire dominates water, while second stage is when the body is older and water dominates fire. Both younger and older bodies (and, for that matter, both humans and other animals) inhale the free-floating souls of human beings. By “souls,” the author technically means the “seeds” of a human being, consisting of a fiery soul and its watery body, relegated to the realm of the invisible. When we are young, the fire in our souls dominates the water in our bodies, thereby causing the soul to move very rapidly. When our souls encounter the inhaled seeds of human beings, they engulf them in fire and cause them to be “thinned out.” By saying that these seeds are “thinned out” (λεπτύνεσθαι), the author implies that a lighter component in this mixture is separated off from a heavier component. The lighter component

increases the intensity of the fiery soul and contributes to the growth of the body, while the heavier component is expelled from the body, presumably by way of breath. Parallels with other texts in the Hippocratic Corpus suggest that the author of *On Regimen* locates this entire process in the heart, which receives πνεῦμα from the windpipe and is connected to the rest of the body by way of the vascular system. In *On Flesh*, the author writes that “The child in the belly, puckering its lips, suckles and draws both the nourishment and the πνεῦμα from the mother’s womb into the heart—for this is the hottest part of the child—whenever the mother inhales” (*Cam.* 6.3, 8.592 L.). *On the Heart* similarly observes that “whereas a person must of necessity expel the air, after it has fulfilled its office, back through the same passage by which he drew it in, the moisture he partly spits out into the sheath of the heart, and partly allows to go back with the air to the outside” (*Cord.* 3.1, 9.82 L., trans. Potter). When we grow older, the circulation of our soul slows down and our bodies become colder. The water in our bodies acquires dominance over fire, and it initiates the inevitable march toward the dissolution we know as “death.” At this stage in a person’s life, the human seeds that we inhale contribute to the diminution of the soul. It is not the fire but rather the *water* that is dominant at this stage, with the result that the watery part of the inhaled πνεῦμα gradually pushes out our fiery soul. All the souls that we had previously inhaled are now abandoning the cooling body, eventually reaching a point where the last remnant of our fiery soul is expelled with our final breath. This is what the author means when he refers to the departure of souls that had previously been “nourished” in our bodies. The πνεῦμα that we inhale is a mixture of fiery souls surrounded by their watery bodies. Depending on whether fire or water is dominant at a particular stage in a person’s life, this ensouled πνεῦμα will either increase or decrease our fiery souls whenever we engage in respiration. The analogy with coals is especially enlightening when applied to this process. As with human beings, the coal begins its “life” with an abundance of moisture and a fire that has just established its dominance. The fire

continues to grow in strength until all the available nourishment is used up, at which point the fire is slowly “breathed out” until all that is left is cold ash. When the fire is dominant in the first half of the coal’s life, a blast of air will make the fire grow stronger and burn hotter. When the fire is receding in the second half of the coal’s life, a blast of air will simply hasten the rate at which the fire is peeled off.³²⁰

Even when reduced to the realm of the invisible, our souls are still enveloped in a watery body that contains all the parts of a human being.³²¹ In chapter 7, the author explains why this has to be: “it is necessary for the things that enter (i.e., the seeds of animals that we inhale) to have all the parts, since whatever does not have a portion of itself from the beginning cannot grow, whether the incoming nutriment is great or small, because the nutriment has nothing to grow onto” (7.1, 6.480 L.). Growth proceeds by the principle of “like to like,” so if a part does not already exist, it cannot increase in size. As the soul moves around the body, it takes substances from one place and deposits them in another, but it never endows the body with a completely new part. One exception to this rule comes in chapter 9, when the author describes a moment in embryogenesis when the fiery soul becomes trapped within the embryo. This happens when the soul causes the body’s exterior to harden, producing an impenetrable shell of skin that recalls—but is not quite as impervious as—the *περιέχον* that surrounds the entire universe.³²² With no other avenue for bringing in nutriment, the fire must consume the moisture in the body. Any water that is “wet,” “soft,” and dominated by the fire will be completely consumed, giving rise to hollow parts like the belly and the vessels. The “wettest” part of the fire remains in the vessels and

³²⁰ Cf. *Vict.* 13.1–2, 6.488 L., where the author explicitly compares respiration to the stoking of fire in a furnace, and 65.1–2, 6.582 L., where ash and dust are specifically labeled as cold.

³²¹ *Vict.* 6.1, 6.478 L., 6.3, 6.478 L., 7.1, 6.480 L., 25.1, 6.496 L.

³²² *Vict.* 9.1, 6.482 L., 10.2, 6.486 L.

becomes the conveyor of both blood and πνεῦμα,³²³ while any water that is “dry” cannot be consumed by the fire, but is rather condensed to make sinews, bones, and the membranes around the hollows.³²⁴ In between everything else, there is flesh (σάρκες). The author uses this term interchangeably with “the body” (τὸ σῶμα),³²⁵ and he implies that the flesh is simply a mass of concentrated water that has condensed by virtue of being cold.³²⁶

In chapter 10, the author makes his critical observation that “the fire set everything in the body in proper order for itself as an imitation of the whole (ἀπομίμησιν τοῦ ὅλου), small in relation to large and large in relation to small” (10.1, 6.484 L.). The anatomy of the human being, in other words, reflects the “anatomy” of the cosmos, as the soul constructs our bodies in such a way that the geography of the cosmos is actually “mapped” onto the body. The author does not explain why this analogy exists, but it may be related to the fact that our soul is merely a secretion of the central fire that governs the universe as a whole. This central fire is ultimately responsible for putting the entire cosmos in order, and we should therefore not be surprised if a portion of this fire, when trapped within a body, shapes the body in such a way as to make the “small” resemble the “large,” turning the body into an “imitation of the whole.” There is only one intelligence in the universe, only one “soul,” and so it will perform the same actions wherever it is found. This interpretation is supported by the author’s claim that the soul of all animals is the same, regardless of the individual species. It is also supported by his assertion that the hottest and

³²³ *Vict.* 9.3, 6.484 L. For the author’s association of the soul with both blood and πνεῦμα, see below, p. 190.

³²⁴ There are obvious parallels between this whole chapter and *On Flesh*. It is particularly interesting that the author of *On Regimen* uses “dry water” in the same way that the author of *On Flesh* uses the “fatty” and the “glutinous” to explain why some parts are not completely dissipated by the hot. Cf. *Carn.* 3.2–3, 8.586 L., where the author also begins his account with the creation of bones, sinews, and membranes, and where the creation of the human being involves an active substance (i.e., the hot) shaping a passive substance (i.e., the cold).

³²⁵ Cf. *Vict.* 57.1, 6.570 L., 62.1, 6.576 L., 76.1, 6.618 L. This association of “flesh” with “the body” may help explain the title of *On Flesh* (see above, n. 205).

³²⁶ *Vict.* 10.1, 6.484 L. (ὑδατος ψυχροῦ καὶ ὑγροῦ σύστασιν). At *Carn.* 9.2, 8.596 L., flesh is also said to arise from the condensation of the cold element.

strongest fire within our bodies “steers all things in all circumstances, both these things here and those things there, never coming to rest” (10.3, 6.486 L.). By referring to “these things here and those things there,” the author refers, on the one hand, to the parallels between an invisible “seed” of a human being and a fully grown individual. At the same time, he also seems to associate our bodies with the universe as a whole, holding that the central fire in our bodies reflects the heavenly fire that governs the entire cosmos. In his extended analogy between the body and the cosmos, the author specifically connects our “central intelligence” with the sun, which likewise inhabits a central circuit and sends emanations of itself both to the other heavenly bodies and down to earth. Just as the “hottest and strongest” fire in our bodies is the source of all movement, growth, and intelligence, so the “hottest and strongest” fire in the heavens performs all of these same functions on a much larger, cosmic scale. This implicit analogy appears to be activated already in chapter 6, where the author claims that the soul, no matter the scale, “revolves around” (περιφοιτᾷ, 6.3, 6.478 L.) its parts, adding material to some while taking it away from others.³²⁷ This soul “does everything (i.e., all the *same* things) wherever it goes” (ἕκαστα διαπρίσσεται ἐς ἥντινα ἂν ἔλθῃ, 6.3, 6.478 L.), a statement that seems to encapsulate the idea that wherever fire is located, it will perform the same actions.

In chapter 10, the author observes that the body, like the cosmos, contains a bipartite division between “earth” and “sky,” in which the earth is further subdivided into “land” and “sea.” He also notes that the “sky” within our bodies is subdivided into three fiery circuits (περίοδοι), in which the central circuit contains the hottest and strongest fire and is associated with the sun, the

³²⁷ For the association of the verb περιφοιτᾷν with the revolution of the heavenly bodies, see Parm. DK 28 B10.4 and cf. the references to the “revolutions” (περιφοραί) of both the soul and the heavenly bodies at *Vict.* 10.2, 6.486 L., 22.1–2, 6.494 L., 25.1, 6.498 L., and especially 89.2–3, 6.644–646 L., 89.10, 6.650 L. In chapter 6, the author also notes that free-floating souls “wander” (πλανᾶσθαι, *Vict.* 6.3, 6.480 L.), using the same verb that Greek astronomers applied to the “wandering” planets. At *Vict.* 89.9, 6.648 L., he in fact observes that dreams about a “wandering” sun, moon, or star signify a disturbance of the soul.

innermost circuit contains a weaker form of fire, is engaged in a constant struggle with water, and is associated with the moon, and the outermost circuit contains fire that is also weaker than the fire in the central circuit, is scattered in many directions, and is associated with the stars. The sky and its three circuits map onto the vascular system, while the earth maps onto the rest of the body. The body proper (i.e., the flesh) correlates with the land, while the belly correlates with the sea. As in the universe as a whole, the “sky” (i.e., the vascular system) contains the highest concentration of fire, while the “earth” (i.e., the flesh and the belly) contains the highest concentration of water. The flesh is simply a concretion of cold water, as is the case with the earth. The belly, meanwhile, is a “storeroom for dry and wet water” (ὕδατι ξηρῷ καὶ ὑγρῷ ταμιεῖον, 10.1, 6.484 L.),³²⁸ and it resembles the sea insofar as it experiences evaporation into a microcosmic “ἀήρ,” giving off “thin water and ἀήρ-like fire” (ὕδατος λεπτοῦ καὶ πυρὸς ... ἡερίου, 10.2, 6.484–486 L.) when exposed to external heat.

The most important aspect of this analogy between the body and the cosmos is the author’s discussion of the vascular system. As Hüffmeier (1961) has demonstrated in a meticulous analysis of this text, the author places a mixture of blood and πνεῦμα in the vessels, associating them both with the soul.³²⁹ Part of this mixture is a distillation of the “thinnest” water and the “wettest” fire that is separated from food and drink,³³⁰ and it is combined with the “thinnest” portion of πνεῦμα that is breathed into the heart and likewise separated off from a heavier component (see above, pp. 185–186). This soul-mixture is manifested in the form of pulsating blood, and it runs through the body’s vessels to provide movement, growth, and sensory perception to all the

³²⁸ On the designation of nutriment as “dry” (i.e., solid) or “wet” (i.e., liquid), cf. *Alim.* 30, 9.108 L., 49, 9.118 L.

³²⁹ Hüffmeier (1961, 72).

³³⁰ *Vict.* 7.2, 6.480 L., 10.2, 6.484–486 L.; cf. *Vict.* 9.3, 6.484 L.

parts.³³¹ The soul's speed, perceptiveness, attentiveness, and memory are all determined by the amount of water with which it is mixed, with the ideal mixture having a slight imbalance in the direction of fire, thereby allowing the soul to move at a brisk pace.³³² If the soul is too wet, it will move too slowly and lack perceptiveness, while if the soul is too dry, it will move too quickly and over-interpret all sensory data. Regimen can change the amount of moisture in the vessels, but it cannot change the structure of the vessels themselves. It is therefore possible to use regimen to make a person more or less perceptive, more or less intelligent, but regimen cannot be used to change someone who is "quick-tempered, easy-tempered, deceitful, straightforward, unfriendly, or friendly" (36.2, 6.522 L.), since all of these traits depend on the structure of the vessels through which the soul-mixture flows.³³³

In his analogy between the body and the cosmos, the author claims that the vascular system is divided into three "circuits" (περίοδοι) that mirror the revolutions of the sun, moon, and stars. The innermost circuit extends to the belly and concocts all food and drink. Like the moon, the fire in this circuit is engaged in a constant struggle with water (see above, p. 182), and it transmits an exhalation from the belly of "thin water and ἀήρ-like fire" (10.2, 6.484–486 L.) that seems to reflect the process of evaporation. As for the outermost circuit, this extends to the flesh, branching off in many directions just as the stars are scattered in the sky. The soul in this outermost circuit plays three important roles in the author's physiological system. First, it brings

³³¹ *Vict.* 10.2–3, 6.486 L.; cf. *Vict.* 90.4, 6.654 L. On this system of three circuits and the author's theory of sensory perception, see Hüffmeier (1961, 69–82) and Jouanna (1966).

³³² *Vict.* 35, 6.512–522 L.

³³³ Seeing that these traits are all presented in opposing pairs, it is possible that the author associates each pair with a different quality of the vessels. A deceitful person, for example, might have crooked vessels, while a straightforward person has vessels that are straight, and a friendly person might have vessels that are wide, while an unfriendly person has vessels that are narrow. On variations in vascular structure from one person to the next, cf. *Epid. II* 1.8, 5.80 L.

moisture into the flesh and consumes moisture out of the flesh, a cycle that, as we will see, is critical for the maintenance of health. Second, it creates movement in the limbs by sending portions of itself out to the various parts,³³⁴ and third, it picks up sensory data in the form of “hot and cold πνεῦμα” (10.1, 6.484 L., 23.2, 6.496 L.) from the eyes, the ears, the nostrils, the tongue, and the skin, after which it transports this information back to the central circuit for analysis by the body’s central intelligence (γνώμη). All of these activities are governed by the hottest and strongest fire that is an analogue to the sun and is located in the middle circuit. This circuit comprises the heart and two vessels that run up and down the torso, forming the central trunk from which all other vessels branch off.³³⁵ The other two circuits of the vascular system carry weaker secretions of this central fire to the rest of the body, illustrating the author’s principle that “from the division of one soul there arise other souls, more or less numerous, greater and smaller in size” (16.2, 6.490 L.).³³⁶ In this context, the author writes that the body’s hottest and strongest fire contains “soul, mind, thought, movement, growth, diminution, change, sleep, and waking” (10.3, 6.486 L.) and that this fire “steers all things in all circumstances, both these things here and

³³⁴ *Vict.* 10.3, 6.486 L., 16.2, 6.490 L., 86.1, 6.640 L.; cf. *Vict.* 3.1, 6.472 L., 9.1, 6.482 L., 27.2, 6.500 L., 33.1, 6.512 L., 35.2, 6.514 L., 63.3, 6.578–580 L., 64.1, 6.580 L.

³³⁵ Cf. the description of the vascular system in *On Flesh*: “There are two hollow vessels from the heart: one has the name ‘artery,’ the other ‘hollow vessel,’ against which the heart is (located). The heart contains very much of the hot, as does the hollow vessel, and it distributes (to the rest of the body) the πνεῦμα (that we inhale). In addition to these vessels, there are others throughout the body. The hollowest vessel, against which the heart (is located), passes through the entire cavity and the diaphragm, and is split toward each of the kidneys. It is also split at the lower back and darts toward the other (parts) and to each leg. Above the heart, it is also split at the neck, some toward the right and some toward the left. Then it leads to the head and is split on either side at the temples” (*Cam.* 5.2–3, 8.590 L.). A similar description of the vascular system can be found at *Oss.* 2, 9.168–170 L., where the vessels are likewise said to branch off from a central trunk consisting of two vessels extending above and below the heart.

³³⁶ This statement has traditionally been read, very narrowly, as a reference to the production of semen. Cf. Joly (1960, 77), (1967, 20, n. 2), Bartoš (2012, 97). While this is certainly *one* of the ways in which the author applies this principle, his notion of cosmic mimesis implies that this principle can also be manifested in *other* contexts. As I mentioned above, the division of “one soul” to produce many souls seems to apply to the single, cosmic fire from which all other fire branches off. At *Vict.* 86.1, 6.640 L., the author also refers to how the central soul within our bodies sends out “parts” of itself to take care of “hearing, sight, touch, walking, and the acts of the whole body.”

those things there, never coming to rest” (10.3, 6.486 L.).³³⁷ The central circuit runs both “inward and outward” (καὶ ἔσω καὶ ἔξω περαίνουσαι, 10.2, 6.486 L.),³³⁸ and the entire vascular system forms something of an interconnected circle.³³⁹ The author also observes that our body’s central fire is “untouched by both sight and touch” (ἄθικτον καὶ ὄφει καὶ ψαύσει, 10.3, 6.486 L.), representing pure thought (διάνοια), mind (νοῦς), and intelligence (γνώμη) that, under the right conditions, can stand apart from the world of the senses.

As we noted above, there are two main divisions of the body in *On Regimen*: the belly and the flesh. These two reservoirs of moisture are connected to each other by way of the vascular system, and problems in either part can threaten the body as a whole. When everything in the body is working according to plan, the innermost circuit concocts food and drink within the belly. It separates out the lightest component of whatever we ingest, and it then transfers this “secretion” (ἀπόκρισις)³⁴⁰ to the central circuit before expelling the heavier component through the intestines. The central circuit then takes up this secretion from the innermost circuit, separates off an even lighter component to nourish its own fire,³⁴¹ and then sends out the rest to be distributed to the flesh. As the soul in the outermost circuit moves around the flesh, it

³³⁷ For this distinction between a “central intelligence,” located in the heart, and the rest of the soul, cf. *Cord.* 10.3, 9.88 L.: “For the intelligence (γνώμη) of the human being is located in the left ventricle and commands the rest of the soul.” See also *Epid. II* 6.19, 5.136 L., *Oss.* 19, 9.196 L., *Pl. Phd.* 96b. Potter (2010, 54) wrongly claims that “Heart is unique [among the works in the Hippocratic Corpus] in localizing γνώμη (understanding), as the ruling part of the soul, in the heart.”

³³⁸ On vessels that pass “inward” to the belly and “outward” to the rest of the body, cf. *Nat. Hom.* 11.5, 6.60 L. (φέρουσι δὲ καὶ ἀπὸ τῶν παχέων φλεβῶν ἐς τὴν κοιλίην καὶ τὸ ἄλλο σῶμα καὶ ἀπὸ τῶν ἐξωτάτω καὶ ἀπὸ τῶν ἔσω καὶ ἐς ἀλλήλας διαδιδοῦσιν αἷ τε ἔσωθεν ἔξω καὶ αἷ ἔξωθεν ἔσω). Unlike the author of *On Regimen*, Polybus does not describe a central trunk from which all other vessels branch off, but rather focuses on four pairs of vessels that descend from the head. This is because he is focusing on the movement of peccant humors from one part of the body to another. Since Polybus does not even mention the heart, he may have also postulated a central trunk but considered it irrelevant to his discussion of humoral flux.

³³⁹ *Vict.* 19.1, 6.492–494 L.; cf. *Loc. Hom.* 1.1–1.2, 6.276 L., *Oss.* 11, 9.182 L., Herophilus fr. 115 von Staden.

³⁴⁰ For this use of the term ἀπόκρισις, see *Vict.* 10.2, 6.486 L., 90.1, 6.654 L.

³⁴¹ *Vict.* 35.10, 6.520 L., 56.6, 6.568 L., 62.2–3, 6.576–578 L.; cf. *Cord.* 11, 9.88–90 L.

consumes any stagnant moisture that it encounters and replaces it with a delivery of fresh humors that it has just received from the central circuit. Each component of the flesh then attracts “like to like” what it needs from this humoral mixture, while the rest is simply left to stagnate. This stagnant moisture then waits until the soul comes back around through the outermost circuit, at which point the soul drinks up the stagnant moisture and starts the whole process again.

When this system is completely efficient, the body enjoys a state of “due proportion” (συμμετρία) that the author defines as health. Moisture is distilled from the belly and delivered to the flesh at the same rate that the soul in the outermost circuit empties the flesh of excess moisture. If there is a slight imbalance in one direction or another, the flesh will become too moist or too dry. Pain is produced when a part of the body is emptied to a degree that is contrary to what is accustomed, and it also arises when moisture that is “hostile” to the flesh (πολέμιος) spends too much time in its vicinity.³⁴² As the hostile moisture stagnates in the flesh, it grows hot and attracts like moisture to itself. Once these humors have reached a certain volume, they can either stay where they are or move throughout the body, initiating a “flux.” Individual diseases like pneumonia and strangury acquire their particular characteristics from differences in the quality of the humor and the part that it overpowers,³⁴³ although all diseases ultimately come from the same source: a lack of “due proportion.”

Like other doctors from the Classical period, the author of *On Regimen* presents illness as a battle between what is “healthy” and what is “diseased,” in which both the healthy parts and the disease struggle to “gain the upper hand.”³⁴⁴ To assist the healing process, the author advises that

³⁴² *Vict.* 66, 6.582–588 L., 76.1, 6.618 L., 78.1, 6.622 L.

³⁴³ *Vict.* 70.1, 6.606 L., 71.3, 6.610 L., 72.1, 6.610 L., 73.1, 6.612 L.

³⁴⁴ *Vict.* 2.4, 6.472 L., 66.3, 6.584 L. On this battle between the “healthy” and the “diseased,” see above, pp. 22–24.

doctors strengthen the healthy parts while avoiding any treatments that will strengthen the disease—the same procedure that is recommended in the speech of Eryximachus.³⁴⁵ He also stresses the importance of identifying the “cause” of a disease,³⁴⁶ and he explicitly rejects the *post hoc, propter hoc* reasoning of patients who attribute their ailments to whatever they happened to be doing before they fell sick.³⁴⁷ The specific diseases that the author cites are the same affections that were identified by his peers: fevers, chills, pneumonia, strangury, diarrhea, dysentery, lientery, cholera, dropsy, tumors, fatigue pains, and mania.³⁴⁸ The author also resembles other doctors insofar as he holds that stagnant humors can putrefy, acquiring a “pungent” character that ulcerates the flesh,³⁴⁹ that humors can gather in the head and produce catarrhs,³⁵⁰ that dropsy arises from a melting of the flesh,³⁵¹ that fevers occur when the blood transmits heat from a concentrated humor to the rest of the body,³⁵² and that diseases are resolved when the patient undergoes a “crisis.”³⁵³ The body sometimes removes peccant humors on its own through the

³⁴⁵ *Vict.* 2.4, 6.472 L., 66.6, 6.586 L., 72.1, 6.610–612 L., 93.1, 6.660 L.; cf. *Vict.* 66.3, 6.584 L.

³⁴⁶ *Vict.* 72.1, 6.610–612 L., 74.1, 6.614–616 L.

³⁴⁷ *Vict.* 70.1, 6.606 L.; cf. *VM* 21.2–3, 1.624–626 L. (discussed above, p. 44).

³⁴⁸ *Vict.* 70.1, 6.606 L. (catarrhs, fever, chills), 72.1, 6.612 L. (fever, pneumonia), 72.3, 6.612 L. (fever), 74.1–2, 6.616 L. (diarrhea, dysentery), 79.1, 6.624 (lientery), 83.1, 6.632 L. (chills and fever), 84.1, 6.634 L. (chills and fever), 89.11, 6.650 L. (fluxes, tumors), 90.7, 6.658 L. (fever), 93.1, 6.660 L. (cholera). The dry, bitter tongue at *Vict.* 82.1, 6.630 L., suggests that the author is describing an ἀπόκρισις of bile (see above, n. 245). Van der Eijk (2004, 202) wrongly characterizes the author’s nosology as “primitive” and apparently overlooks his reference to pneumonia in chapter 72. The reason why we do not find so many disease names in *On Regimen* is not because they were not recognized by the author, but simply because his entire work is devoted to disease *prevention*, removing diseases at their source before they have a chance to differentiate. When the author refers to catarrhs, for example, we must assume that the resulting diseases will be the same as we find in other texts, i.e., pneumonia, pleuritis, consumption, dropsy, and all the other conditions that were recognized by his contemporaries.

³⁴⁹ *Vict.* 74.2, 6.616 L.

³⁵⁰ *Vict.* 32.4, 6.510 L., 70, 6.606–608 L., 73, 6.612–614 L., 89.11, 6.650 L., 90.2, 6.654 L.; cf. *Vict.* 62.3–4, 6.576–578 L., 83, 6.632–634 L.

³⁵¹ *Vict.* 76.1, 6.618 L.

³⁵² *Vict.* 66.3, 6.584 L.; cf. *Flat.* 8.5, 6.102 L. (discussed above, p. 86).

³⁵³ *Vict.* 70.2, 6.608 L., 72.3, 6.612 L.; cf. the reference to a μετακίνησις τοῦ ἐπάρχοντος at *Vict.* 90.5, 6.656 L.

action of the soul,³⁵⁴ and doctors can also intervene to move the offending humor in one direction or another.³⁵⁵ One of the author's favorite modes of treatment is to purge some part of the body so that the peccant humors will flow into the empty space, a process that he calls ἀντίσπασις (“drawing back”). He then follows this ἀντίσπασις with a second purge in order to remove the gathered humors from the body.³⁵⁶ Bile is attracted “like to like” by a variety of substances, most of them bitter or fatty.³⁵⁷ It is also counterbalanced by substances that are watery, white, thin, and soft,³⁵⁸ while phlegm is melted and consumed by substances that are heating, drying, burning, salty, pungent, harsh—in short, anything that resembles fire.³⁵⁹ If a concentrated humor is allowed to grow strong, it can become very difficult to remove. Sometimes, these humors have to be purged with special drugs, which are fast acting but also dangerous.³⁶⁰

There are three general classes of treatments in *On Regimen*: (1) treatments that manipulate the belly, (2) treatments that manipulate the flesh, and (3) treatments that manipulate the soul's movement through the vessels. The author's food catalogue is an especially good source for understanding his treatments of the belly. Contrary to the testimony of *On Ancient Medicine*, the author of *On Regimen* does not simply identify one food as “hot,” another as “cold,” another as

³⁵⁴ *Vict.* 15.2, 6.486 L., 66.3, 6.584 L., 70.2, 6.608 L.

³⁵⁵ *Vict.* 66.4, 6.584 L., 66.6, 6.586 L.

³⁵⁶ For the term ἀντίσπασις, see *Vict.* 56.5, 6.568 L., 63.3, 6.578 L., 66.8, 6.588 L., 73.1–2, 6.612–614 L., 79.3, 6.624–626 L., 89.4–5, 6.646 L., 90.2, 6.654 L. The procedure is also employed at *Vict.* 59.2, 6.572 L., 68.5, 6.596 L., 74.3, 6.616 L., 76.2, 6.620 L., 78.4, 6.622–624 L., 81.4, 6.630 L., 82.4, 6.632 L., 89.8, 6.648 L., 89.11, 6.650 L.

³⁵⁷ *Vict.* 53, 6.556 L., 54.5–6, 6.560 L., 82.4, 6.632 L., 89.8, 6.648 L.

³⁵⁸ *Vict.* 89.8, 6.648 L.

³⁵⁹ *Vict.* 89.4, 6.646 L.; cf. *Vict.* 89.8, 6.648 L., 93.1, 6.660 L. At 89.4, 6.646 L., μαλακῶν should perhaps be emended to ἀλυσκῶν.

³⁶⁰ *Vict.* 66.8, 6.588 L., 67.3, 6.592–594 L., 73.2, 6.614 L., 73.3, 6.614 L., 76.2, 6.620 L., 89.8, 6.648 L.

“dry,” and another as “wet.” Instead, the author focuses on how different foods influence the process of digestion, and especially on how they interact with the three circuits of the vascular system. Foods that are roasted, for example, are said to be constipating because “when they fall into the belly, they attract to themselves the moisture from the belly, closing the mouths of the vessels with their drying and heating, with the result that they block up the passages for the moisture” (56.3, 6.566 L.). Substances that are thin (λεπτός) are quickly evaporated, some being taken up by the soul to be distributed through the body,³⁶¹ some being expelled through exhalation,³⁶² and some being expelled with the urine,³⁶³ while foods that are heavy (βαρύς) are not easily broken down and distributed through the body, as they merely sit in the belly and are especially prone to growing hot and creating a “disturbance” (ταραχή).³⁶⁴ Foods are strong (ἰσχυρός) when they contain raw and concentrated humors, which are difficult to concoct but can be a source of great nutriment if the soul can overpower them.³⁶⁵ Foods are nourishing (τροφικός) if a large portion of their moisture is received into the innermost circuit, which happens if the food is “pure” (καθαρός),³⁶⁶ if it contains a large quantity of moisture (including flesh),³⁶⁷ or if it does not flood the vessels with more nutriment than they can handle.³⁶⁸ Foods that pass quickly by stool are less nourishing than those that do not, since they provide the vessels with less time to

³⁶¹ *Vict.* 25.1, 6.498 L., 56.6, 6.568 L.

³⁶² *Vict.* 40.2, 6.536 L.

³⁶³ *Vict.* 52.2, 6.554 L., 55.2, 6.562 L.

³⁶⁴ *Vict.* 46.1, 6.544–546 L., 46.3, 6.546 L., 56.4, 6.566 L., 74.1, 6.616 L.

³⁶⁵ *Vict.* 45.2, 6.542 L., 45.4, 6.544 L., 54.1, 6.556 L., 56.4, 6.566–568 L., 93.2, 6.660 L.; cf. *Vict.* 68.5, 6.596 L.

³⁶⁶ *Vict.* 42.1, 6.540 L., 55.5, 6.564 L.

³⁶⁷ *Vict.* 42.2, 6.540 L., 45.1, 6.542 L., 45.3, 6.544 L., 55.5, 6.564 L., 56.1, 6.564 L.

³⁶⁸ *Vict.* 40.4, 6.538 L., 56.4, 6.566 L.

absorb the available nutriment.³⁶⁹ A food can be light (κοῦφος) if much of its nourishment has already been consumed before entering the belly, if it nourishes the soul without nourishing the flesh, or if its moisture is not absorbed by the innermost circuit but rather expelled through other avenues, including the production of breaths.³⁷⁰ “Breaths” (φῦσαι) are typically manifested in the form of belching and flatulence, and they usually arise from the flooding of the belly with more moisture than it can handle. This moisture is not quickly drawn off either by the vessels or by the intestines, with the result that it stagnates and starts to “steam” within the belly.³⁷¹ Foods that happen to be fragrant (εὐωδής) tend to be warmer and lighter than those with “heavy odors” (ὀδμαὶ βαρεῖς), and they also tend to pass more often by urine than by stool, presumably because they are more easily evaporated.³⁷² The author emphasizes that doctors can manipulate the powers of foods by changing their properties within the kitchen.³⁷³ Some ingredients can be added, some removed, and others can be “concocted” or made more or less concentrated “in accordance with what happens to be the καιρός for the particular situation” (ὅπου ἂν ὁ καιρὸς ἐκάστῳ παραγένηται, 2.1, 6.478 L.). The author specifically says that doctors should make these adjustments “with the knowledge that everything, both animals and plants, are composed of fire and water, that they grow in size by means of these things, and that they undergo separation (διακρίνεται) into these things” (56.2, 6.566 L.). With these two statements, the author illustrates two important points about his physiological system. The first is that, despite his emphasis on the first principles of all things, the author is still deeply concerned with the differences between

³⁶⁹ *Vict.* 40.2, 6.562 L., 42.1, 6.540 L. Note also *Vict.* 40.3, 6.538 L.

³⁷⁰ *Vict.* 40.2, 6.536 L., 42.1, 6.540 L., 42.3, 6.540 L., 46.1, 6.546 L., 56.4, 6.566–568 L., 88.3, 6.644 L., 89.12, 6.652 L., 92.2, 6.658 L.

³⁷¹ *Vict.* 40.2, 6.536 L., 40.4, 6.538 L., 42.3, 6.540 L., 45.1, 6.542 L., 52.4, 6.556 L., 54.1, 6.556 L., 55.3, 6.564 L., 55.5, 6.564 L., 56.8, 6.570 L., 74.1, 6.614 L. Cf. above, pp. 79–80.

³⁷² *Vict.* 54.7, 6.560 L., 55.2, 6.562 L., 78.3, 6.622 L.

³⁷³ *Vict.* 2.1, 6.468 L., 56.2, 6.566 L.

individual patients. The second is that the author views his cosmology of fire and water as a means of *overcoming* these differences—these principles provide a stable guide for determining what the doctor should do in every case.

In addition to targeting the belly, the author also cultivates treatments that work by manipulating the flesh. These include the manual kneading of the flesh to open up its vessels, the application of substances like oil (to warm, moisten, and soften) or dust (to cool, dry, and contract), the exposure of the body to heat and cold, the prescription of sleeping on a hard or a soft bed, the bathing of the body in hot or cold water, and the leaving of the skin either covered or exposed. Exercise, for its part, encourages the movement of the soul through the vessels. It increases the rate at which moisture is consumed from the flesh, and it also quickens the transfer of moisture from the belly to the outermost circuit.³⁷⁴ The flesh grows harder and stronger by assimilating more humors to itself, but it also runs the risk of melting if it is constantly bombarded by the soul. The author divides all exercises into two groups: the “natural” (κατὰ φύσιν) and the “violent” (διὰ βίης). “Natural” exercises include speaking, thinking, and the use of the senses, all of which gently warm and dry the flesh by making the soul move through the vessels.³⁷⁵ Walking is partly natural and partly violent, while running is fully violent. Running is especially useful when humors invade the vascular system, as it quickens respiration and thus causes the foreign moisture to be pushed out with the breath.³⁷⁶

Because eating generally adds moisture to the body while exercise generally consumes moisture from the flesh, the author speaks in broad terms about a “due proportion” (συμμετρία)

³⁷⁴ *Vict.* 61–64, 6.574–580 L. A similar idea may lie behind the curious statement in *Epidemics VI* that “exercise (πόνος) is food for the joints and flesh, sleep for the organs” (*Epid. VI* 5.5, 5.316 L.).

³⁷⁵ *Vict.* 61, 6.574–576 L.; cf. *Epid. VI* 5.5, 5.316 L., 6.2, 5.322–324 L., 8.23, 5.352 L.

³⁷⁶ *Vict.* 62, 6.576–578 L.

between eating and exercise. As we have seen, this simply boils down to the idea that the soul's conveyance of new moisture from the belly and the soul's removal of old moisture from the flesh needs to proceed in such a way that the flesh is neither too wet nor too dry. If the flesh becomes too wet, then eating has essentially "gained the upper hand" over exercise, while if the flesh becomes too dry (or if the fiery soul causes the flesh to melt), then exercise has now "gained the upper hand" over eating. In a perfect world, the doctor will accompany his patients at all times in order to preserve an even balance between eating and exercise. In most cases, however, such constant vigilance is impossible, with the result that "it is impossible to set down (ὑποθέσθαι) foods and exercises with precision (ἐς ἀκριβείην)," since "if there arises even a slight deficiency of one thing or another, it is inevitable that, over time, the body will be overcome by the excess and fall sick" (2.3, 6.470–472 L.). In this passage, the author is speaking from the perspective of a doctor in the field, one who already knows the individual constitution of the patient, the powers of the available treatments, and the environmental factors that are prevailing in that particular time and place. When the author comes back to this topic in chapter 67, he writes from a different perspective. He is no longer talking about a doctor in the field, but rather a doctor writing a book (67.1–2, 6.592 L., trans. Jones, modified):³⁷⁷

Regarding human regimen, as I have already said, it is impossible to write with such precision (ἀκριβείην) as to produce a due proportion (συνμετρίην) of exercises with respect to the quantity of foods. For there are many things that stand in the way. First, the constitutions of human beings differ from one another (φύσεις ... διάφοροι). Dry constitutions taken as a class are more or less dry in comparison with themselves and in comparison with each other, and the same goes for wet constitutions and all the rest. Then the various times of life do not have the same needs, nor the situations of regions, the changes in the winds, the shiftings of the seasons, or the constitutions of the year. Within foods as a class there is abundant difference (διαφορή). Wheats are different from wheats, wine from wine, and all the other things that we use in our regimens differ among themselves, ultimately standing in the way of our being able to write with precision (ἀκριβείην).

³⁷⁷ Strictly speaking, the author also takes this perspective of a doctor writing a book in chapter 2 (cf. τὸν μέλλοντα ὁρθῶς συγγράφειν, 2.1, 6.468 L.), but his perspective quickly shifts to a particular doctor with a particular patient, as we see at 2.3, 6.470 L. (εἰ μὲν οὖν παρείη τις καὶ ὁρώη κτλ).

We hardly need to point out the similarity between this passage and the deep concern for individual differences that we have already noted in other texts. What is special about this passage is not simply the repetition of the common refrain that doctors must adapt to changing circumstances, but the author's specific claim that these differences influence the very sorts of information that can be reliably committed to writing. In a perfect world, a particular doctor keeping watch over a particular patient could theoretically achieve *συμμετρία*. As soon as we move to the realm of writing, however, that theoretical possibility is unavailable. Writing about medicine involves a transition from the particular to the general. We can divide patients into groups and talk about the shared characteristics of each group, but at the end of the day, we are still dealing with *generalized* observations that elide many of the variables that can change from one case to the next. In this passage, the author is especially adamant about the fact that even if we were to follow the method of inquiry that is advocated in *On Ancient Medicine*, dividing and subdividing patients into groups and then considering the effects of different foods on each group, there is still too much variation *within* these groups to create a system of medicine that is absolutely "precise" (*ἀκριβής*). In *On Ancient Medicine*, the author recognizes that a perfect system of medicine has not yet been discovered, but he simply claims that we should continue on the road that has already been established, making finer and finer distinctions between different classes of patients until we have accounted for all the variables that can influence a patient's health. In *On Regimen*, the author accepts this method up to a point. He also claims, however, that such a system will never be fully sufficient in itself. There are simply too many differences between individual cases, too many variables to account for every conceivable permutation. If we want to achieve true precision in medicine, we need a system that rises above all the variables that can change from one case to the next.

In the immediate context, the author uses this passage to justify his system of prodiagnosis. At the same time, however, it could just as easily be applied to his cosmology of fire and water. It seems quite likely, in fact, that this is the sort of thinking that motivated our author to base the art of medicine on the first principles of all things. Like the author of *On Ancient Medicine*, the author of *On Regimen* is deeply concerned with the many differences that exist between individual cases. Where these authors part ways is the extent to which they are willing to isolate high-level commonalities that transcend these particular differences. In Book 1, the author of *On Regimen* describes both the shared nature of all human beings (ch. 3–24) and the particular constitutions of different classes of human beings (ch. 25–36). In Book 2, he describes other variables that can change from one case to the next: geographical locations (ch. 37), winds (ch. 38), and the “powers” of various treatments (ch. 39–66). In these sections, the author tends to start with what is general (κατὰ παντός) before moving to what is particular (καθ’ ἕκαστα). He sometimes even comments on the extent to which generalization is possible, as we see in the preface to his food catalogue (39.1–2, 6.534–536 L.):

Those who try to speak generally (κατὰ παντός) about the powers of substances that are sweet, fatty, salty, or anything else of such a sort do not possess correct recognition (οὐκ ὀρθῶς γινώσκουσιν). For the same power is not shared by the sweet, the fatty, or anything else like this. Of sweet substances, many pass easily by stool, while others are constipating. Some are drying, while others are moistening. It is the same with everything else. Of the substances that are astringent, some pass by stool, others pass by urine, and still others do neither of these things. It is the same with the substances that are warming and everything else: one has one power, another has another. Concerning the whole category (περὶ μὲν οὖν πάντων), it is impossible for their properties to be made clear (οὐχ οἶόν τε δηλωθῆναι ὅποια τινὰ ἐστὶ). I will accordingly give instruction about the powers that each substance has individually (καθ’ ἕκαστα).

At the same time that the author warns against overgeneralization, especially as it applies to the “powers” of foods and drinks, he explicitly states that the “powers” of fire and water are the same for “all things in all circumstances” (πάντα διὰ παντός, 3.1, 6.472 L.). In other words, the properties of these elements remain the same even when all other variables change. They provide

a stable guide for everything in the cosmos, and they can be referenced in any particular situation, regardless of the other factors that distinguish one case from the next.³⁷⁸

In Book 3, the author presents his system of prodiagnosis as another way to overcome the many variables that can change from one case to the next. Whereas the medical writer can set down general principles that *explain* particular situations, there is no way for him to write down generalized, step-by-step instructions that will maintain *συμμετρία* in all cases. The author provides his best approximation of such instructions in chapter 68. This passage has a great deal in common with the final section of *On the Nature of the Human Being*, inasmuch as the author describes the adjustments one should make as one season gives way to the next (see above, pp. 63–64). At the winter solstice, we should employ a regimen that is heating and drying, while at the summer solstice we should employ a regimen that is cooling and moistening. The rest of the year should be devoted to slowly building up to one extreme or the other, thereby avoiding the sudden changes that can potentially give rise to disease. In other passages, the author describes the adjustments one should make for different physical constitutions, dividing patients into groups and considering the specific needs of each group. In chapter 32, he lists six different constitutions and provides general instructions on how to maintain the health of each. In the end, however, these are only rough approximations. No two seasons are exactly the same, and no two constitutions are exactly the same, even though we may give them the same name. Because there are so many differences between individual cases, it is inevitable that an imbalance will occur. This is where the author brings in his system of prodiagnosis, presenting it as a way to overcome the many variables that can change from one case to the next (69.1–2, 6.606 L.):

This discovery brings honor to me, the discoverer, and it brings benefits to those who learn it. Of my predecessors, no one has yet attempted to understand it, although I judge it to be of

³⁷⁸ Cf. *Vict.* 2.1, 6.478 L., 56.2, 6.566 L. (discussed above, pp. 198–199).

great importance in comparison with everything else. It is prodiagnosis before becoming ill and diagnosis of what the body has suffered, whether food overpowers exercise, exercise overpowers food, or whether food and exercise are proportionate with one another. For diseases arise from the dominance of one or the other, while health comes from their being in balance. I will go through these classes (of dominance) and I will show what they are and how they arise in patients who appear to be healthy, eat with pleasure, have the power to exercise, and are of good complexion.

In this system, the author reduces all diseases to a limited number of starting points (ἀρχαί), each of which determines a different “class” of imbalance. The term that he uses for a “class” (εἶδος) recalls *On Breaths*’ assertion that all categories of disease can be traced back to a single cause and, as a result, ultimately belong to one “class” (ἰδέα). Both authors are interested in using classification to overcome the many differences between individual cases. They trace pathogenesis back to the point before the various diseases differentiate from one another.

The author of *On Regimen* claims to have uncovered the signs (τεκμήρια) that will tell a doctor which type of asymmetry he is dealing with. These signs are the same for every patient who falls within the specified class, and they can be opposed with simple treatments that are more or less the same in every case. In the first part of Book 3, the author describes fifteen “classes” of imbalance, each of which gives rise to a different set of affections. These include a common origin for both catarrhs and fevers (ch. 70), the invasion of the central circuit by foreign moisture (ch. 71), the beginnings of pneumonia (ch. 72), the attraction of moisture to the head (ch. 73), the stagnation of heavy food within the belly (ch. 74), the indigestion caused by an overcooling of the belly (ch. 75), two forms of acid-belching (ch. 76–77), an ἀπόκρισις from the flesh (ch. 78), a cold and wet belly (ch. 79), a cold and dry belly (ch. 80), a hot and wet belly (ch. 81), a hot and dry belly (ch. 82), and two forms of dry flesh (ch. 83–84). On several occasions, the author specifically observes that the ultimate form that a disease will take depends on the supervision of additional factors, but he stresses that the doctor should not let the matter get to that point, correcting the

imbalance while the disease is still undifferentiated.³⁷⁹ A similar attitude carries over into the second half of Book 3, where the author specifically talks about the signs that can be drawn from a patient's dreams. What enables the author to construct this system is his observation that "diseases do not supervene in human beings right away, but they gather together a little at a time before manifesting themselves in a mass" (οὐ γὰρ εὐθέως αἱ νοῦσαι τοῖσιν ἀνθρώποισιν ἐπιγίνονται, ἀλλὰ κατὰ μικρὸν συλλεγόμεναι ἀθρόως ἐκφαίνονται, 2.4, 6.472 L.; cf. *Vict.* 70.1, 6.606–608 L.). In our discussion of *On Breaths* (above, pp. 88–89), we saw a similar reference to humors that "gather together" over time in the author's explanation of catarrhs. We compared that passage to a similar passage in *Prognostic*, where the lag between an ἀπόκρισις and flux is said to last for up to twenty days. These parallels are significant insofar as they suggest that the author of *On Regimen* did not invent his system of prodiagnosis out of the blue. In fact, Greek doctors cultivated an elaborate system of prognosis, which they used to determine whether a patient would recover or die, when a crisis would occur, and even the patient's expected reaction to a particular treatment. Such systems of prognosis involved the cataloguing of signs (τεκμήρια) that are the same across a wide range of cases, and they similarly encouraged doctors to act quickly before the patient develops a more difficult disease. What distinguishes the author of *On Regimen* from his peers is not that he looks for the signs of an impending disease, but that he organizes these signs into a comprehensive system. He claims to have found the starting points for *all* diseases, and assumes that anyone who masters every detail his system will never run the risk of falling ill.

Now that we have clarified this author's theories about disease, we can return to his discussion of the soul and its relationship with the cosmic fire that is the source of all intelligence.

³⁷⁹ *Vict.* 70.1–2, 6.606–608 L., 71.3, 6.610 L.; cf. *Vict.* 83.1, 6.634 L., 84.1, 6.634 L.

For even the most casual reader of *On Regimen*, is impossible not to notice the unusual vocabulary that the author applies to scientific inquiry. Humans possess “intelligence” (γνώμη) and “thought” (διάνοια) that they use to make discoveries and to come to an understanding about the natural world.³⁸⁰ Such discoveries require “recognition” (γνώσις), “differentiation” (διαγνώσις), and “discrimination” (κρίσις), and they must be sought in such a way that we recognize things “correctly” (ὀρθῶς) and “well” (καλῶς) rather than “incorrectly” (οὐκ ὀρθῶς).³⁸¹ In chapter 39, the author notes that those who speak too generally about the sweet, the fatty, and the salty “do not possess correct recognition” (οὐκ ὀρθῶς γινώσκουσιν, 39.1, 6.534 L.). His own goal, meanwhile, is to “make things clear” (δηλοῦν) and to “give instruction” (διδάσκειν), which he achieves by engaging in “conversation” (διαλέγεσθαι) and by “interpreting” (ἐρμηνεύειν) certain concepts for the masses. The author’s penchant for the verb γινώσκειν (“to recognize, to perceive with one’s intelligence”) is especially striking. He employs this verb and its cognates over fifty times in *On Regimen*, including six times in the first chapter alone. The verb appears in contexts where one might otherwise expect the words εἰδέναι (“to know”) or ἐνθυμεῖσθαι (“to bear in mind”), and the author starts his entire treatise with the observation that previous writers on regimen have not composed their own texts “with correct recognition” (ὀρθῶς ἐγνωκώς, 1.1, 6.466 L.).

To understand the author’s penchant for this term, we need to understand his theory of intelligence. To start with the topic of sensory perception, the author believes that sensation

³⁸⁰ *Vict.* 1.1, 6.466 L. (ἀνθρωπίνῃ γνώμῃ), 1.3, 6.468 L. (διανοίης), 2.4, 6.472 L. (διανοημάτων), 4.2, 6.474–476 L. (γνώμῃ), 12.2, 6.488 L. (γνώμῃ ἀνθρώπου).

³⁸¹ *Vict.* 1–2, 6.466–472 L., 4.2, 6.476 L., 11–12, 6.486–488 L., 23.1–2, 6.494–496 L., 24.1, 6.496 L., 39.1, 6.534 L., 46.1, 6.544 L., 56.2, 6.566 L., 56.4, 6.566 L., 61.1, 6.574 L., 67.3, 6.592 L., 68.2, 6.594 L., 69.1–2, 6.604 L., 70.2, 6.608 L., 71.3, 6.610 L., 72.1, 6.610 L., 81.1, 6.628 L., 82.2, 6.630 L., 86.1–2, 6.640 L., 87.1–2, 6.642 L., 88.2, 6.642 L., 88.14, 6.652 L.

occurs when effluences of “hot and cold πνεῦμα” enter the body’s pores and “fall upon” the soul as it moves throughout the outermost circuit.³⁸² When these effluences hit the soul, they make an impression that is then carried back to the central circuit for analysis by the body’s intelligence (γνώμη). The fiery soul in the central circuit is “untouched” by the senses (10.3, 6.486 L.), and it can thus submit them to objective analysis. Sight and hearing can be improved by purging moisture from the head,³⁸³ but they can also be harmed by too much purging,³⁸⁴ just as perception in general is corrupted whenever the soul is either too wet or too dry (above, p. 191). If a peccant humor enters the central circuit, then the patient will suffer from mental illness. Bile, for example, provides excessive fuel for the fiery soul, making it burn hotter and give rise to nightmares.³⁸⁵

When the body is awake, the soul is the body’s servant, dividing its attention and literally giving a “part” of itself to “hearing, seeing, touching, walking, the activities of the body as a whole” (86.1, 6.640 L.). When the body is asleep, the soul is still moving and awake, although the body is still and its sensory receptors are closed off. Without any distractions from the outside world, the soul “tends its own household” (διοικεῖ τὸν ἑωυτῆς οἶκον, 86.2, 6.640 L.). It interacts with the body and perceives what falls upon it in the same way that, when the body is awake, the soul interacts with and perceives the external world. During sleep, the soul sees, hears, and feels what is happening in the body; it walks, runs, and experiences emotions like grief, fear, anxiety,

³⁸² Cf. *Vict.* 6.3, 6.478–480 L., 10.2–3, 6.486 L., 18.3, 6.492 L., 23, 6.494–496 L., 35, 6.512–522 L., 61.1, 6.574 L. For discussions of this theory, see Hüffmeier (1961), Jouanna (1966), (2003), (2007), Brisson (2013).

³⁸³ *Vict.* 61.3–4, 6.576 L., 62.3–4, 6.576–578 L.; cf. *Vict.* 90.1–2, 6.652–654 L.

³⁸⁴ *Vict.* 83.1, 6.634 L.

³⁸⁵ *Vict.* 89.7, 6.648 L., 93.1, 6.660 L.

and desire.³⁸⁶ What we see in dreams directly corresponds to the first-person experiences of the soul. Sometimes, dreamers see visions as if they themselves are the soul and the body is their home,³⁸⁷ while at other times, the three “circuits” of the soul are represented by the three divisions of the heavens.³⁸⁸ If the soul does not meet any impediments in its journey, it will retain all the same impressions that it acquired during the day.³⁸⁹ When it travels around the outermost circuit, it will see images that correspond to the land, while it will see images that correspond to the sea when it travels around the belly.³⁹⁰ It is healthy to have visions that are “clean” (καθαρός), “bright” (εὐαγής), “shining” (λαμπρός), “translucent” (διαφανής), and “white” (λευκός), while it is unhealthy to have visions that are “black” (μέλας), “obscure” (ἀμυδρός), and “unclean” (οὐ καθάρος),³⁹¹ presumably because darkness is associated with unhealthy humors, while light is associated with moisture that is “pure.”³⁹² The relative intensity of an image reflects the strength of whatever the soul has encountered,³⁹³ while movement reflects the transfer of material from one place to the next.³⁹⁴ As we have already seen, the innermost and outermost circuits of the soul originate in a central circuit that is analogous to the circuit of the sun (above, pp. 191–193).

³⁸⁶ *Vict.* 86.2, 6.640 L., 89.9, 6.648–650 L., 89.12, 6.650–652 L., 90.1–2, 6.652–654 L., 93.1–3, 6.660 L., 93.5, 6.662 L.; cf. *Epid.* VI 8.10, 5.348 L.

³⁸⁷ *Vict.* 86.2, 6.640 L., 90.5, 6.656 L., 92.2, 6.658 L. Cf. Hüffmeier (1961, 74): “Was der Mensch also hier im Traum zu erleben glaubt, ist in Wirklichkeit ein Erlebnis des—*sit venia verbo*—Seelenkörpers.”

³⁸⁸ *Vict.* 89.1–2, 6.644–646 L.

³⁸⁹ *Vict.* 88.1, 6.642 L.

³⁹⁰ *Vict.* 89.10–11, 6.650 L., 90.1, 6.652–654 L., 90.3, 6.654 L., 90.5–6, 6.656 L. At 90.4, 6.654 L., the vessels are represented by rivers, while at 90.5, 6.656 L., the bladder is represented by springs and cisterns.

³⁹¹ *Vict.* 88.1, 6.642 L., 89.1, 6.644 L., 89.10, 6.650 L., 89.12–13, 6.650–652 L., 90.1, 6.654 L., 90.3, 6.654 L., 90.4, 6.654 L., 90.6, 6.656 L., 91.1–2, 6.658 L., 92.1, 6.658 L., 93.3, 6.660 L. Cf. the opposition between light and darkness in chapter 5 (discussed above, pp. 182–183).

³⁹² Two exceptions to this explanation are *Vict.* 90.6, 6.656 L., and 91.2, 6.658 L., where black signals over-drying. In these passages, blackness recalls an object that is burnt (i.e., exposed to too much fire).

³⁹³ *Vict.* 88.2–3, 6.642–644 L., 89.1, 6.644 L., 93.2, 6.660 L.

³⁹⁴ *Vict.* 90.5, 6.656 L.

In dreams, “outbound” souls (i.e., souls that are moving *away* from the central circuit) are perceived as moving from east to west, representing a movement from the central fire (= the east, i.e., the rising of the sun) to the extremities (= the west, i.e., the setting of the sun, from which the sun then “turns around” and comes back to its point of origin). “Inbound” souls are perceived as moving from west to east, since these souls will return the central circuit (= the east) after reaching their “western” extremity in either the belly or the flesh (89.10, 6.650 L.).³⁹⁵ If an inbound soul is “pure” and “shining,” then the patient has nothing to worry about. If it is “dark” and “obscure” and moving “westward,” however, that means the soul is conveying morbid humors to either the belly or the flesh. If the soul appears to move upwards in its westward movement, this means that the morbid humors are gathering in the head.³⁹⁶ If it falls onto the land, this signifies a flux to the flesh, while if it falls into the sea, this signifies a flux to the belly (89.10–11, 6.650 L.). If the soul comes to a region that is excessively dry, it will not be able to draw sufficient nutriment to itself. As a result, its fire will dim and it will produce images of heavenly bodies in which their fire, too, is weakened (89.6, 6.646 L.). Specific humors will give rise to dream visions that reflect their particular characteristics. Phlegm produces visions of heavenly bodies afflicted with water, ice, the extinction of light, and the halting of movement, all because phlegm is cold and wet and will accordingly slow down or even stop the soul’s movement (89.2, 6.644–646 L.). Bile, meanwhile, produces visions of heavenly bodies afflicted with fire, heat, and rapid movement, the reason being that bile naturally stokes the fire within the soul and makes it move faster (89.7, 6.648 L.). Images of battle literalize the metaphorical battle between

³⁹⁵ For previous attempts to explain this tricky passage, see Jouanna (1998, 171) and van der Eijk (2004, 200).

³⁹⁶ *Vict.* 89.11, 6.650 L. At *Vict.* 90.2, 6.654 L., the author also associates affections of the head with the impairment of sight and hearing, perhaps because the soul misinterprets morbid humors as the sensory information that normally comes through these channels.

the body and peccant humors,³⁹⁷ while wandering, eating, running, and being afraid reflect the mental state of the soul as it moves throughout the body. In addition to perceiving an excess or deficiency of moisture in the body, the soul can also perceive the πνεῦμα that enters via respiration.³⁹⁸ In these cases, the dreamers perceive the effects as happening either to themselves or to their homes. What is most interesting about this particular subset of dreams is that they seem to depict the actual source of the πνεῦμα that we breathe. If we dream that we are receiving something from a god, from a dead person, from the αἰθήρ, or from the ἄήρ, that is because we are *actually* receiving substances from these entities.³⁹⁹ The dead sometimes wear clothes and they sometimes do not; their clothes are sometimes clean and white and sometimes they are dirty and black (92.1–2, 6.658 L.). What this represents is our inhalation of πνεῦμα that is sometimes moist and sometimes dry, sometimes healthy and sometimes laden with morbid humors. Likewise, the dead can take items out of our homes, just as πνεῦμα can take substances out of our bodies (92.2, 6.658 L.). As for the gods, they can give us items that are clean or dirty, just as our bodies receive either good or bad substances whenever we inhale (89.13, 6.652 L.).⁴⁰⁰

In all of these dreams, the soul sees the cosmic analogies that a waking person might otherwise miss. Another important set of analogies can be found in chapters 11–24. In this

³⁹⁷ *Vict.* 88.2, 6.642–644 L., 93.4, 6.660 L., 93.5, 6.662 L. For a reference to this battle, see *Vict.* 6.3, 6.480 L., and cf. above, pp. 22–24.

³⁹⁸ Cf. especially *Vict.* 89.12, 6.652 L.

³⁹⁹ The author is very clear about this point in chapter 92: “To see the dead in a clean state and in white cloaks is a good sign, and to receive something clean from them signals the health of both the body and the things that enter it. For it is from the dead that nourishment, growth, and seeds arise, and for these things to enter the body in a clean state signals health” (92.1, 6.658 L.). See also *Vict.* 89.12–13, 6.652 L., where the author notes that visions of the heavenly bodies signal the entrance of some substance from the αἰθήρ, while visions of rain and other forms of precipitation signal the entrance of some substance from the ἄήρ. By the “dead,” the author means the small, invisible “souls” that had previously been exhaled by another person as their own life was dissipating, the “seeds” that will be confined to the realm of “Hades” until they are inhaled by another, “large” animal (above, pp. 180–181).

⁴⁰⁰ For the author’s identification of the gods as fiery emanations from a single, cosmic soul, see below, p. 229.

section, the author chides his fellow humans for failing to ascertain a divinely inspired analogy between the arts (τέχναι) and the body, according to which everything that we do in our daily occupations has some parallel in human physiology. This passage fits into a broader approach to the attainment of knowledge that the author invokes throughout the text. When tending to the body and its various functions, our intelligence is weaker than the intelligence of the gods.⁴⁰¹ The gods assist our inquiries,⁴⁰² but the majority (οἱ πολλοί) fail to recognize the true nature of things,⁴⁰³ since they hold to opinion (δόξα) rather than knowledge,⁴⁰⁴ and they do not even know the correct method by which insights are to be achieved.⁴⁰⁵ The attainment of true knowledge requires hard work on the part of the inquirer.⁴⁰⁶ It is possible to “chance upon” (ἐπιτυχάνειν) a correct statement here or there,⁴⁰⁷ but anyone who truly seeks understanding must sift through many particulars in order to find the hidden truth. The method by which we acquire real knowledge is to draw analogies across a wide range of cases, identifying the similarities and differences in these cases in the hope of extracting a generalizable truth.⁴⁰⁸ We must “investigate the things that are invisible from the things that are visible” (ἐκ τῶν φανερῶν τὰ ἀφανέα σκέπτεσθαι, 11.1, 6.486 L.), and we must recognize that “the things here (in the realm of the

⁴⁰¹ *Vict.* 1.1, 6.466 L., 93.6, 6.662 L. Note the author’s statement at 86.1, 6.640 L., that when the soul is tending to the body, it is unable to enjoy the state of pure thought (αὐτὴ δὲ ἐωυτῆς ἢ διανοίῃ οὐ γίνεται).

⁴⁰² *Vict.* 11.1–2, 6.486 L., 93.6, 6.662 L.

⁴⁰³ *Vict.* 1.1–3, 6.466–468 L., 4.2–3, 6.474–476 L. Note, however, *Vict.* 68.2, 6.594 L.: “I divide the year into four parts, a thing that the majority recognize most of all” (ἅπερ μάλιστα γινώσκουσιν οἱ πολλοί).

⁴⁰⁴ *Vict.* 5.2, 6.476 L. (τὰ μὲν πρήσσουν οὐκ οἶδασιν, ἃ δὲ οὐ πρήσσουσι δοκέουσιν εἰδέναι).

⁴⁰⁵ *Vict.* 1.1, 6.466 L., 11.1, 6.486 L. On the importance of knowing the proper method for acquiring insights, cf. *Vict.* 86.2, 6.640 L. (ὅστις οὖν ἐπίσταται κρίνειν ταῦτα ὀρθῶς, μέγα μέρος ἐπίσταται σοφίης).

⁴⁰⁶ *Vict.* 1.1, 6.466 L.

⁴⁰⁷ *Vict.* 1.1, 6.466 L., 87.1–2, 6.642 L.

⁴⁰⁸ Cf. the argument from induction at *Vict.* 11–24, 6.486–496 L. (discussed above, p. 73).

visible), perform the actions of the things there (in the realm of the invisible)” (5.1, 6.476 L.).⁴⁰⁹

The problem with humans is that they do not even recognize the invisible truths that they mimic with their own actions. They “recognize the things that they do, but they do not recognize the things that they imitate” (11.1, 6.486 L.), and they “do not have knowledge about what they do, whereas they think they have knowledge (δοκέουσιν εἰδέναι) about what they (actually) do not do” (5.2, 6.476 L.). The greatest irony, of course, is that the truth lies hidden in plain sight. “The eyes are not sufficient,” however, “to judge even about the things that are seen,” for what we see must further be considered by the mind (γνώμη, 4.2, 6.464–476 L.).⁴¹⁰ Even though humans do not use their intelligence correctly, failing to recognize (γινώσκειν) the archetypes that they mimic in their everyday actions, a divine necessity forces them to perform these actions “whether they intend to or not” (ἂ βούλονται καὶ ἂ μὴ βούλονται, 5.2, 6.478 L.).⁴¹¹

There is a clear parallel between the soul that “tends its own household” while the body is asleep and the enlightened humans who rise above the senses to catch a glimpse of the hidden truth. When the body is asleep, our souls perceive the analogies between the body and the cosmos, associating the flesh with land, the belly with the sea, and the three circuits of the vascular system with the three circuits of the sun, moon, and stars. Our souls also identify the πνεῦμα that we inhale as the real manifestation of what we conventionally call both the “dead” and the “gods,” who are simply invisible emanations of a single cosmic fire. The author’s goal is

⁴⁰⁹ On using the visible to “recognize the invisible” (τὰ ἀφανέα γινώσκειν), see also *Vict.* 12.1–2, 6.488 L. In this passage, the author implies that once we have knowledge about the invisible generalization, we can then turn around and apply it to other visible situations, thereby completing what could be considered a cycle of recognition (γνώσις) and discrimination (διάγνωσις).

⁴¹⁰ Cf. *Vict.* 5.2, 6.476 L. (τὰ μὲν ὁρέουσιν οὐ γινώσκουσιν). This reference to the eyes not being “sufficient” recalls the author’s discussion of treatment, which likewise needs some sort of supplement before it can be called “sufficient in itself” (see above, pp. 167–168).

⁴¹¹ Cf. *Vict.* 23.1, 6.494 L. (ταῦτα πάντα ἄνθρωπος διαπρήσσεται, καὶ ὁ ἐπιστάμενος γράμματα καὶ ὁ μὴ ἐπιστάμενος). I will return to this topic of divine compulsion below, pp. 226–234.

to make our souls perform while we are awake what they already tend to do when the body is asleep. Since we cannot shut off our senses while we are awake, we need to find another way to rise above them, and the author’s solution is to make us look for analogies that conceal the high-level commonalities that transcend particular differences.

By comparing many particulars and extracting a generalizable truth, we attain “recognition” (γνώσις) of how the mortal realm of birth, death, differentiation, and change conceals a divine realm of what is undying and unchanging.⁴¹² We recognize the “whole” (τὸ ὅλον) that is distinct from the “parts” (τὰ μέρη),⁴¹³ and we uncover general principles that encompass “all things in all circumstances” (πάντα διὰ παντός).⁴¹⁴ When we understand the “whole,” we immediately see that the universe is governed by a principle of stability through cycles. The entire universe is carried around in a circle, never truly going either forward or backward.⁴¹⁵ There is neither creation out of nothing nor destruction into nothing, for all that exists is “being” (τὸ ὄν), while “not being” (τὸ μὴ ὄν) is inconceivable (4.2, 6.474–476 L.). The primary benefit that comes from such knowledge about the whole is that it can be applied to our interactions with the parts. If we recognize what arises *from* the whole, we can then use this knowledge to manipulate the particulars and to discern what is fitting in each case.⁴¹⁶ “Whoever has knowledge always discerns correctly,” the author writes, “while whoever lacks knowledge discerns one thing correctly and another thing incorrectly” (γινώσκει ... ὁ μὲν εἰδὼς αἰεὶ ὀρθῶς, ὁ δὲ μὴ εἰδὼς ἄλλοτε ἄλλως, 12.1, 6.488 L.). With knowledge of the “whole,” we can divide up various “wholes” into their

⁴¹² *Vict.* 4.3, 6.476 L., 12.2, 6.488 L.

⁴¹³ *Vict.* 1.1, 6.466 L.

⁴¹⁴ *Vict.* 1.1, 6.466 L., 3.1, 6.472 L., 3.3, 6.474 L., 10.3, 6.486 L.

⁴¹⁵ *Vict.* 22.1, 6.494 L.

⁴¹⁶ *Vict.* 2.1, 6.468 L., 69.1, 6.606 L.

constituent parts, and we can also put these parts back together into different “wholes.”⁴¹⁷ We can use the visible to gain insight into the invisible, and we can also use the invisible to pass judgment on the visible.⁴¹⁸ In essence, we can apply general principles to particular things, and we can use particular things to gain insights about what is general. General principles belong to the realm of “wholes,” while particulars belong to the realm of “parts.” General principles are “invisible” and perceived with “intelligence” (γνώμη), while particular things are “visible” and perceived with the senses.⁴¹⁹ A person who know about the “whole” and the “invisible” gains mastery over the past, present, and future.⁴²⁰ Knowledge about cycles tells us what ought to be done,⁴²¹ and it also removes all reliance on chance.⁴²² In the realm of medicine, the author applies these insights not only to the structure of the body and to the function of its parts, but also to the prediction of the future. He says that the doctor must “recognize (γινώσκειν) the risings and settings of the stars in order to know how to guard against changes and excesses in foods, drinks, winds, and the whole cosmos—the very things from which diseases arise in human beings” (2.2, 6.470 L.). When the author mentions “the whole cosmos” in this passage, he is not being hyperbolic. He genuinely believes that the doctor must comprehend the “whole” in order to understand the parts, that he must understand the cycles in order to predict how the opposites will ebb and flow and successively “gain the upper hand.”

The author of *On Regimen* claims to be the first human being to have attained perfect

⁴¹⁷ On the notions of “division” (διαίρεσις) and “composition” (σύνθεσις), see *Vict.* 17.2, 6.492 L. (τὰ μὲν ὅλα διαίρουνσι, τὰ δὲ διηρημένα συντιθέασιν), and 23.1, 6.494 L.

⁴¹⁸ *Vict.* 12.1–2, 6.488 L., 23.1–2, 6.494–496 L.

⁴¹⁹ *Vict.* 23.1–2, 6.494–496 L.

⁴²⁰ *Vict.* 12.1, 6.488 L., 23.1, 6.494 L.

⁴²¹ *Vict.* 23.1, 6.494 L.

⁴²² *Vict.* 1.1, 6.466 L., 12.1, 6.488 L., 12.2, 6.488 L.

recognition of the “whole” as it applies to medicine. Many of his predecessors have engaged in this inquiry, and some have succeeded in part, but only he has succeeded in respect to the “whole” (τὸ ὅλον, 1.1, 6.466 L.) and only he has come as close to the truth as possible (ὥς ἀνυστὸν πρὸς τὸ ἀληθέστατον τῶν δυνατῶν, 69.1, 6.606 L.).⁴²³ The author will act as an interpreter for the masses who have not yet acquired his insights.⁴²⁴ He is fully aware, however, that even when someone else makes a correct statement, the recognition of its correctness will require the same manner of thought (διάνοια) that we need for the discovery of new insights.⁴²⁵ Someone who has achieved knowledge about some topic—and is *aware* of this achievement—might try to share this knowledge with others, but the majority of humans, even after they hear the truth, will resist it, preferring to abide by their incorrect opinions, since (1) they have already formed these opinions, (2) they prefer νόμος to φύσις, and (3) they trust in their eyes rather than their minds.⁴²⁶ There are several ways in which the author of *On Regimen* tries to unsettle his audience’s reliance on νόμος. One is to stress the paradoxical notion of unity in opposition, whereby “all things are similar though dissimilar, all in agreement though disagreeing, conversing though not conversing, having intelligence though unintelligent” (11.1, 6.486 L.).⁴²⁷ What enables the author to make this claim is the existence of cosmic cycles. The extreme ends of each cycle do in fact appear to be “opposites” when compared with one another (e.g., the ascendancy of fire vs. the ascendancy of water, the ascendancy of growth vs. the ascendancy of diminution), but these “opposites” are just two parts of the same whole, two extremes of a single

⁴²³ See also *Vict.* 1.2–3, 6.466–468 L., 2.3–4, 6.470–472 L., 93.6, 6.662 L.

⁴²⁴ *Vict.* 1.2, 6.466 L. (ἐξηγεύμενος ... δηλώσω), 4.3, 6.476 L. (τῶν πολλῶν εἵνεκεν ἐρμηνεύω)

⁴²⁵ *Vict.* 1.3, 6.466–468 L., 4.2, 6.474–476 L.

⁴²⁶ *Vict.* 1.3, 6.466–468 L., 4.2, 6.474–476 L., 11.1–2, 6.486 L.

⁴²⁷ The author sums up this principle in the following sentence: “the fashion of all particulars is opposed but in agreement” (ὑπεναντίος ὁ τρόπος ἐκάστων ὁμολογούμενος, 11.1, 6.486 L.)

cycle. “Creation and destruction are the same thing,” the author writes, “mixture and separation are the same thing, growth and diminution are the same thing” (4.3, 6.476 L.). We live in a universe where “each in relation to all and all in relation to each is the same, and of all things nothing is the same” (4.3, 6.476 L.). This riddling language reflects a conflict between received opinion (νόμος) and hidden reality (φύσις), as the author himself notes when he writes that “concerning these things, νόμος is opposed to φύσις” (4.3, 6.476 L.; cf. *Vict.* 11.1–2, 6.486 L.). As each thing separates off before returning to its original mixture, only to later separate off again, this constant back and forth between the “each” and the “all” (i.e., between the seeds and the mixture from which they first separate and to which they will return) is really a single thing (i.e., the cosmic cycle of mixture and separation), although the fact that this cycle never rests also implies that “of all things nothing is the same.”⁴²⁸

The notion of unity in opposition creates a situation in which things that are in disagreement (διάφορα) are simultaneously in agreement (σύμφορα).⁴²⁹ Each cycle is concordant in respect to the “whole” though discordant in respect to the “parts,” while the constant motion of the cycle guarantees that a small number of ingredients will produce a wide range of particulars, particulars that are “not the same” (οὐ ταῦτά) although they come from the same things.⁴³⁰ To illustrate this idea of “agreement through disagreement,” the author invokes a notion of cosmic

⁴²⁸ Cf. also *Vict.* 5.1, 6.476 L., where the author observes that “all things are the same and not the same” (πάντα ταῦτα καὶ οὐ ταῦτά), again referencing the underlying stability of cosmic cycles. At 5.2, 6.478 L., the “bigger” (τὸ μέζον) and the “smaller” (τὸ μείον) perform the same function played by the “all” (πάντα) and “each” (ἕκαστον), that is, the “smaller” refers to the seed and its accretions, while the “bigger” refers to the mixture from which it separates and to which it will later return. One of the author’s favorite illustrations of unity in opposition in the sawing/boring of a log, in which one person pulls and the other pushes, but the action is the same when viewed from the outside (6.1, 6.478 L., 16.1, 6.490 L.; cf. Bartoš 2012).

⁴²⁹ *Vict.* 2.2, 6.468–470 L. (ὑπεναντίας μὲν γὰρ ἀλλήλησιν ἔχει τὰς δυνάμεις σίτα καὶ πόνοι, συμφέρονται δὲ πρὸς ἄλληλα πρὸς ὑγιείν), 3.1, 6.472 L. (διαφόροι μὲν τὴν δύναμιν, συμφόροι δὲ τὴν χρῆσιν), 17.1, 6.492 L. (ἐκ διαφόρων σύμφορα ἐργάζονται), 17.2, 6.492 L. (ταῦτα πάντα διάφορα ἔοντα συμφέρει), 18.1, 6.492 L. (τὰ πλεῖστον διάφορα μάλιστα συμφέρει, τὰ δὲ ἐλάχιστον διάφορα ἥκιστα συμφέρει), 18.2, 6.492 L. (διαφόρων, συμφόρων).

⁴³⁰ *Vict.* 4.1, 6.474 L., 22.1–2, 6.494 L.

harmony (18.1–3, 6.492 L.):

In the art of the Muses, there must be present from the beginning an instrument (ὄργανον ὑπάρξει δεῖ πρῶτον), on which the artist will make clear what he intends (ἐν ᾧ δηλώσει ἃ βούλεται). The arrangements of harmony (ἁρμονίης συντάξεις) are not the same, although they are composed of the same things, the high and the low, things that are similar in name but dissimilar in sound. What disagrees the most creates the most agreement, while what disagrees the least creates the least agreement. If someone were to make them all similar, there would no longer be pleasure. The changes that are greatest and contain the most variety bring the most pleasure. Cooks prepare delicacies for human beings from things disagreeing and agreeing, mixing together things of all sorts, from the same ingredients things that are not the same, eating and drinking for the human being. If someone were to make them all similar, they would not bring pleasure. Nor would it be correct to arrange everything in the same place. In the art of the Muses, the notes that one strikes are now up and now down. The tongue imitates the art of the Muses by distinguishing the sweet and the acid amidst the things that fall upon it, flavors that are both discordant and concordant. The notes that one strikes are now up and now down, and is incorrect for one to strike either the up notes as down or the down notes as up. When the tongue has been harmonized well (καλῶς δ' ἡρμωσμένης), there is delight in the concordance, while there is grief in a tongue that lacks harmony (ἀναρμόστου).

Fredrich (1899) wrongly deletes the first sentence in this passage, an error that has unfortunately been followed by all subsequent editors of this text.⁴³¹ When the author says that there must be present from the beginning (ὑπάρξει δεῖ πρῶτον) an instrument for music to occur, he is thinking of the universe as a sort of musical instrument, while the divine intelligence that orchestrates the universe is equivalent to a musician playing songs.⁴³² These “songs” are the various cycles that move back and forth from one extreme to the next. The notes in these songs are apparently discordant, but in reality they create the most beautiful cosmic melodies. Only two classes of notes are available to musicians, but they are able to create songs of the greatest number and variety. What enables the musician to create such variety is the constant movement back and

⁴³¹ All the language in this sentence is typical of our author, who likes to talk about “the things that are present” (τὰ ὑπάρχοντα, cf. 2.2, 6.470 L., 6.3, 6.478 L., 9.1, 6.482 L.) and the “intentions” of various actors (cf. ἃ βούλονται καὶ ἃ μὴ βούλονται, 5.2, 6.478 L.), as well as the “making clear” of one’s intentions (cf. δηλώσω ὃ βούλομαι, 1.1, 6.466 L.) and the use of “instruments” to perform various actions (cf. ὀργάνοισιν, 22.1–2, 6.494 L.).

⁴³² This passage is a good reminder that, although the analogies in chapters 12–24 are specifically related to the activities of human beings, they could just as easily be applied to the activities of the cosmic fire.

forth between two opposing extremes, moving “up” and “down” and employing notes that are discordant when taken on their own but concordant when taken as a pair. These cycles never cease, and they delight humans with their variety. They also require the existence of a certain “harmony” (ἁρμονία), in which the two classes of notes, rather than coming together at random, must fit together in such a way as to bring delight as opposed to grief. This specific detail about the need for “harmony” recalls other passages from *On Regimen*. In particular, it recalls the “due proportion” (συμμετρία) that must be maintained if we hope to avoid disease, as well as the “harmony” (ἁρμονία) that must be satisfied for two seeds to make a growing animal.⁴³³ In chapter 8, the author describes the cycle of separation and mixture that we conventionally call “life” and “death.” After a soul runs out of nutriment and is forced out of the body in the form of a “seed,” it will combine with another seed only when it “chances upon a correct harmony (τυχόντα ἁρμονίης ὀρθῆς) possessing the three consonances of the fourth, the fifth, and the octave” (ἐχούσης συμφωνίας τρεῖς, συλλαβὴν, δι’ ὀξέων, διὰ πασέων, 8.2, 6.482 L.). “If it does not chance upon the harmony,” the author continues, “and if the low notes (τὰ βαρέα) are not consonant with the high notes (τοῖσιν ὀξέσι) in any of the three consonances—the first one, the second one, or the one that extends through all (διὰ παντός)—with one (consonance) missing the entire strain (τόνος) is unproductive. For (the seeds) cannot be accompanied with song, but move from the larger to the smaller rank before their fate/portion, since they do not recognize (οὐ γινώσκουσιν) what they are doing” (8.2, 6.482 L.). In this passage, the author is essentially saying that, for the animal to come to “life” and thereby steer its own growth, the two seeds must be combined in such a way that the watery body of one seed accords with the watery body of the other, the fiery soul of one seed accords with the fiery soul of the other, and one entire seed

⁴³³ *Vict.* 8.2, 6.482 L., 9.1, 6.482 L. Note also *Vict.* 8.2.4, 6.632 L., where the author refers to an imbalance in the hot, the cold, the dry, and the wet as a “false note” (πλημμέλεια).

accords with another entire seed. The “low” notes in this harmony (τὰ βαρῆ) are the “heavy” element (i.e., water), while the “high” notes (τὰ ὀξῆ) are the “acute” element (i.e., fire). The consonance of the fourth (συλλαβή) is presumably to be identified as the consonance between watery bodies, while that of the fifth (δι’ ὀξῶν) is to be identified as the consonance between fiery souls. When the fourth and the fifth are added together, you get an octave (διὰ πασῶν), which presumably represents the consonance between one entire seed and another entire seed, that is, the consonance which extends “through all” (διὰ παντός). The resulting harmony is a state of “tension” (τόνος) between two opposing “notes” (i.e., the elements), a “strain” in both the literal and figurative sense of the term. When one element is missing, the entire strain is unproductive (μάταιος), and the combination of seeds will not grow. Growth, as we have seen, proceeds by the principle of “like to like,” which the author here equates with the singing that accompanies the notes that are played upon an instrument. This entire harmony is not directed by the seeds themselves, but comes together as a matter of chance (τόχῃ). The fiery souls in the seeds are dominated by their watery bodies and thus too weak to steer their own actions. Their “intelligence” (γνώμη) does not “recognize” (γινώσκειν) what they are doing, but the entire process depends on a greater, cosmic intelligence that puts each seed in its place.⁴³⁴

Another way in which the author communicates the notion of “stability through cycles” is to invoke the co-existence of the “one” and the “many.” One of the great paradoxes of the universe is the fact that everything is simultaneously “the same” and “not the same,” since when one of the cosmic cycles is viewed as a whole, it is “one” and “the same,” always existing and never changing, but if we divide up the cosmic cycle and look at its specific parts, we acquire a different perspective, perceiving a world of dissimilar things that come into being and pass away while

⁴³⁴ For the divine direction of materials that lack the intelligence (i.e., fire) to direct themselves, see below, pp. 226–234.

constantly changing from one moment to the next. The goal of human inquiry is to move past the ever-changing world of perception to uncover the stable world of reality. Once we see the intrinsic stability in the universe, we will come to realize that the “one” and the “many” coexist all around us, that everything belongs to one cycle or another. We will see such cycles in the changes of the seasons, in the alternation of night and day, and—most importantly—in what is conventionally known as “life” and “death.” Night and day are just two halves of the same whole. They appear to be diametrically opposed, but they are inextricably joined to make a single cycle. The growth and diminution that humans call “life” and “death” likewise combine into a single whole. We conventionally talk about “life” and “death” as two separate things, but these terms conceal a hidden unity. In reality, all that exists is “life” while “death” does not exist—at least not in the form that humans, trusting in appearance and custom, tend to believe.

As we have already noted, the author believes that insights into the “whole” come by way of the “parts.” He holds that we should compare many particulars and look for their commonalities, using what is visible to gain insight into the invisible. In chapter 23, the author observes that “recognition” (γνώσις) comes by way of seven structures: “ear for sound, eye for visible things, nostrils for smell, tongue for pleasant and unpleasant flavors, mouth for conversation, and passages inward and outward for hot and cold πνεῦμα” (23.2, 6.496 L.). “Recognition” is what this author defines as one’s understanding of the whole as distinct from the parts. We acquire recognition by using our intelligence (γνώμη), which discerns the hidden truth that lies behind the world of appearances. This intelligence is located in the central circuit of the body. It is the hottest and strongest component of the soul, and it is superior to the weaker secretions of the soul that travel through the vessels (above, pp. 191–193). What the author is describing in this passage are the seven structures that convey information to the body’s γνώμη. The “passages inward and outward for hot and cold πνεῦμα” are the channels by which sensible matter is conveyed, while

the other structures (ears, eyes, nostrils, tongue, and mouth) are the structures that are responsible for sending information into these passages. What is most interesting about this list is the author's reference to conversation (διάλεκτος). In addition to interacting with the environment, we can also interact with each other. Conversation is not otherwise included in ancient discussions of sense perception. When the author of *On Flesh* includes the voice alongside hearing, smell, and sight, he is not thinking about sense perception *per se*, but rather the potential impairment of these functions (see above, pp. 160–161). Both Democritus and Aristotle simply list the five classic senses in their discussions of sense perception,⁴³⁵ while the addition of “intelligence” (γνώμη) or “reasoning” (λογισμός) has precedents in other works from the Hippocratic Corpus.⁴³⁶ The author's inclusion of conversation among the seven structures of “recognition” is unique and deserves further comment. In the immediate context, it forms part of a more general comparison between sensation and writing, an art that the author defines as a representation of human speech (σημεῖα φωνῆς ἀνθρωπίνης) and to which he ascribes a “power” to make things clear (δύναμις ... δηλῶσαι, 23.1, 6.494 L.). With its seven “structures” (i.e., the seven Greek vowels?), writing brings “recognition” (γνώσις) to those who read what has been written (23.1, 6.494 L.). It reminds us of “the things that have passed” (τὰ παροιχόμενα) and it grants us insight into “the things that must be done” (τὰ ποιητέα, 23.1, 6.494 L.). The author uses similar language when describing his own writing. He promises to “make clear” (δηλοῦν) certain ideas,⁴³⁷ and he also claims to be engaging in “conversation” (διαλέγεσθαι) with both

⁴³⁵ Dem. DK 68 B11, Arist. *de An.* 424b; cf. *Epid.* IV 43, 5.184 L.

⁴³⁶ *Off.* 1, 3.272 L., *Epid.* VI 8.17, 5.350 L.; cf. *De arte* 11.2, 6.20 L., *Flat.* 3.3, 6.94 L.

⁴³⁷ *Vict.* 1.2, 6.466 L., 4.3, 6.476 L., 7.1, 6.480 L., 9.1, 6.482 L., 12.1, 6.488 L., 28.4, 6.502 L., 30.1, 6.504 L., 38.6, 6.534 L., 39.2, 6.536 L., 69.1, 6.606 L. Cf. also the use of the verb δηλοῦν in reference to previous writers at 1.3, 6.468 L., to a musician at 18.1, 6.492 L., and to dreams at 89.11, 6.650 L., 90.3, 6.654 L., as well as the author's reference to “recognizing what is unclear” (τὸ ἄδηλον γινώσκει) at 12.2, 6.488 L. Other verbs that the author applies to his sharing of knowledge include διδάσκειν (“to teach,” 39.2, 6.536 L., 68.7, 6.598 L.), ἐπιδεικνύναι (“to

previous writers and his own readers.⁴³⁸ In the opening of *On Regimen*, the author takes an interesting position regarding the transfer of ideas from one person to the next (1.1–3, 6.466–468 L.):

If I thought that any of the previous writers on human regimen in its relation to health had, with correct recognition (ὀρθῶς ἐγνωκώς), written everything in every circumstance (πάντα διὰ παντός), all that can be encompassed by human intelligence (ἀνθρωπίνη γνώμη), it would be enough for me, since others have worked it out, to recognize what is correct (γνόντα τὰ ὀρθῶς ἔχοντα) and make use of these things inasmuch as each of them seemed useful. But as it is, though many have already written on the subject, no one has yet correctly recognized (ἔγνω ὀρθῶς) how he should treat it. Some have succeeded in one area, some in another, but none of my predecessors has yet succeeded in respect to the whole (τὸ ὅλον). Now none of these people should be faulted if they were unable to achieve a full discovery. On the contrary, they should all be commended for at least undertaking the inquiry. I am therefore not prepared to refute (ἐλέγχειν) their incorrect statements, but I am of the mind (διανενόημαι) to admit what they recognized well (προσομολογεῖν ... τοῖς καλῶς ἐγνωσμένοισι). For it would be impossible for me to write correctly if I were to write what has been correctly stated by my predecessors in any other way. As for what they have stated incorrectly, I will accomplish nothing by exposing (ἐλέγχων) their incorrectness. If, however, I explain in what regard I think that each point is correct, I will make clear what I intend (δηλώσω ὃ βούλομαι). I make these preliminary remarks because the majority of human beings, after they have listened to someone explaining something, do not give a fair hearing to those who converse with them afterwards (τῶν ὕστερον διαλεγομένων), as they fail to recognize (οὐ γινώσκοντες) that it belongs to the same mode of thinking (διανοίης) to recognize correct statements (γινῶναι τὰ ὀρθῶς εἰρημένα) and to discover things that have never been said before. So for my part, as I said, I will admit (προσομολογήσω) their correct statements and will make clear (δηλώσω) the real nature of what has been stated incorrectly. I will also demonstrate the real nature of what none of my predecessors even attempted to make clear (δηλώσαι).

In this passage, the author elevates dialogue (διάλεκτος) over refutation (ἔλεγχος).⁴³⁹ He claims to

demonstrate,” 1.3, 6.468 L.), ἐξηγεύεσθαι (“to explain,” 1.2–3, 6.466 L.), and ἐρμηνεύειν (“to translate,” 4.3, 6.476 L.).

⁴³⁸ *Vict.* 1.3, 6.466 L., 4.3, 6.476 L.

⁴³⁹ There is a remarkably similar passage from Plato’s *Meno* that also elevates dialogue over refutation. At *Men.* 75c–d, Socrates says that if he were conversing with one of the eristics, he would say, “If I do not speak correctly (εἰ δὲ μὴ ὀρθῶς λέγω), it is your task to take hold of the statement and refute it (ἐλέγχειν)”; however, since Socrates is conversing with friends, he will engage in dialogue (διαλέγεσθαι) and speak in a more “dialectical” manner (διαλεκτικώτερον). Socrates then goes on to define “dialectic” as “not only responding with true statements, but also making use of those things the knowledge of which the person being questioned admits (προσομολογή).” The verbal similarity between these two passages is striking, although *On Regimen*’s version of “dialectic” is not quite the same as what we see in the *Meno*. Socrates says that he will start with what his *listener* admits, while the author of *On Regimen* says that he will start with what *he himself* admits among the statements of his predecessors. Thus, we should probably

have benefited from what previous writers have “made clear,” and he seeks to continue this dialogue by “making clear” what he himself thinks.⁴⁴⁰ He praises his predecessors for what they have “recognized” and “spoken” correctly, while what they have spoken incorrectly will simply be omitted without comment. His ultimate goal is to transmit his own insights to the minds of his readers. This is not easy, however, since the majority (οἱ πολλοί) have not even acquired correct recognition of the *process* by which discoveries can be made. Before we can recognize facts, we must recognize the proper methods for uncovering those facts, methods whereby the same mode of thinking (διάνοια) is required whether we are judging previous statements or making new discoveries. These are the limits of the “dialogue” in which the author finds himself. He has attained correct “recognition” regarding the “whole” of human regimen, but the very nature of communication works against its transmission. This seems to explain why he devotes so much energy to outlining the proper methods for acquiring knowledge about the “whole,” and it also explains why he includes the mouth in his list of the parts by which we acquire “recognition” of the truth.

We can push the matter even further, however, and identify a notion of “dialogue” in *On Regimen* that is both materialist and cosmic in scale. First, on the subject of materialism, we may start with the author’s belief that every sensation that we experience is produced by the penetration of “hot and cold πνεῦμα” into the body. As the soul makes its rounds, it hits upon these effluences and then brings them back to the intelligent fire that occupies the central circuit.

not talk about the influence of one of these passages on the other. Instead, the distinction between friendly “dialogue” and eristic “refutation” was probably a common notion, one that both Plato and the author of *On Regimen* adapted for their own purposes.

⁴⁴⁰ In this passage, the phrase “what I intend” (ὃ βούλομαι) suggests a purposeful γνώμη, a thinking (διάνοια) that also implies action. Cf. the similar use of the phrase δηλώσει ἃ βούλεται at *Vict.* 18.1, 6.492 L. (quoted above, p. 217), and the assertion that humans imitate the nature of their bodies “whether they intend to or not” (ἃ βούλονται καὶ ἃ μὴ βούλονται, 5.2, 6.478 L.).

In addition to believing that human conversation involves the exchange of material substances, the author of *On Regimen* also seems to believe that it parallels a much grander form of “conversation” within the universe. While introducing his list of analogies with the crafts, the author observes that everything in the universe is “similar though dissimilar, complementary though different, conversing though not conversing, having intelligence, though unintelligent” (11.1, 6.486 L.). All things are “similar though dissimilar” (ὅμοια, ἀνόμοια) by the principle of cosmic mimesis, according to which the fire that steers the universe as a whole makes all things repeat the same patterns, no matter the scale.⁴⁴¹ All things are “complementary though different”

224

(σύμφορα πάντα, διάφορα ἔόντα) by the principle of unity in opposition, as the opposite extremes of cosmic cycles work together to create a unified whole, just as eating and exercise work together to keep the body in a state of health. All things are “conversing” (διαλεγόμενα) inasmuch as the various forces that compose the natural world are constantly interacting with each other.⁴⁴² How they are simultaneously “not conversing” is less clear, although it may be related to the notion of unity in opposition. When we look at the phenomenal world, i.e., the world of the “parts,” objects are constantly exchanging substances with each other. Night is exchanged for day, “life” for “death,” and everything is being mixed with and separated from everything else. When we contemplate reality as a whole, on the other hand, we do not see any of these “conversations.” The whole is perfect, unchanging, and not in communion with anything else, for the simple reason that nothing else exists with which it can converse. When the author says that we humans should use our own conversation (διάλεκτος) to acquire “recognition” of the whole, he is saying that we should act like the heavenly bodies that exchange fiery exhalations with each other, exchanging insights and joining the powers of our souls together, all in the hope of seeing both the conversations and the lack of conversation that exist within the universe. The author concludes this sentence with the observation that all things possess intelligence but are unintelligent (γνώμην ἔχοντα, ἀγνώμονα). To understand what he means by this statement, we need to turn to chapter 6, where the author describes the growth of the human body by the principle of like to like (6.3, 6.478–480 L.):

Whatever is not of the same kind (ὁμότροπον) cannot remain in places that are not

⁴⁴² Cf. Lo Presti and Marino (2011, 14–15): “Il significato che il verbo *dialegesthai* assume in questo contesto è assai interessante, poiché esso veicola un’idea di dialogo come ‘rapporto/vincolo relazionale’ fra i diversi piani di cui si costituisce la realtà, senza però che tale vincolo abbia carattere immediatamente linguistico. Si tratta, piuttosto, di una forma di relazione che si stabilisce fra processi fisici e fra enti del mondo naturale e umano, e che, pur non coinvolgendo soggetti parlanti, è tuttavia rappresentabile attraverso la categoria del ‘dialogo.’ ... i *dialogomena* saranno da intendere come le ‘forze’, ‘i fattori’, le ‘proprietà’—in altre parole, le *dynameis*—che definiscono la natura di ciascun ente e le sue modalità di interazione con gli altri enti.”

complementary to it (ἀσυμφόροισι), for such things wander without intelligence (πλανᾶται ... ἀγνώμονα). When they associate with each other, they recognize (γινώσκει) the thing to which they adhere. For what is complementary adheres to what is complementary, while things that are not complementary wage war, fight, and separate from each other.

In this passage, the author extends to material objects the same notions of “intelligence” and “recognition” that he applies to human beings. A substance is “unintelligent” when it is isolated and wanders around without any purpose, while it acquires “recognition” when it joins up with another substance of the same kind. In chapter 8, the author makes a similar statement when he describes the failure of two seeds that lack “harmony” to combine with one another. He says that these seeds pass from the realm of the greater to that of the lesser “because they do not recognize what they do” (διότι οὐ γινώσκουσιν ὃ τι ποιέουσιν, 8.2, 6.482 L.), again associating “recognition” with the joining up of a material object with another substance of the same kind. In chapter 11, the author precedes his observation that all things are simultaneously intelligent though unintelligent with the observation that when humans engage in their daily occupations, they recognize what they are doing, but they do not recognize what they are imitating (11.1, 6.486 L.). Whereas the free-floating seeds of humans do not even recognize what they are doing, fully grown humans at least have this recognition. However, the author notes in this passage that there is another level of recognition that most humans fail to obtain—a recognition of the archetype that they imitate in their everyday lives.

When the author refers to the “intelligence” and “recognition” of material objects, he claims that they acquire such recognition by joining up with another substance of the same kind. I would now like to suggest that the author applies this same principle to the acquisition of “intelligence” and “recognition” by human beings, specifically their recognition of the “whole” as distinct from the “parts.” In chapter 11, the author says that a “mind of gods” (θεῶν νοῦς) teaches human beings to mimic the things that occur within their bodies (11.1, 6.486 L.). This

“mind of gods” makes humans perform certain actions even when they are not aware of what they are imitating, “recognizing what they do, but not recognizing what they imitate” (γινώσκοντας ἃ ποιέουσι, καὶ οὐ γινώσκοντας ἃ μιμέονται, 11.1, 6.486 L.). “Humans establish a νόμος,” the author writes, “setting it down for themselves, but they do not recognize (οὐ γινώσκοντες) the things concerning which they establish it” (11.2, 6.486 L.). In this passage, the author stresses that humans possess only a partial “recognition” of the universe. They are guided by some external principle that dictates everything that they do, and yet they are unaware of the extent to which this “mind of gods” governs their actions.⁴⁴³ In chapter 10, the author refers to another sort of “mind,” defining it as the “hottest and strongest fire” that occupies the body’s central circuit. This fire contains “soul, mind (νοῦς), thought, movement, growth, decrease, change, sleep, and waking. It steers all things in all circumstances, both these things here and those things there, never coming to rest” (10.3, 6.486 L.).⁴⁴⁴ Since this fire ultimately controls everything in the body, every *movement* that we perform, the only way in which a “mind of gods” could conceivably control the body is to do so by way of this mind. The author is also eager to stress that the “mind” within our bodies occupies a circuit that is itself analogous to the circuit of the sun, and that it steers “both these things here and those things there” in an apparent analogy between our central soul and some overarching, cosmic fire. The upshot of these observations is that the author of *On Regimen* seems to believe that the “mind” of human beings and the “mind” of gods are actually two forms of the same thing. The mind of human beings is weaker than the mind of gods, but both minds arise from the same source. We have already seen a microcosmic echo of this macrocosmic process in the author’s discussion of the human body. When the soul in

⁴⁴³ Cf. Plato’s description of poets and seers who, by virtue of divine inspiration, say what is correct, but do not have knowledge about the things they say (*Ap.* 22b–c, *Men.* 99b–100c, *Ion* 533d–534d).

⁴⁴⁴ On the equivalence of “soul” (ψυχή) and “intelligence” (γνώμη), see also *Vict.* 21.1, 6.494 L.

the middle circuit secretes a portion of itself to distribute moisture to the flesh, that portion of the soul is weaker than the “hottest and strongest” fire that is located in the central circuit. The fire in this middle circuit, a circuit that the author specifically connects to the circuit of the sun, secretes a weaker form of fire in direct proportion to the weaker form of “mind” that is contained within our bodies. The soul in the other parts of the vascular system are loaded with more moisture than the fire in the central circuit, with the result that they have far less intelligence (γνώμη) than the pure fire in the heart and its adjacent vessels. Given this author’s deep commitment to his analogy between the body and the cosmos, all of this leads quite naturally to the conclusion that the sun is the cosmic equivalent of the central fire within our bodies. The “mind of gods” is concentrated in the sun, and all other forms of intelligence—and, indeed, all other *divinities*, including the undying soul within our bodies—has been “separated off” from this central source, sent off in various directions to give soul, mind, thinking, movement, growth, and diminution to all things. By engaging in conversation and joining one soul with another, humans can start their long journey back to the “source,” acting like the two seeds in embryogenesis that acquire intelligence when they combine their fiery souls to overpower their watery bodies. We combine our fiery souls with a larger mass of cosmic fire, and as a result we acquire “recognition” of the archetype that we mimic in our everyday lives.

We have already seen a passage in which the author writes about this process of soul-division. “From the division of one soul,” he writes, “there arise other souls, more or less numerous, bigger or smaller in size” (16.2, 6.490 L.). This sentence could be applied either to the body or to the cosmos, but given the author’s notion of cosmic mimesis, it almost certainly applies to both. As we noted above, it is possible that the author’s idea of cosmic mimesis is grounded in the observation that all intelligence in the universe comes from the “hottest and strongest” fire that is concentrated in the sun. There is only one soul, only one fire that governs the universe as a

whole. This fire is what constructed and now governs the cosmos in its various cycles, while its weaker exhalations construct and govern individual things, including the bodies of human beings. We should not be surprised, therefore, if the body turns out to be an imitation of the whole, nor should we be surprised that we mimic human physiology in our daily occupations. Since everything can ultimately be traced back to the cosmic fire, it is by necessity that everything else that depends on this fire will perform the same actions. An obvious benefit of this insight is that we can use observations about the phenomenal world to learn about the universe as a whole. We can move from copies to archetype, from “parts” to the “whole,” from the visible to the invisible. This is the method of inquiry that the author of *On Regimen* advocates very forcefully, and it is inextricably linked to his theories about the single intelligence that governs all things.

So how do the traditional gods of Greek myth fit into this system? As we have already noted, there is a central fire, concentrated in the sun, that is the source of all divinity. The other heavenly bodies are divine because they get their fire from the sun, and our souls are likewise divine because they spring from this central intelligence. As for the traditional gods, they are simply particularized manifestations of the same cosmic fire. Some of these gods embody the fire itself, while others represent emanations from that fire. We can see this very clearly when we turn to the author’s discussion of dreams, in which he describes the prayers that one can make in response to various visions.⁴⁴⁵ The author lists a number of visions and offers prescriptions for

⁴⁴⁵ On the author’s classification of dreams, especially his reference to “divine” dreams that lie outside the doctor’s purview, see van der Eijk (2004). To his analysis, my only addendum concerns the author’s statement that “divine” dreams supposedly predict both good and ill for either cities or individuals “through no fault of their own” (μη δι’ αὐτῶν ἀμαρτίην, 87.1, 6.640–642 L.). This phrase has legalistic connotations, emphasizing that the dreamer is not to be considered responsible for the good or ill that comes their way. Cf. the similar use of this language in Antiphon’s second and third *Tetralogies*, in which the designation of one person or another as “responsible” (αἵτιος) is the main point of contention (*Tetr. II* 2.5, 2.9–11, 3.10–11, 4.5, 4.8–9, *Tetr. III* 3.4, 4.5). Further parallels abound in Greek oratory: e.g., And. 2.17, Isoc. 2.3, Dem. 61.54, Arist. *Rh. Al.* 36.27; note also *Epid. VI* 7.11, 5.342 L., *Epid. VII* 17, 5.390 L. For the legalistic transfer of “fault” (ἀμαρτία) from a human to a god, a similar sentiment can be found in Euripides (*Or.* 76, *Ba.* 29). Diels (1910, 147) unnecessarily deletes the phrase, and he has unfortunately been followed by both Jones (1931) and Joly (1984). Although there is a slight illogicality in saying that not just bad, but also *good*

each, but there are only three conditions for which he supplements his prescriptions with prayer. The first is a case in which an ἀπόκρισις of moisture falls upon the soul and “disturbs” it (88.2, 6.644 L.). In this case, the author simply notes that one should “pray to the gods,” without specifying any gods by name. The second time that prayer is prescribed is for a series of “heavenly” signs that are caused by the inhalation of foreign substances into the body (89.12–14, 6.650–652 L.). For these conditions, the author says that if the signs are *good*, the patient should pray to Helios (i.e., the Sun), Heavenly Zeus, Zeus the Protector of Property, Athena the Protector of Property, Hermes, and Apollo, while if the signs are *bad*, the patient should pray to the apotropaic gods, Ge (i.e., the Earth), and the heroes. The third reference to prayer relates to a particularly dangerous drying of the flesh (90.6–7, 6.656–658 L.). In this case, the patient is instructed to moisten the flesh, to avoid both the sun and cold, and to pray to Ge, Hermes, and the heroes.

The author’s choice of these specific deities has never been adequately explained.⁴⁴⁶ As van der Eijk (2004, 205, n. 69) observes, “The selection of these particular deities (as against others, e.g. Asclepius) is a question which deserves to be further pursued, perhaps in relation to the doctrine of the soul.” Now that we have come to a better understanding of what this author thinks about the soul, we can hazard a few guesses about his selection of these deities. First, we have already noted that the gods are best interpreted as particularized manifestations of a single

things can befall a person through no “fault” of their own, the common use of this phrase in legal contexts would have made the author’s meaning quite clear. What he is essentially saying is that, according to the seers who discuss these “divine” dreams, the gods help or harm us even when we do nothing to deserve it. This plays into the author’s general polemic against seers in this passage, as he criticizes them for relying on luck (τύχη) rather than art (τέχνη) and for not being able to explain why their interpretations succeed or fail. The author of *On Regimen* declines to interpret omens of this sort because they contravene his notion of cosmic regularity. If the gods are *really* inflicting us with good or ill, then there must be some cause, something that we have done to deserve it.

⁴⁴⁶ For earlier discussions, see Fredrich (1899, 216, n. 1), Hey (1908, 38–39), Palm (1933, 77–79), Hoessly (2001, 304, n. 278), van der Eijk (2004, 204).

cosmic fire. The sun contains the highest concentration of fire in the universe, and so we should hardly be surprised that Helios comes first in the list of gods in chapter 89. As for the other gods in this list, we have already seen an allegorical interpretation of Zeus and Hades in chapter 4 (above, p. 183). In this passage, the author uses “Zeus” to denote the visible sky (i.e., the αἰθήρ), while “Hades” refers to the invisible region on the other side of the earth. “Heavenly Zeus” might therefore represent the αἰθήρ that contains the “heavenly” bodies, i.e., the sun, the moon, and the stars. A similar interpretation can be applied to the next two gods: “Zeus the Protector of Property” (Ζεὺς κτήσιος) and “Athena the Protector of Property” (Ἀθηναία κτησία). The adjective κτήσιος was a cult epithet of Zeus, but it is otherwise unattested for Athena.⁴⁴⁷ When it is applied to Zeus, the epithet indicates his role as the protector of the home and its storeroom (ταμειῶν).⁴⁴⁸ We have already seen several references to “homes” and “storerooms” in *On Regimen*. In particular, we have seen the body described as the “house” of the soul (86.2, 6.640 L., 90.5, 6.656 L., 92.2, 6.658 L.) and the belly described as the “storeroom” of the body (10.1, 6.484 L.). Thus, Zeus the Protector of Property and his daughter, Athena the Protector of Property, are probably invoked as protectors of the various “homes” within the universe, especially the house that represents our bodies. It may also be significant that Athena, Hermes, and Apollo—the last three gods in this list—are all traditionally identified as the children of Zeus. Thus, they could represent the “children” of αἰθήρ, i.e., the weaker secretions of the cosmic fire that the αἰθήρ sends down to earth.⁴⁴⁹ Whereas Zeus protects a larger, cosmic “house” that encompasses the entire universe, Athena may specifically protect the “house” of the human body.

⁴⁴⁷ Cf. Palm (1933, 78): “Während die Athena Ktesia uns sonst weder literarisch noch inschriftlich bekannt ist, ist der Kult des Zeus Ktesios gut bezeugt.”

⁴⁴⁸ Cf. especially A. *Supp.* 443–445 and Men. fr. 410 K.–A.

⁴⁴⁹ This interpretation would work especially well for Athena, who was said to have arisen fully grown from the head of Zeus—a story that could easily be allegorized as a reference to ἀπόκρισις.

As for Hermes, he is traditionally identified as the messenger of the gods and as the escort of souls to the afterlife. In the system of *On Regimen*, both of these functions would have been relevant to the author's system. The author may have speculated, for example, that Hermes is simply another name for the πνεῦμα that transmits substances between the αἰθήρ and the earth, sometimes bringing substances down to the earth (i.e., serving as the “messenger” of heavenly Zeus), and sometimes bringing substances up to the αἰθήρ (i.e., escorting souls to the “afterlife” by helping them rejoin the cosmic fire). A similar function could be attributed to Apollo, who has an obvious connection with the sun.⁴⁵⁰ In some ancient allegories, Apollo is specifically said to represent the *rays* of the sun (Macr. *Sat.* 1.17), and it is possible that he also holds this association here.⁴⁵¹

All of these “heavenly” gods receive prayers in response to positive signs, most likely because the author views the dry αἰθήρ as healthier than the watery earth and its surrounding ἄήρ. When something unhealthy has entered the body, the author recommends prayer to a different set of deities: the apotropaic gods, Ge, and the heroes. Because all divinity derives from a single, cosmic fire that steers the universe as a whole, we can start by observing that this second set of divinities will also be fiery in nature. The main difference is that instead of inhabiting the heavens, these gods inhabit the earth.⁴⁵² As we have already suggested, the author of *On Regimen* appears to have believed that the earth, like the flesh, is simply a concretion of cold water (above, p. 190). He also seems to have believed that the earth contains passageways for both “hot and cold πνεῦμα” just

⁴⁵⁰ Cf. Palm (1933, 79): “Apollon als Lichtgott gehört zu Ἥλιος und Ζεὺς οὐράνιος.”

⁴⁵¹ On the associations of Zeus with αἰθήρ and Apollo with the sun, note also Parm. DK 28 A20 (quoted below, n. 584).

⁴⁵² For the distinction between Olympian and Cthonic deities, see Burkert (1985, 190–215). On the anonymous “apotropaic gods,” see Parker (2002).

as the flesh contains passageways for πνεῦμα to enter and exit the body (above, p. 220). Other thinkers from this period talk about winds that circulate through the earth, creating earthquakes and providing humans with both sickness and divine inspiration.⁴⁵³ In *On Regimen*, such winds would guide the growth of plants by entering their roots, just as the human soul guides the growth of flesh in the outermost circuit.⁴⁵⁴ In the body, the soul that runs through the outermost circuit is a secretion of the “hottest and strongest” fire in the central circuit. By referring to a goddess called Earth (= Ge), the author may be suggesting that a similar fire is also embedded in the earth. A reservoir of subterranean fire would explain such phenomena as volcanoes and hot springs, and it would also explain why the winds that blow across the earth’s surface originate in the frozen poles (above, p. 178). When discussing the “death” of human beings, the “death” of coals, and the cooling of freshly cooked foods, the author envisions a process whereby πνεῦμα is ejected from a larger object wherever water has “gained the upper hand” over fire. Since the frozen poles manifest the extreme ascendancy of water over fire, it is quite likely that the author applies this same model to the earth, postulating that the fiery “soul” of the earth is ejected and sent into the ἀήρ wherever water has “gained the upper hand” over fire.⁴⁵⁵ As this πνεῦμα blows

⁴⁵³ Cf. [Arist.] *De mundo* 4, 6.395b: “Many vent-holes for wind open in every part of the earth; some of them cause those who draw near to them to become inspired (ἐνθουσιᾶν), others cause them to waste away, others make them utter oracles, as at Delphi and Lebadia, others utterly destroy them, as the one in Phrygia” (trans. Barnes, modified).

⁴⁵⁴ In chapter 21, the author refers to statue-makers who mix together “water and earth” but do not add “soul” (ψυχή) and “intelligence” (γνώμη) to their creations. They dry the wet and moisten the dry, performing the actions that the statue, lacking a soul, is incapable of performing on its own. It is quite possible that the author views the vegetation upon the earth as the equivalent of a statue. In this analogy, the fire within the earth would be the equivalent of a statue maker, shaping an object that is incapable of shaping itself. The author explicitly notes that plants lack “intelligence” (γνώμη), suggesting that some other intelligence is responsible for their growth. Just as the central fire in the body sends out a more “gentle” form of fire to add moisture to one part and to take it away from another, so the central fire in the earth (= Ge) would send out a gentler version of itself (= underground winds) to regulate the growth of plants. For the idea that statue-makers cannot implant soul in their creations, see X. *Mem.* 3.10.3.

⁴⁵⁵ For the violent ejection of a substance by its opposite, see *Vict.* 6.2, 6.478 L., 78.1, 6.622 L. Since water dominates fire in the frozen poles, the πνεῦμα that arises from the poles will start off with the qualities of being cold and wet, eventually losing this moisture when it passes through drier regions.

across the earth, some of it becomes sickly, while some of it becomes healthy. The healthy variety could well be what the author associates with the apotropaic gods, as this πνεῦμα would literally “turn away” either fire or water, depending on the direction of the imbalance.⁴⁵⁶

I would like to conclude this discussion of *On Regimen* by briefly considering the relationship between this text and other cosmologists from the Classical period. In particular, I would like to point out that the underlying framework of *On Regimen* is remarkably similar to the systems of Parmenides, Heraclitus, and Empedocles, a triad of thinkers who, like the author of *On Regimen*, chide unenlightened mortals for trusting their mistaken opinions (δόξα) instead of recognizing the hidden truth. In all three cases, the hidden truth involves a recognition of the fact that all birth, death, change, and differentiation conceals a cosmic order that is undying and unchanging. When the universe is considered only in part, it seems to be irregular and ever-changing, but when the universe is considered as a whole, it is a stable and unchanging. In all of these systems, the stability of the universe is preserved by cosmic cycles. Opposites dominate and are dominated in turn, but the whole always remains the same. Like the author of *On Regimen*, these cosmologists stress the unity of opposites and the fact that one member of a pair of opposites cannot exist on its own. These thinkers also make the paradoxical observation that the harmony of the universe arises from disagreement, that strife is conjoined with love. As in *On Regimen*, these cosmologists claim to see cosmic cycles in all corners of the universe, including the changes of the seasons, the alternation of night and day, the waxing and waning of the moon, and what is conventionally called “life” and “death.” An eschatological component is especially important for all of these thinkers. They all claim that our souls have “separated off” from some larger mass, a cosmic

⁴⁵⁶ The author’s use of the term “apotropaic” can in fact be related to the concept of a “turning point” (τροπή), just as the solstices are the “turning points” (τροπαί) in which the fiery summer and watery winter give way to one another (see above, p. 173).

intelligence that steers and regulates the universe as a whole, and which they specifically identify, like the author of *On Regimen*, with fire, the sun, or the αἰθήρ. Our souls sustain and guide us while contained within our bodies, but their ultimate goal is to return to the central intelligence from which they first arose. Those who recognize this truth about the universe will acquire all-powerful insights. They will rise above the various cycles, including the cycle of life and death, and they will use this knowledge about the “whole” to acquire insights about the “parts.” The majority will resist these insights because their souls are impure, deceived by a human “law” that is distinct from the “law” of the gods. We will all learn about this law after leaving our bodies, but a select few can speed up their assimilation with the central divinity, acquiring insights about the universe even while tied to a mortal form.

Individual comparisons of Parmenides, Heraclitus, and Empedocles with *On Regimen* will not only illustrate the extent to which these thinkers all begin from a shared foundation of beliefs, but they can also shed light on some of the more obscure and contested aspects of their systems. Like the author of *On Regimen*, Parmenides divides the earth into zones, including two frozen poles and two inhabited regions that are separated by a central desert (DK 28 A44a). He places a band of moist αἴηρ around the earth, and he claims that this material was “forced out” of the earth (DK 28 A37) in a manner very similar to *On Regimen*’s theory that all winds have been ejected from the earth’s frozen poles. Parmenides divides the heavens into circuits, surrounded by an impenetrable περιέχον (DK 28 A37),⁴⁵⁷ and he places the sun in the middle, between the two circuits of the moon and the stars (DK 28 A37, B10, B12; cf. A40a.). As in *On Regimen*, Parmenides associates the cosmic fire that lies at the center of the cosmos with a multi-named

⁴⁵⁷ On the number and nature of these circuits, see Tarán (1965, 232–246).

divinity who regulates the universe and is the source of all intelligence.⁴⁵⁸ According to a doxography preserved by Stobaeus, the various names that Parmenides gives to this deity are “the goddess who steers” (δαίμων κυβερνήτις), “the holder of the keys” (κληδοῦχος), Justice (Δίκη), and Necessity (Ἀνάγκη),⁴⁵⁹ and he may have also associated her with Aphrodite, an appropriate patron for the notion of unity in opposition.⁴⁶⁰ In the opening of his poem, Parmenides rides in a chariot that is guided by the daughters of Helios, escorts who could well be interpreted as emanations from the sun just as another escort of souls, Hermes, can be interpreted as an emanation of the celestial fire in *On Regimen* (above, p. 232).⁴⁶¹ The endpoint of Parmenides’ journey is the “gates of the paths of Night and Day,” a unity of opposites that represents the “whole” as distinguished from the “parts” (DK 28 B1.11). Most humans do not get to perceive this whole until after they die, but Parmenides, through his hard work and careful thinking, has recognized the truth and gets to see it while still alive (DK 28 B1.26). In the first stage of Parmenides’ poem, the goddess describes the eternal “whole” that is distinct from the mortal “parts.” In the second stage, the goddess describes the world of appearances, i.e., everything that changes while the universe remains the same (DK 28 A7). Parmenides associates the world of appearances with deception and a lack of “true trust” (πίστις ἀληθείς, DK 28 B30),

⁴⁵⁸ Parm. DK 28 A1 (= D.L. 9.21), A32, A37, B12.3–6; cf. DK 28 A20, A30–31, A33. For the identification of the δαίμων at DK 28 B1.3 and B12.3 as the sun, see Kranz (1916, 1159), Gigon (1968, 246–247), Cornford (1952, 118, n. 1), Guthrie (1965, 7), Ferrari (2008, 47). Cf. the assertion in *On Flesh* that the “hot,” which is concentrated in the αἰθήρ, “apprehends, sees, and hears all things,” and that it “knows all things, both what is and what is going to be” (*Carm.* 2.1, 8.584 L.).

⁴⁵⁹ Parm. DK 28 A37. On “the goddess who steers” (δαίμων κυβερνήτις), see Parm. DK 28 A32, B12.3, and cf. *Vict.* 10.3, 6.486 L. (τοῦτο πάντα διὰ παντός κυβερνᾷ). On “the holder of keys,” see Parm. DK B1.14. On Justice, see Parm. DK 28 A32, B1.14, B1.28, B8.14, and cf. *Vict.* 24.1, 6.496 L. On Necessity, see Parm. DK 28 A32, B8.16, B8.30, B10.6, and cf. *Vict.* 5.2, 6.476–478 L. (πάντα γίνεται δι’ ἀνάγκην θείην).

⁴⁶⁰ Cf. Parm. DK 28 B12–13, B18, Plu. *Amat.* 756f. Some scholars, including Cordero (2004, 26) and Ferrari (2008, 53), have suggested that Parmenides takes the role of an anti-Phaethon, who similarly drives the chariot of the sun and, according to some myths, was promised in marriage to Aphrodite.

⁴⁶¹ For Parmenides’ allegorical reinterpretation of traditional deities, see also DK 28 A20.

but he never explicitly claims that this world is false, nor does he assert that it is unworthy of investigation.⁴⁶² At DK 28 B1.5 and B1.21, the daughters of Helios are called κοῦραι (“young women”), while at DK 28 B1.24–25 Parmenides himself is called a κοῦρος (“young man”) who is “yoked to/married to immortal charioteers” (ἀθανάτοισι συνάορος ἡνιόχοισιν). This designation of Parmenides as a κοῦρος has traditionally been read as either an autobiographical reference to Parmenides’ age or as a reflection of the fact that adolescence is the time of life in which we devote ourselves to education.⁴⁶³ If Parmenides holds that all souls are secretions of a single, cosmic fire, however, another interpretation is possible: Parmenides and the daughters of Helios are both “youths” insofar as they are both “younger” offspring of the cosmic fire,⁴⁶⁴ while the “immortal” mares who are “full of thought” (πολύφραστοι, DK 28 B1.4; cf. DK 28 B2.8, B6.2) and who carry Parmenides “as far as my spirit might reach” (ὅσον τ’ ἐπὶ θυμὸς ἰκάνοι, DK 28 B1.1; cf. DK 28 B5.2) could be seen as representing the intelligent, immortal soul in the center of Parmenides’ chest, a force that carries his mortal body (= Parmenides himself) to all corners of the universe.⁴⁶⁵ In this allegory, the daughters of Helios would represent what the author of *On Regimen* calls the “mind of gods”—a self-directing, intelligent secretion of the central fire that unites with the fire inside our chests and directs our various actions (above, pp. 226–228). In Parmenides’ proem, these daughters of Helios leave the house of Night, uncover their heads (i.e.,

⁴⁶² This fact was already noted in antiquity; cf. Parm. DK 28 A34. The goddess in fact says that it is *necessary* for Parmenides to learn about the world of appearances, as it permeates “all things in all circumstances” (διὰ παντὸς πάντα περῶντα, DK 28 B1.32).

⁴⁶³ Cf. Cosgrove (1974), Conche (1996, 57–59), Cordero (2004, 24–25).

⁴⁶⁴ Cf. the use of the nouns κοῦρος and κοῦρη to denote children in the womb at Parm. DK 28 B17.

⁴⁶⁵ Cf. Parm. DK 28 B6, where his own intellectual journey is contrasted with the “wandering mind” (πλακτὸν νόον) of mortals who “know nothing.” At DK 28 B7, the goddess tells Parmenides to bar his thought (νόημα) from a particular path of inquiry, again suggesting that his νοῦς is engaging in a journey.

reveal the fire that is surrounded by a watery envelope?),⁴⁶⁶ and enter the light as Parmenides gains his insights into the nature of the “whole” (DK 28 B1.9–10).⁴⁶⁷ Like the author of *On Regimen*, Parmenides gains his insights by joining two minds together, reuniting his soul with the cosmic fire from which it originally branched off.⁴⁶⁸ The axle in Parmenides’ chariot is “blazing” (αἰθόμενος, DK 28 B1.7), while the doors that he enters are “aetherial” (αἰθέρια, DK 28 B1.13), suggesting that one piece of the αἰθήρ (i.e., Parmenides’ soul) is reuniting with the αἰθήρ as a whole. When Parmenides passes through the gates of night and day, the goddess grasps his right hand (χείρα δὲ χειρὶ / δεξιτερὴν ἔλεν, DK 28 B1.22–23), a gesture that is often used in Greek art to show close bonds between individuals, especially in funerary art. Significantly, this gesture is frequently used to connect the living and the dead, which could imply that Parmenides has reached the point where life and death are united into one.⁴⁶⁹ Numenius reports that Parmenides described two sets of heavenly gates, one through which souls *descend* to “coming to be” (εἰς γένεσιν) and the other through which they *ascend* to the gods (εἰς θεούς).⁴⁷⁰ Of these two gates,

⁴⁶⁶ Compare the association of clothing with moisture at *Vict.* 92.1–2, 6.658 L., and the general assumption that moisture dampens the intelligent fire of our souls at *Vict.* 35, 6.512–522 L.

⁴⁶⁷ Note the parallel imagery that describes the opening of the “gates of the paths of Night and Day” at DK 28 B1.15–17. Coxon (2009) suggests that the “House of Night” represents the ignorance of human experience (later styled the “Journey of Night”), which is mere blindness (cf. τυφλοί at DK 28 B6.7) when compared with the truth/reality that is revealed along the “Journey of Day” (a region the Goddess calls “our house,” ἡμέτερον δῶ, at DK 28 B1.25). On the language of “homes,” see above, p. 231. For Parmenides, the “House of Night” may be equivalent to what the author of *On Regimen* calls “Hades,” while the “light”/“day” may be equivalent to what the author of *On Regimen* calls “Zeus.” For more on the “houses” of Hades and Zeus, see below, n. 560.

⁴⁶⁸ For the identification of the daughters of Helios as a form of νοῦς, see Coxon (2009, 274). Cf. also Ferrari’s (2008, 44–48) interpretation of the εἰδῶτα φῶτα at DK 28 B1.3 as both “the man who knows” and “the knowing lights.” At DK 28 B8.46–47, Parmenides describes what happens when “not being” does not stand in the way of “being” (οὐτε γὰρ οὐκ ἔδον ἔστι, τό κεν παύοι μιν ἰκνεῖσθαι / εἰς ὁμόν), describing a movement of “like to like” that could well be reflected in the joining of Parmenides’ fiery soul with the fire that governs the universe as a whole.

⁴⁶⁹ Cf. Davies (1985). Note also the “marriage” between Parmenides and the daughters of Helios, to which the goddess refers in the following line (ἄθανάτοισι συνάγορος ἡνιόχοισιν, DK 28 B1.24). In the reading of Parmenides as an anti-Phaethon (see above, n. 460), his “marriage” with both the Heliades and the goddess would fulfill the marriage with Aphrodite that Phaethon had originally lost. Whereas Phaethon fails in steering the sun’s chariot, Parmenides succeeds, achieving a union with the central fire by respecting the proper limits of the universe.

⁴⁷⁰ Numen. fr. 31 des Places (= Parm. test. 133 Coxon).

Parmenides has entered the gate through which our souls ascend to the gods, i.e., into the αἰθήρ and away from “coming to be” (γένεσις). According to Diogenes Laertius, Parmenides held that “the generation of human beings first arose from the sun” (γένεσιν τε ἀνθρώπων ἐξ ἡλίου πρῶτον γενέσθαι, DK 28 A1 = D.L. 9.22), suggesting that this homecoming is indeed a return to the heavenly fire, and in particular a return to the sun.⁴⁷¹

The destination of Parmenides’ journey is not as simple, however, as saying that he is riding into the sun. The ancient testimonies actually disagree about whether the governing fire is located in the middle of the heavenly rings (i.e., the ring of the sun) or at the extreme edge of the αἰθήρ, while some even say that it lies beyond the περιέχον. It is possible that this confusion stems from Parmenides himself, who may well have held all three views at the same time. Inasmuch as the cosmic fire governs the entire universe, it stands at the edge of the περιέχον and embraces everything within it. Inasmuch as this fire forms a *part* of the universe, it lies in the center of the heavens and is concentrated in the sun. It has also been suggested that the destination of Parmenides’ journey is neither the αἰθήρ nor the sun, but rather the invisible realm on the other side of the earth. This is the realm to which the author of *On Regimen* gives the name of “Hades,” and through which the sun passes every night when darkness reigns in the house of “Zeus.” The motif of an “underworld descent” (κατάβασις) was well known in Greek poetry. It was even associated with the acquisition of knowledge, as we see in Odysseus’ visit to Tiresias. A connection with the underworld has some intertextual support,⁴⁷² and yet it seems to be directly refuted by the above-mentioned allusions to αἰθήρ and the sun. We might ask, for example, why

⁴⁷¹ It may be significant that the goddess uses the verb νέεσθαι (“to go home,” DK 28 B1.26) and refers to “our house” (ἡμέτερον δῶ, DK 28 B1.25), suggesting that Parmenides is engaging in a *nostos*, returning to the home that his soul had originally left.

⁴⁷² See especially Furley (1973).

the gates through which Parmenides passes are called “aetherial” if he is not traveling through the αἰθήρ. We might also ask why his escorts are the daughters of the sun, the Heliades, if he is simply going down into the underworld. A potential solution to these difficulties is simply to assume that Parmenides is being intentionally ambiguous. After all, if he is going to the place where all things are “one,” this would necessarily unite all *three* of the major reservoirs in which fire is concentrated: (1) the visible sky (= αἰθήρ), which *On Regimen* calls “Zeus,” (2) the invisible region on the other side of the earth, which *On Regimen* calls “Hades,” and (3) the sun that passes through both of these regions during its constant cycling from east to west. All three of these reservoirs are places where the governing fire can be found, and all three are united into one as soon as Parmenides makes his “homecoming” by passing through the “gates of the paths of Night and Day.” Once he completes this homecoming, Parmenides can then view the entire cosmos as a whole. It will be as if he is standing outside the περιέχον, even if he does not literally take his journey beyond this impenetrable barrier.

What enables Parmenides’ “homecoming” to the fiery, cosmic soul is his mastery of cosmic cycles. He includes many allusions to cosmic cycles in his poem, beginning with the observations that his chariot is driven on either side by “two whirling wheels” (δοιοῖς ... δινωτοῖσιν κύκλοις, DK 28 B1.7–8), while Justice, who guards the gates of night and day,⁴⁷³ carries “alternating” keys (κλιῖδας ἀμοιβούς, DK 28 B1.14) that make the heavenly gates “swing open one after the other” (ἀμοιβὰδὸν εἰλίζασαι, DK 28 B1.19).⁴⁷⁴ When these gates open, they create a “gaping gulf” (χάσμι’ ἀχανές, DK 28 B1.18) that recalls the Hesiodic Chaos, the undifferentiated “whole” that

⁴⁷³ In Homer, the gates of heaven are guarded by the Horai (*Il.* 8.393), who are identified in Hesiod as Eunomia, Dike (“Justice”), and Eirene (*Th.* 900–2). For other references to “justice” in Parmenides’ poem, see DK 28 B1.28 and B8.14.

⁴⁷⁴ Note also the parallel language that describes the turning wheels of Parmenides’s chariot (ἄζων δ’ ἐν χνοῖσιν, DK 28 B1.6) and the turning of the gates in their sockets (ἄζοντας ἐν σύριγξιν, DK 28 B1.19).

existed before the separation of the heavens from the earth. Most humans fail to perceive the stability of cosmic cycles, which the goddess calls “the unmoving heart of well-rounded truth” (ἀληθείης εὐκυκλέος ἀτρεμῆς ἦτορ, DK 28 B1.29).⁴⁷⁵ As a result, they are “two-headed” (δίκρανοι, DK 28 B6.5), possess a “wandering mind” (πλακτὸν νόον, DK 28 B6.6), lack true knowledge (εἰδότες οὐδέν, DK 28 B6.4; cf. DK 28 B1.3), and travel a road that is “backwards turning” (παλίντροπος, DK 28 B6.9), whereas Parmenides travels “straight” (ἰθύς, DK 28 B1.21) and “far from the beaten path of human beings” (ἀπ’ ἀνθρώπων ἔκτος πάτου, DK 28 B1.27).⁴⁷⁶ The goddess begins her narrative with another allusion to cosmic cycles, observing that “wheresoever I begin is one and the same (ζυνόν), for I will come back there again” (τόθι γὰρ πάλιν ἴζομαι αὖθις, DK 28 B5).⁴⁷⁷ Scholars have wondered why the goddess would attribute “circularity” to her account, but this statement becomes easier to understand if we interpret it as a reference to the stable truth that rises above the cycles themselves.⁴⁷⁸ When the cycles are viewed only in part, human beings assume that the extreme ends of each cycle are different things. They confuse “not being” with “being” and “not the same” with “the same,”⁴⁷⁹ when in reality the cyclical dominance of opposing powers guarantees that all that exists is “being,” while “not being” is an illusion. For Parmenides, the term “being” can be applied only to the cycles

⁴⁷⁵ For other references to stability, cf. Parm. DK 28 B4.1 (νόῳ παρῶντα βεβαίως), B8.4 (ἀτρεμῆς), B8.29 (ταῦτόν τ’ ἐν ταῦτῳ τε μένον καθ’ ἑαυτό τε κεῖται). All of these passages imply a contrast between the stability of the universe as a whole and the constant movement of the cycles of which it is comprised.

⁴⁷⁶ It is significant that Parmenides selects a chariot as his vehicle, since chariot racing usually took place on a circuit. Cf. Emp. DK 31 B46, where the moon is said to revolve around the earth “as the course of the chariot turns round and back” (trans. Wright). By driving his chariot “straight,” Parmenides escapes the “backwards turning” path that is travelled by other mortals. In other words, he is able to rise above the cosmic cycles to view the universe as a whole.

⁴⁷⁷ For the association of this language with a “cycle” (κύκλος), cf. Heraclit. DK 22 B103, *Loc. Hom.* 1.1, 6.276 L., *Oss.* 11, 9.182 L., *Vict.* 19, 6.492–494 L. As Craik (1998, 94) observes, “The perfect shape of the described circle became a common, almost banal, motif; to Empedokles it represented continuity and stillness in the scheme of creation and existence.”

⁴⁷⁸ At DK 28 B8.27, Parmenides refers to “what is” as “unbeginning and unceasing” (ἀναρχον ἄπαυστον), again suggesting a cycle that constantly turns back on itself.

⁴⁷⁹ Parm. DK 28 B6.7–9, B8.57–58; cf. *Vict.* 4.3, 6.476 L., 5.1, 6.476 L., 11.1–2, 6.486 L.

when viewed in their entirety. Like the author of *On Regimen*, he believes that any attempt to focus on just one part of a cycle is to fall short of true understanding. This is what the goddess has in mind when she invokes “the unmoving heart of well-rounded truth” (DK 28 B1.29). Even though “the path of all is backwards turning” (πάντων δὲ παλίντροπος ἐστὶ κέλευθος, DK 28 B6.9), it is possible to break free from the cycles by trusting reason (λόγος) rather than the senses, at which point we see that “what is” is “ungenerated, indestructible, whole, undivided, unmoving, and complete” (ἀγέννητον ἔὸν καὶ ἀνώλεθρόν ἐστιν / οὐλον μονομελές τε καὶ ἀτρεμές ἡδὲ τελεστόν, DK 28 B8.3–4)—the same notions that the author of *On Regimen* invokes when discussing the cyclical “dominating” and “being dominated” of fire and water within the cosmos.⁴⁸⁰

Like the author of *On Regimen*, Parmenides contrasts the unstable world *within* each cycle with the stability of the cycles themselves. He also distinguishes the visible from the invisible, noting that the “cutting up” of reality is accessible to the senses, while the “whole” is only accessible to the mind.⁴⁸¹ Although the goddess says that only the whole deserves to be called “truth,” she nevertheless teaches Parmenides about both the whole and the parts. The world of appearances follows a certain order (κόσμος),⁴⁸² and it is governed by principles that hold good for “all things in all circumstances” (διὰ παντὸς πάντα).⁴⁸³ As in *On Regimen*, all things are composed of two

⁴⁸⁰ For the denial of generation and destruction, see also Parm. DK 28 B8.20–21, 27–28, 40, and compare *Vict.* 4.2–3, 6.474–476 L. On the adjectives οὐλον (= ὅλον, “whole”) and μονομελές (= μονομερές, “containing only one part”), see Parm. DK 28 B8.23–25 and compare *Vict.* 1.1, 6.466 L., 6.1, 6.478 L., 24.1–2, 6.496 L. On the adjective ἀτρεμές, see Parm. DK 28 B8.26–31 and compare *Vict.* 10.3, 6.486 L. Finally, on the description of these cycles as “complete” (τελεστόν), see Parm. DK 28 B8.32–33 and compare *On Regimen*’s assertion that fire and water, when taken together, are “sufficient in themselves” and not in “need” of anything else. This final connection is especially noteworthy given the parallel language at Parm. DK 28 B8.33 (οὐκ ἐπιδεύεις) and *Vict.* 35.1, 6.514 L. (οὔτε ... ἐνδεέστερον ... οὔτε ... δεόμενον).

⁴⁸¹ Parm. DK 28 B4. For the language of “cutting,” see especially Parm. DK 28 B4.2 and compare *Vict.* 15.1, 6.490 L., 17.1–2, 6.492 L. Parmenides calls the whole “indivisible” (οὐδὲ διαίρετόν) at DK 28 B8.22.

⁴⁸² Parm. DK 28 B4.3, B8.52, 60.

⁴⁸³ Parm. DK 28 B1.32; cf. DK 28 B4.3 (πάντη πάντως). In *On Regimen*, the phrase πάντα διὰ παντός appears at *Vict.* 1.1, 6.466 L., 3.1, 6.472 L., 3.3, 6.474 L., 10.3, 6.486 L.

substances, wherein the hot, fiery substance takes the role of an active, architectonic force, while the cold, watery substance takes the role of a passive, malleable material.⁴⁸⁴ Parmenides associates these two substances with light and darkness,⁴⁸⁵ the hot and the cold,⁴⁸⁶ fire and earth,⁴⁸⁷ and the rare and the dense.⁴⁸⁸ All of these oppositions are also applied to fire and water in *On Regimen*, as we see in the struggle between light (φῶς) and darkness (σκότος) in chapter 5, as well as in the assumption that the highest concentration of fire is located in the αἰθήρ, while the highest concentration of water is located in the earth.⁴⁸⁹ The earth, which is either spherical or flat,⁴⁹⁰ represents the extreme of the cold and dense element while liquid water and ἄήρ represent a middle ground between heat and cold.⁴⁹¹ The sun and stars are both fiery in nature (DK 28 A37, A38–39, B11.3), while the moon contains a mixture of fire and ἄήρ and “borrows” its light from the sun (DK 28 A37, A42, B14–15).⁴⁹² As in *On Regimen*, anything that contains a portion of

⁴⁸⁴ Parm. DK 28 A1 (= D.L. 9.21), A7, A23, A35. Aristotle claims that Parmenides associated the hot element with being and the cold element with not-being (Arist. *Metaph.* 1.5, 986b = DK 28 A24), an interpretation that may be rooted in Parmenides’ assumption that the central fire and its secretions are all immortal, unchanging, and perfect, while their mortal, earthly bodies are constantly changing and thus lack any claim to “being.” Note especially the description of fire as “everywhere the same as itself” (ἐξουτῶ πάντοσε τῶτόν) at DK 28 B8.57.

⁴⁸⁵ Parm. DK 28 A34, A37, A46, B8.56, 59.

⁴⁸⁶ Parm. DK 28 A1 (= D.L. 9.22), A24, A43, A46.

⁴⁸⁷ Parm. DK 28 A1 (= D.L. 9.21), A7, A23–24, A33–35, B8.56. The opposition between fire and earth is very close to the opposition between fire and water. At DK 28 B15a, the earth is said to be “rooted in water” (ῥοατόριζον), recalling *On Regimen*’s assertion that the earth contains the highest concentration of water in the universe. Cf. also the analogy between our watery bodies and the watery earth at *Vict.* 10.1–2, 6.484–486 L., and the opposition between the hot (= αἰθήρ) and the cold (= earth) in *On Flesh*.

⁴⁸⁸ Parm. DK 28 A22, A43, A43a, A53, B8.57, 59. Other associations include the light and the heavy (B8.57, 59), sound and silence (A46), the female and the male (A52, A53), the south and the north (A53).

⁴⁸⁹ This latter point is also made in the testimonies on Parmenides. Cf. Parm. DK 28 A22, A37–42, B8.56 (αἰθέριον πῦρ).

⁴⁹⁰ The assertion that Parmenides was the first to postulate a spherical earth (DK 28 A1, A44) may simply be a misreading of his references to a spherical (i.e., cyclical?) universe.

⁴⁹¹ Parm. DK 28 A35, A37. Cf. the cosmology of *On Flesh* (above, p. 142).

⁴⁹² The identification of Hesperus (the evening star) with Phosphorus (the morning star) may have originally been cited to illustrate the notion of unity in opposition; cf. Parm. DK 28 A1 (= D.L. 9.23), A40a.

fire is said to be a god. This includes the stars (DK 28 A37) and the soul within our bodies (DK 28 B1.24; cf. A45, A51), as well as “War, Discord, Desire, and other things that are destroyed by illness, sleep, forgetfulness, and old age” (DK 28 A37), a list that presumably includes such things as Health, Wakefulness, Memory, and Youth, all of which are good candidates for divinity inasmuch as they are all governed by the fiery soul.⁴⁹³ As in *On Regimen*, Parmenides equates the soul with the mind (νοῦς, DK 28 A1, A45), situates this mind in a circuit that runs up and down the chest (ἐν ὅλῳ τῷ θώρακι, DK 28 A45; cf. B6.5–6), attributes sensation to the movement of substances through sensory channels (DK 28 A47; cf. A48), associates sleep with a temporary cooling of the soul (DK 28 A46b), claims that the soul experiences “desire” when it lacks nutriment (DK 28 A50; cf. *Vict.* 93.2, 6.660 L.), and says that aging involves a depletion of the hot element in the body (DK 28 A46a) while death occurs when the hot, fiery soul has completely separated off from the cold body (DK 28 A46; cf. above, p. 186–187). Parmenides shows a penchant for the verbs νοεῖν and γινώσκειν, two words that invoke the notions of “mind” (νοῦς) and “intelligence” (γνώμη) in a manner reminiscent of *On Regimen*.⁴⁹⁴ Parmenides is also said to have claimed that “everything that exists has a certain γῶσις” (πάν τὸ ὄν ἔχειν τινα γῶσιν, DK 28 A46) and that “the full is thought” (τὸ γὰρ πλεον ἐστὶ νόημα, DK 28 B16.4), suggesting a universe in which everything is pervaded by a cosmic intelligence.⁴⁹⁵ Theophrastus says that Parmenides made “recognition” (γῶσις) in human beings depend on a mixture of the hot and

⁴⁹³ For the divinity of war and discord and their role in maintaining cosmic cycles, see below, p. 248.

⁴⁹⁴ νοεῖν: DK 28 B2.2, B3, B6.1, B8.8, 34, 36; cf. B8.17, 50. γινώσκειν: DK 28 B2.7; cf. B8.53, 61. Parmenides’ penchant for the verb φράζειν and its cognates might similarly be intended to invoke the noun φρένες (“thought organs”), traditionally identified as the diaphragm. Cf. DK 28 B1.4, 16, B2.6, 8, B6.2. For *On Regimen*’s affinity for the verb γινώσκειν, see above, p. 206.

⁴⁹⁵ Parm. DK 28 B16 could refer to the belief, also found in *On Regimen*, that the “mind” (νοῦς) of all human beings derives from a single, cosmic soul, a central fire that is the source of all intelligence and to which our souls will eventually return. It could also refer to the fact that the parts are accessible to the senses, while the whole (= “the full”) is ascertained by the mind (see below, p. 245, on DK 28 B3).

cold, with better and more pure recognition coming when the hot overpowers the cold, “although even that requires a certain due proportion” (συμμετρίας, DK 28 A46). This exactly parallels the discussion of soul-mixtures in *On Regimen*, down to the conclusion that the best soul-mixture has a slight imbalance in the direction of fire (see above, p. 191). Like the author of *On Regimen*, Parmenides also believes that false opinion comes from a reliance on the senses, which are deceptive, while truth comes from the application of reason.⁴⁹⁶ Whenever we make correct use of our mind, we perceive the whole as distinct from the parts. Parmenides therefore claims that “the same thing exists for ascertaining (voεῖν) and for being” (DK 28 B3), since it is only the whole that has true being, and it is the whole that we ascertain with our mind (voῦς).⁴⁹⁷ There are certainly some differences in matters of detail between the systems of Parmenides and *On Regimen*, including Parmenides’ theory of heredity (DK 28 A53–54) and his claim that women’s bodies contain more heat than the bodies of men (DK 28 A52). Nevertheless, there are so many correspondences between these two systems that it is tempting to conclude that Parmenides and the author of *On Regimen* are simply composing variations on a common theme.

Heraclitus, who was more or less contemporary with Parmenides, also shows many affinities with *On Regimen*. The most striking is his notion of unity in opposition, which he expresses in language so closely paralleled in *On Regimen* that Diels-Kranz quotes twenty chapters of *On Regimen* as an “imitation” of Heraclitus (*Vict.* 5–24, 6.476–496 L. = DK 22 C1). Heraclitus defines

⁴⁹⁶ Parm. DK 28 A1 (= D.L. 9.22–23), A22, A49, B1.28–30, B2, B3, B4.1, B6.7, B7.3–5, B8.8–9, 17–18, 50, B19.1. Note also the opposition between “names” and realities at Parm. DK 28 B8.38–41, 53, B9.1, B19.3, and *Vict.* 18.1, 6.492 L.

⁴⁹⁷ Cf. Parm. DK 28 A34, B2.5–8, B6.1, B7.2, B8.7–9, 17, 34–36, 50–51, and *On Regimen*’s chiding of mortals who lack “recognition” inasmuch as they fail to grasp the “whole” as distinct from the parts (above, pp. 213–216). Aristotle claims that Parmenides “perceiv[ed] for the first time that unchangeable entities [were demanded] if knowledge and wisdom were to be possible” (Parm. DK 28 A25, trans. Gallop), although he criticizes Parmenides for transferring to the study of perceptible objects (i.e., physics) what should properly be preserved for a higher discipline (i.e., metaphysics).

unity in opposition as an act of “taking things together” (σύλληψις). Examples of συλλήψεις include “wholes, not wholes; agreeing, disagreeing; consonant, dissonant; one from all and all from one” (ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνᾶδον διᾶδον, ἐκ πάντων ἓν καὶ ἐξ ἑνὸς πάντα, DK 22 B10; cf. B8). Similarly, the author of *On Regimen* observes that substances can be simultaneously “parts” and “wholes,”⁴⁹⁸ that things in “disagreement” can be simultaneously in “agreement,”⁴⁹⁹ that songs can be constructed from notes that are simultaneously “consonant” and “dissonant,”⁵⁰⁰ and that everything branches off from a unity only to return back to that unity.⁵⁰¹ Like the author of *On Regimen*, Heraclitus claims that the unity of opposites create a “harmony” (ἁρμονία) that permeates the cosmos.⁵⁰² This harmony is “backwards turning” (παλίντροπος) like a bow or a lyre,⁵⁰³ and it is manifested in cosmic cycles where the “beginning” and the “end” are “common” (ζυνόν).⁵⁰⁴ In his references to cosmic cycles, Heraclitus cites the same pairs of opposites that we find in *On Regimen*: day and night,⁵⁰⁵ winter and summer,⁵⁰⁶ youth

⁴⁹⁸ E.g., *Vict.* 6.1, 6.478 L. (μέρεα μερέων, ὅλα ὅλων). Cf. *Vict.* 15.1, 6.490 L. (τὰ ὅλα κατὰ μέρεα διαιρέουσι καὶ τὰ μέρεα ὅλα ποιέουσι).

⁴⁹⁹ *Vict.* 2.2, 6.468–470 L. (ὑπεναντίας μὲν γὰρ ἀλλήλησιν ἔχει τὰς δυνάμεις σίτα καὶ πόνοι, συμφέρονται δὲ πρὸς ἄλληλα πρὸς ὑγιείν), 3.1, 6.472 L. (διαφόρουν μὲν τὴν δύναμιν, συμφόρουν δὲ τὴν χρῆσιν), 17.1, 6.492 L. (ἐκ διαφόρων σύμφορα ἐργάζονται), 17.2, 6.492 L. (ταῦτα πάντα διάφορα ἔοντα συμφέρει), 18.1, 6.492 L. (τὰ πλεῖστον διάφορα μάλιστα συμφέρει, τὰ δὲ ἐλάχιστον διάφορα ἥκιστα συμφέρει), 18.2, 6.492 L. (διαφόρων, συμφόρων); cf. Heraclit. DK 22 B51 (διαφερόμενον ἐωυτῷ ὁμολογέει).

⁵⁰⁰ *Vict.* 18.3, 6.492 L. (καὶ διάφωνα καὶ σύμφωνα).

⁵⁰¹ *Vict.* 4.3, 6.476 L. For other instances of “X, not X,” see *Vict.* 4.3, 6.476 L., 5.1, 6.476 L. (πάντα ταῦτα καὶ οὐ ταῦτα), 5.2, 6.478 L. (καὶ ἃ βούλεται καὶ ἃ μὴ βούλεται), 11.1, 6.486 L. (γινώσκοντας ἃ ποιέουσι, καὶ οὐ γινώσκοντας ἃ μιμέονται. πάντα γὰρ ὅμοια, ἀνόμοια ἔοντα · καὶ σύμφορα πάντα, διάφορα ἔοντα · διαλεγόμενα, οὐ διαλεγόμενα · γνώμην ἔχοντα, ἀγνώμονα. ὑπεναντίος ὁ τρόπος ἐκάστων ὁμολογεόμενος), 18.1, 6.492 L. (ὁμοίων ... οὐχ ὁμοίων), 23.1, 6.494 L. (καὶ ὁ ἐπιστάμενος ... καὶ ὁ μὴ ἐπιστάμενος).

⁵⁰² Heraclit. DK 22 A22, B8, B51, B54; cf. *Vict.* 18.1–3, 6.492 L.

⁵⁰³ Heraclit. DK 22 B51; cf. Parm. DK 28 B6.9, and the “turning back” of cosmic cycles at *Vict.* 3.2, 6.474 L., 68.7, 6.598 L., 68.13, 6.604 L.

⁵⁰⁴ Heraclit. DK 22 B103; cf. Parm. DK 28 B5, *Vict.* 22, 6.494 L.

⁵⁰⁵ Heraclit. DK 22 B6, B57, B67, B106.

⁵⁰⁶ Heraclit. DK 22 B67; cf. B100, B126.

and old age,⁵⁰⁷ life and death,⁵⁰⁸ waking and sleeping.⁵⁰⁹ Heraclitus also refers to the “oscillations” (τροπαί, literally “turnings” or “reversals”) between fire and water, wherein fire is exchanged for water and water is exchanged for fire.⁵¹⁰ This final cycle is especially intriguing, as it not only involves the same two principles of fire and water that we see in *On Regimen*, but it also echoes the author’s description of how fire and water each move to their respective limits before they “turn around” (ἀποτρέπεται, *Vict.* 3.2, 6.472 L.) and give way to their opposite. Although these opposing principles appear to be at odds when viewed in isolation, Heraclitus reassures us that the cosmos, when viewed as a whole, is “the same for all” (τὸν αὐτὸν ἀπάντων, DK 22 B30; cf. B67). The cosmos “always was, is, and will be” (ἦν αἰεὶ καὶ ἔστιν καὶ ἔσται, DK 22 B30), and it “rests while changing” (μεταβάλλον ἀναπαύεται, DK 22 B84), just like Parmenides’ “unmoving heart of well-rounded truth” (ἀληθείης εὐκυκλέος ἀτρεμὲς ἦτορ, Parm. DK 28 B1.29). In addition to the oscillations between fire and water, Heraclitus also refers to two “half” oscillations involving water: one between water and earth and the other between water and a “lightning-storm” (πρηστήρ, DK 22 B31; cf. B36). On the one hand, the pendular movement between water and earth recalls *On Regimen*’s assumption that the earth is simply a collection of the coldest water (see above, p. 190). As for the oscillation between water and a “lightning-storm” (πρηστήρ, literally “burner”), Heraclitus seems to base this oscillation on the cycle of evaporation and

⁵⁰⁷ Heraclit. DK 22 B88. Note also the testimony at DK 22 A19, which closely recalls the discussion of “seeds” that we find in *On Regimen* (above, pp. 174–175): “A generation is that sizable portion of human life that is bounded by birth and death. ... Heraclitus was the one who first called this period of time a ‘generation,’ on the grounds that in that period a life-span completes a cycle; what he calls the completion of a life-span’s cycle is the period during which nature, having started from human seed, turns back into seed” (trans. Robinson).

⁵⁰⁸ Heraclit. DK 22 B36, B62, B88; cf. B48. At DK 22 B91, Heraclitus is also said to have described a cycle of “scattering” and “coming together.”

⁵⁰⁹ Heraclit. DK 22 B88. Note also the references to the “solstices” (τροπαί) at *Vict.* 68.7, 6.598 L., 68.13, 6.604 L.

⁵¹⁰ Heraclit. DK 22 B31, B36, B77.

precipitation. The lightning-storm's combination of rain and lightning is especially significant, as it implies that this oscillation extends to a midpoint between water and fire, a point at which water and fire are at their most contentious and thus provide the best illustration of the “war” between these powers.⁵¹¹

Because all things arise from the pendular movement between two extremes, Heraclitus claims that “war is the father of all and the king of all” (DK 22 B53),⁵¹² that “all things come to be through strife” (πάντα κατ’ ἔριν γίνεσθαι, DK 22 B8; cf. B80), and that “justice” (δίκη) depends on “injustice” (ἀδικία, DK 22 B23; cf. A10, B11, B102), presumably because the opposite poles of each cycle constantly encroach on each other and thereby *perpetuate* the cycle’s existence.⁵¹³ At DK 22 B125, Heraclitus observes that cyceon (a mixed drink containing wine, barley, and other ingredients) “separates unless it is stirred” (δίσταται μὴ κινούμενος). Another expression of the idea that harmony (ἁρμονία) arises from strife (ἔρις) can be found in the following testimony (DK 22 A22 = Arist. *EE* 7.1235a25, trans. Robinson):

Heraclitus criticizes the poet who wrote, “Would that strife would perish from amongst gods and humankind.” For, he says, attunement (ἁρμονία) would not exist unless there were a low note and a high note, nor living things without female and male—which are opposites.

As we saw above (pp. 216–219), this same analogy between cosmic harmony and musical harmony appears in *On Regimen*. The author of *On Regimen* also writes about “low” and “high” notes, and he extends the metaphor to reproduction when he says that a certain “attunement” (ἁρμονία) is required for the two “seeds” of soul to unite and grow into a viable human being

⁵¹¹ For Heraclitus’ explanations of meteorological phenomena, see DK 22 A14.

⁵¹² Cf. *Vict.* 6.3, 6.480 L. (τὸ δὲ ἀσύμφορον πολεμεῖ καὶ μάχεται καὶ διαλλάσσει ἀπ’ ἀλλήλων).

⁵¹³ Cf. *Vict.* 24.1, 6.496 L. (παρανομεῖν κατὰ νόμον, ἀδικεῖν δικαίως, ἐξαπατᾶν, κλέπτειν, ἀρπάζειν, βιάζεσθαι, τὰ αἵχιστα καὶ κάλλιστα. ὁ μὴ ταῦτα ποιέων κακός, ὁ δὲ ταῦτα ποιέων ἀγαθός). A similar emphasis on the innate goodness of strife probably informs Heraclitus’ praise of those who die in battle at DK 22 B24, B136. For the idea that everything *depends* on its opposite, see Heraclit. DK 22 B111.

(above, p. 180).

Like the author of *On Regimen*, Heraclitus assumes that the cosmic cycles follow a strict law of proportion. The two extremes of each cycle both advance and retreat in equal measures,⁵¹⁴ and these “measures” (μέτρα) are regulated by a divine Justice who punishes anything that oversteps its proper limits.⁵¹⁵ Like the author of *On Regimen*, Heraclitus puts special emphasis on the cycle of life and death. At DK 22 B36, he says that “the birth of water is death for souls,” while “souls are born from (sc. the death of) water.”⁵¹⁶ Similarly, the author of *On Regimen* writes that “destruction for all things (φθορὴ δὲ πᾶσιν) comes mutually from one another, for the greater from the smaller and for the smaller from the greater” (*Vict.* 5.2, 6.478 L.).⁵¹⁷ Both Heraclitus and the author of *On Regimen* claim that all things are in motion (πάντα χωρεῖ, DK 22 A6; cf. χωρεῖ δὲ πάντα, *Vict.* 5.1, 6.476 L.)⁵¹⁸ and that they move “up and down” (ἄνω καὶ κάτω) along a single path.⁵¹⁹ Both thinkers also assume that the unity of opposites can be illustrated by a simple thought experiment: the same object, when viewed from different perspectives, can be described in opposite terms. Heraclitus observes that “sea-water is the most pure and the most foul—

⁵¹⁴ Heraclit. DK 22 B30, B31. His claim that “greater deaths reap greater portions” (μόροι γὰρ μέζονες μοίρας λαγχάνουσι, DK 22 B25) may also be tied to this principle (but see below, p. 254).

⁵¹⁵ Heraclit. DK 22 B16, B22, B28, B94; see also DK 22 B52 with Kahn’s (1979, 227) note *ad loc.* Compare the reference to checking ὄβρις at DK 22 B43.

⁵¹⁶ Cf. Heraclit. DK 22 B77 (“we live the death of those and those live the death of us”).

⁵¹⁷ Compare also Heraclit. DK 22 B62 (“Mortals immortals, immortals mortals, living the death of those, dying the life of those”), B88 (“And as one thing there is present living and dead, awake and asleep, young and old, for these things, having changed, are those and those things, having changed back, are these”), *Vict.* 5.1, 6.476 L. (“Light for Zeus, darkness for Hades; light for Hades, darkness for Zeus; the things of that world come up here; the things of this world go down there; through every season, through every place, the things of that world do the work of this, and the things of this world do the work of that”). Heraclitus’ assertion that the sun is new each day (DK 22 B6) may imply a similar idea. That is, Heraclitus probably claimed that the sun “dies” and goes to Hades each night only to be “born afresh” the next day.

⁵¹⁸ Cf. also *Vict.* 4.1, 6.474 L. (οὐποτε κατὰ ταῦτὰ ἰστάμενα, ἀλλ’ αἰὲ ἀλλοιούμενα ἐπὶ τὰ καὶ ἐπὶ τὰ), 10.3, 6.486 L. (οὐδέποτε ἀτρεμίζον).

⁵¹⁹ Heraclit. DK 22 B60, *Vict.* 5.1, 6.476 L., 7.2, 6.480 L., 16.1–2, 6.490 L., 18.3, 6.492 L.

drinkable and sustaining for fish, undrinkable and destructive for humans” (DK 22 B61). The author of *On Regimen* makes the same observation, writing that the sea is “nourisher of animals suited to it, destroyer of those who are not” (*Vict.* 10.1, 6.484 L.). Heraclitus also notes that animals value what humans find worthless and reject what humans find valuable (DK 22 B4, B9, B13, B37), that the “path” (ὁδός) of writing is simultaneously crooked and straight (DK 22 B59), and that the actions of doctors and priests—cutting, burning, purifying with blood, and singing hymns to shameful things—would be viewed very differently if performed in a different context (DK 22 B5, B15, B58). Although we give names to pairs of opposites like day and night, winter and summer, these are nothing but names,⁵²⁰ for true wisdom lies in accepting the principle that “all things are one” (ἐν πάντα εἶναι, DK 22 B50; cf. B33, B57). Everything else is “born” and “dies” in a pendular movement between two extremes, but the cycles themselves are governed by “one law, the divine law,” which “dominates as much as it wishes, is sufficient for all, and survives” (κρατεῖ γὰρ τοσοῦτον ὁκόσον ἐθέλει καὶ ἐξαρκεῖ πᾶσι καὶ περιγίνεται, DK 22 B114)—all properties that the author of *On Regimen* explicitly denies to the individual poles of each cycle.⁵²¹ Like the author of *On Regimen*, Heraclitus uses various analogies to illustrate this fundamental principle. The most famous is his reference to a river that is simultaneously the same and not the same: it is the same inasmuch as the *outline* remains the same while the *contents* are constantly replaced. In one version of the analogy, Heraclitus writes that “we do and do not step into the same rivers, we are and are not” (DK 22 B49; cf. A6, B91). In another version, he writes that “as they step into the same rivers, other and still other waters flow upon them” (DK

⁵²⁰ Heraclit. DK 22 B67; cf. above, n. 496.

⁵²¹ On the concept of “dominating” (κρατεῖν) and “being dominated” (κρατεῖσθαι), which is only permitted to the opposites in limited amounts, compare *Vict.* 3.1–3, 6.472–474 L. On being “sufficient for all,” compare the emphasis on “self-sufficiency” and “being in need” at *Vict.* 2.2, 6.468 L., 2.3, 6.470 L., 3.1, 6.472 L., 3.3, 6.474 L., 35.1, 6.512–514 L. On “surviving,” compare the cycle of “life” and “death” at *Vict.* 4.2–5.2, 6.474–478 L.

22 B12). In both cases, Heraclitus claims that the same thing can be both stable and ever-changing, depending on one's perspective. When viewed as a whole, the river is always the same, but when viewed only in part, its waters are constantly changing.

Heraclitus and the author of *On Regimen* both share the belief that the universe is governed by cosmic cycles wherein all things are simultaneously “the same” and “not the same.” They also expound views on divinity that are remarkably similar to one another, starting with the assumption that all souls—including the souls within our bodies—are divine, intelligent, and primarily composed of fire.⁵²² As in *On Regimen*, Heraclitus believes that the sun, inasmuch as it contains the highest concentration of fire in the universe, plays a central role in regulating the cosmic cycles. The sun keeps watch over the cycles and serves as the “overseer and sentinel for defining, arbitrating, proclaiming, and displaying the changes and the seasons that bear all things” (DK 22 B100). The sun is only a subordinate, however, for whereas the sun rises and sets everyday and is thus itself subject to cosmic cycles, “that which never sets” (τὸ μὴ δύνων, DK 22 B16) is what ultimately witnesses everything in the cosmos. Like everything else that is subject to cosmic cycles, the sun is regulated by Justice. This Justice will send her Furies to seek out the sun if it ever oversteps its measures (DK 22 B94)—a situation that Kahn (1979, 156) vividly compares to “some Persian satrap under surveillance by the King.” Heraclitus associates this cosmic Justice with a divine “law” (νόμος) on which all human laws depend.⁵²³ He also refers to an “account” (λόγος) through which everything comes to pass (DK 22 B1, B2, B50, B72, B115), a cosmic “soul” (ψυχή) whose limits cannot be discovered (DK 22 B45), an “intelligence” (γνώμη) that “steers all things in all circumstances” (ἐκυβέρνησε πάντα διὰ πάντων, DK 22 B41; cf. B78,

⁵²² Heraclit. DK 22 A1 (= D.L. 9.7), A15, A17, B12, B45, B98, B115, B118; cf. B77, B107, B117.

⁵²³ Heraclit. DK 22 B114; cf. B44, *Vict.* 24.1, 6.496 L.

Parm. DK 28 A32, B12.3, *Vict.* 10.3, 6.486 L.), a “lightning bolt” (κεραυνός) that “guides all things” (τὰ δὲ πάντα οἰακίζει, DK 22 B64), an “everliving fire” (πῦρ αἰεζών) that is “kindled in measures and quenched in measures” (ἀπτόμενον μέτρα καὶ ἀποσβεννόμενον μέτρα, DK 22 B30; cf. B90), a divine unity of “day and night, winter and summer, war and peace, satiety and famine” (DK 22 B67; cf. B65, Parm. DK 28 A37), and “one thing, the wise thing” (ἓν, τὸ σόφον, DK 22 B32, B41), which is “set apart from all” (πάντων κεχωρισμένον, DK 22 B108) and “is both willing and not willing to be called by the name of Zeus alone” (DK 22 B32). The phrase “both willing and not willing” recalls such phrases as “the same and not the same,” “agreeing and disagreeing,” “consonant and dissonant,” “one and many” (above, p. 246). On the one hand, all divinities are willing to be called by the name of Zeus *alone* insofar as they are “one thing,” all branching off from a single cosmic soul (cf. DK 22 B15, B67a). On the other hand, these divinities are not willing to be called by the name of Zeus *alone* because the cosmic soul is divided into other souls, including the divine, fiery souls that lie within our bodies.⁵²⁴ In several fragments, Heraclitus sets himself against the traditional experts in divinity (“night-wanderers, magicians, Bacchants, Lenaeans, initiates,” DK 22 B14), who pray to unintelligent statues (DK 22 B5; cf. B128, *Vict.* 21.1, 6.494 L.), defile with blood those who ought to be cleansed (DK 22 B5), sing hymns to shameful things (DK 22 B15), and perform initiation rites that are impious (DK 22 B14), all in the name of gods whose nature they do not understand. Such people, Heraclitus asserts, “do not at all recognize what gods and heroes really are” (οὐ τι γινώσκων θεοὺς οὐδ’ ἥρωας οἵτινές εἰσι, DK 22 B5). “Hades and Dionysus, for whom they rave and celebrate the Lenaea, are the same” (DK 22 B15). All divinity is “one thing,” an “intelligence”

⁵²⁴ Cf. DK 22 B119, where Heraclitus is said to have held that a human’s “character” (ἦθος) is a “divinity” (δαίμων).

(γνώμη) that “steers all things in all circumstances” (ἐκυβέρνησε πάντα διὰ πάντων, DK 22 B41)⁵²⁵ and which our own souls must strive to “know” (ἐπίστασθαι), “recognize” (γινώσκειν), and “understand” (φρονεῖν) if they wish to partake of its wisdom.⁵²⁶ In accordance with the belief that all intelligence comes from fire, Heraclitus identifies this cosmic divinity as “ever-living fire” (πῶρ ἀείζων, DK 22 B30; cf. A9, B66). It is the “lightning bolt” (κεραυνός, DK 22 B64), the fiery symbol of Zeus’ supremacy, while all the other gods of the Greek pantheon are simply offshoots of this single intelligence. The selection of Zeus as the name of this supreme being follows a pattern that we also see in *On Regimen*. Like the author of *On Regimen*, Heraclitus associates this Zeus with the αἰθήρ, calling him “aetherial Zeus” (DK 22 B120; cf. A8), while the other gods to whom he refers—Ares, Apollo, Dionysus, and Hermes—are all “children” of Zeus inasmuch as they are all derived from the fire that governs the universe as a whole.⁵²⁷

Heraclitus’ reference to “heroes” in fragment DK 22 B5 (οὗ τι γινώσκων θεοὺς οὐδ’ ἥρωας οἵτινές εἰσι) is particularly interesting. It is especially revealing when compared with *On Regimen*’s instructions to pray to the apotropaic gods, Ge, and the heroes in his discussion of dreams (*Vict.* 90.7, 6.656–658 L.). In my analysis of that section, I suggested that the “heroes” may be envisioned as emanations of the cosmic fire that move around and through the earth. For both Heraclitus and the author of *On Regimen*, the “heroes” are the souls of human beings who have “woken up” after being freed from their bodies. They help regulate matters here on earth, just as

⁵²⁵ On the notion of “steering,” see above, n. 459, and compare Heraclit. DK 22 B64. On the phrase πάντα διὰ πάντων, see above, n. 483.

⁵²⁶ ἐπίστασθαι: DK 22 B41; cf. B19. γινώσκειν: DK 22 B5, B7, B17, B86, B97, B108, B116. (σω)φρονεῖν: DK 22 B17, B112, B113, B116; cf. B2. Note also the reference to (false) belief (οἴησις) as a “sacred disease” at DK 22 B46, implying that thinking without knowledge corrupts the divine portion of ourselves. At DK 22 B131, (false) belief (οἴησις) is similarly said to be a “hindrance to progress” (προκοπῆς ἐγκοπὴν).

⁵²⁷ For references to these divinities, see Heraclit. DK 22 B15, B24, B92, B93, B136. Heraclitus’ comment that “the lord, whose oracle is in Delphi, neither speaks nor hides but gives a sign” (DK 22 B93) can be compared with the dream interpretations in *On Regimen*, especially the author’s use of the verb σημαίνειν over forty times in this section.

Heraclitus observes that the souls of heroes “rise up and become wakeful guardians of living things and corpses” (ἐπανίστασθαι καὶ φύλακας γίνεσθαι ἐγερτὶ ζώντων καὶ νεκρῶν, DK 22 B63).⁵²⁸ It is unclear whether Heraclitus thinks that *all* human beings are fated to become “heroes” or only those who meet certain criteria. At DK 22 B25, he writes that “greater deaths reap greater portions” (μόροι γὰρ μέζονες μοίρας λαγχάνουσι), which could refer to the “rewards” conferred upon the dead. This statement might also have a wider connotation, however, pointing to the “measures” (μέτρα) that are found in all cosmic cycles, where the “death” of one principle is the proportionate “birth” of its opposite. Likewise, Heraclitus’ assertion that “fire will fall upon, judge, and convict all things” (πάντα τὸ πῦρ ἐπελθὼν κρινεῖ καὶ καταλήφεται, DK 22 B66) could possibly refer to the “punishment” of the wicked after death,⁵²⁹ but it could also refer to the reunion of our souls with the cosmic intelligence, as the verbs κρίνειν and καταλαμβάνειν can describe not only the actions that take place within a *courtroom* (“judging” and “convicting”), but also the actions that take place within a *mind* (“discriminating” and “comprehending”).

Whatever Heraclitus thought about the punishments and rewards that await us after death, there are other aspects of his eschatology that are closely paralleled in *On Regimen*. Like the author of *On Regimen*, Heraclitus is reported to have held that “the soul of the universe and the soul in living things are the same in kind” (DK 22 A15), and that when the soul leaves the body after we

⁵²⁸ The reference to “corpses” (νεκρῶν) may refer not simply to human bodies, but to anything that lacks an internal, directive soul. As I noted above (p. 233), the author of *On Regimen* seems to have believed that fiery emanations regulate the growth of plants, which lack “intelligence” (γνώμη) and therefore lack a soul. In a system where souls are the source of all life, intelligence, movement, and change, anything that lacks a soul can be described as a “corpse.” At DK 22 B96, Heraclitus writes that “corpses are more fit to be thrown away than dung,” implying that corpses are worthless because they no longer contain a soul. At DK 22 A6, Heraclitus is said to have wanted “to abolish stillness and stability from the totality of things, since these are characteristic of corpses” (trans. Robinson).

⁵²⁹ Cf. Heraclit. DK 22 B28 (δίκη καταλήφεται ψευδῶν τέκτονας καὶ μάρτυρας) and the report that Heraclitus threatened the so-called experts in divinity with a prophecy of “fire” after death (DK 22 B14).

die, “it goes back to the soul of the universe” (DK 22 A17; cf. B45). This reunion of our souls with the central fire will ultimately gives us true insight into the λόγος (DK 22 B27, B50). In the night-time of death, we kindle a light for ourselves (DK 22 B26; cf. B14, B43, Parm. DK 28 B1.9–10) and is only at this point that our souls will truly be “awake,” while what we call “life” is merely another form of sleep.⁵³⁰ At DK 22 B89, Heraclitus is said to have held that “for those who are awake, there is one, common cosmos, while during sleep each turns away to his own, individual cosmos.” Each person’s lifetime (αἰών) is like a game of backgammon (DK 22 B52), in which two players take turns, move up and down a board, and exchange one piece for another—in essence, a constant back and forth of cosmic cycles.⁵³¹ The players in such a game are “children” (παῖδες) inasmuch as all human souls are children when compared with the cosmic soul (cf. DK 22 B79 and above, p. 237), while the end of this game (i.e., our deaths) will take us from a world of constant change to the unchanging “whole” that rises above the cycles themselves.⁵³²

Just as the author of *On Regimen* observes that human beings “do not have knowledge about

⁵³⁰ Heraclit. DK 22 B63. This is probably what Heraclitus has in mind when he writes that “death is the things that we see when we are (sc. truly) awake, while the things that we see when we are asleep is sleep” (DK 22 B21). As Robinson (1987, 90) observes, “As it stands, the fragment is tantalizingly obscure, leading us to expect a statement on life, in strong contrast with that on death, but not ending up doing so.” Instead of supposing, with Robinson, that the final word is corrupt, it is better to consider the effects of such a paraprosochian. By replacing “life” with “sleep,” Heraclitus emphasizes the fact that there are only two states of human consciousness. On the one hand, there is the wakefulness that we achieve after the death of our bodies, which comes when our souls reunite with the one, cosmic soul. The only other state of consciousness is sleep, whether we choose to give it this name or not. For other references to life as a form of sleep, see Heraclit. DK 22 B1, B26, B75. On Heraclitus’ use of a paraprosochian, compare his assertion at DK 22 B18 that those who seek true knowledge must “expect the unexpected.”

⁵³¹ For this interpretation of DK 22 B52, see Kahn (1979, 227).

⁵³² I take Heraclit. DK 22 B84b (“Weariness is toiling at the same things and (always) beginning”) as referring to the preferability of rising above the cosmic cycles rather than staying within them. A similar idea could lie behind DK 22 B20, B74, and B75. On the “rest” that comes from rising above the cosmic cycles, see DK 22 A20 (*consciam decreti rationabilis factam quiescentibus animis*) and B84a (μεταβάλλον ἀναπαύεται). Compare also the pairing of weariness and rest at DK 22 B111, and the claim at DK 22 A1 (= D.L. 9.8) that “of the opposites, that one which leads to birth is called war or strife, while the one that leads to destruction by fire [i.e., our reunion with the cosmic fire] is called concord (ὁμόλογίαν, cf. DK 22 B50, B51) or peace (εἰρήνην, cf. DK 22 B67)” (trans. Robinson, modified).

what they do, whereas they think they have knowledge about what they (actually) do not do” (*Vict.* 5.2, 6.476 L.), Heraclitus remarks that “many people do not understand the sorts of things they encounter, nor do they recognize them even after they have experience, but they think that they do” (DK 22 B17). In another passage, Heraclitus says that “human beings do not apprehend what they do when they are awake just as they forget what they do when they are asleep” (DK 22 B1). By using the verb “to forget,” Heraclitus could be pointing to yet another aspect of his eschatological theory. When we go to sleep, we forget what the world was like when we were awake. If the same applies to the “sleep” that we traditionally call “life,” Heraclitus could be suggesting that all human souls were once aware of the λόγος, but they forgot it after being confined to a body. When Heraclitus remarks that the majority of human beings “live” (ζῶουσιν) as if they had a “private understanding” (ἰδίαν ... φρόνησιν, DK 22 B2; cf. B89), he might similarly be reflecting on the fact that while we are “alive” our souls are separated from the central intelligence, while it only after death that we return to the φρόνησις/γνώμη/ψυχή/νοῦς of which we all form a part.⁵³³

What keeps our fiery souls from reconnecting with the cosmic intelligence are the bodies in which they are contained. Like the author of *On Regimen*, Heraclitus assumes that our souls are mixed with water and that “death” occurs when this water completely dominates the soul’s fire.⁵³⁴ In an apparent contrast with the “wet” souls that are trapped within our bodies, Heraclitus defines the sun’s rays as a “dry soul, wisest and best” (DK 22 B118). As in *On Regimen*, Heraclitus believes that the fiery soul loses its self-awareness when burdened with water. To

⁵³³ For the sentiment that all human souls partake of an intelligence that permeates all things, see also Heraclit. DK 22 B72, B113, B116. The reference to a soul’s growth at DK 22 B115 may refer to the act of increasing one’s “intelligence” by uniting one soul with another (see above, pp. 225–226).

⁵³⁴ Heraclit. DK 22 B77; cf. above, p. 181. The story that Heraclitus contracted dropsy (ὄδις, the “watery” disease) and asked the attending doctors if they could produce “drought” (ἀρχμός) from a rainstorm (DK 22 A1, A1a) may also be inspired by this doctrine.

illustrate this fact, he calls our attention to the effects of drunkenness on a person's mind. In an especially striking passage, he writes that "whenever a man is drunk, he is driven along, stumbling, by an adolescent boy, not perceiving where he goes, in possession of a wet soul" (ἀνήρ ὁκόταν μεθυσθῇ, ἄγεται ὑπὸ παιδὸς ἀνήβου σφαλλόμενος, οὐκ ἐπαῖων ὅκη βαίνει, ὑγρὴν τὴν ψυχὴν ἔχων, DK 22 B117). This passage contains a number of key terms which suggest that Heraclitus is not simply describing the aftermath of one man's drunkenness, but the shared misfortune of all human beings. Heraclitus' description of a drunkard is not unlike the celestial journey in the opening of Parmenides' poem. In both texts, the image of a single human being (Parmenides / the drunkard) could be viewed as the soul within a body. Just as Parmenides is "driven along" (cf. ἄγουσαι, Parm. DK 28 B1.2) under the escort of "young maidens" (κοῦραι, Parm. DK 28 B1.9), so the drunkard is "driven along" (ἄγεται, Heraclit. DK 22 B117) under the escort of an "adolescent boy" (παιδὸς ἀνήβου, Heraclit. DK 22 B117). The main difference, of course, is that whereas Parmenides' chariot is "blazing" (αἰθόμενος, Parm. DK 28 B1.7) and can thus travel a path that is "straight" (ἰθύς, Parm. DK 28 B1.21; cf. above, pp. 238, 241), the drunkard has a "wet soul" (ὑγρὴν τὴν ψυχὴν ἔχων, Heraclit. DK 22 B117) and is therefore "stumbling" (σφαλλόμενος, Heraclit. DK 22 B117) as he makes his way home. In both cases, the "young" escorts recall the "young" emanations of an immortal, cosmic fire. They are presumably to be identified with the "heroes" (ἥρωες) or "spirits" (δαίμονες) that circulate around the earth and regulate the lives of those who lack "intelligence" (γνώμη, see above, pp. 232–234). Because Parmenides has "married" his mind to these spirits, he can follow them back to the central fire that is the source of all intelligence. The drunkard, on the other hand, is like the majority of human beings, who, according to the author of *On Regimen*, are driven "through divine necessity" (δι' ἀνάγκην θεῖαν, *Vict.* 5.2, 6.478 L.; cf. Heraclit. DK 22 A8) to perform a set of divinely planned actions "whether they intend to or not" (ἂ βούλονται καὶ ἂ μὴ βούλονται, *Vict.* 5.2, 6.478

L.). The drunkard resembles those people who “do not have knowledge about what they do, whereas they think they have knowledge about what they (actually) do not do” (*Vict.* 5.2, 6.476 L.), people who “do not apprehend what they do when they are awake just as they forget what they do when they are asleep” (Heraclit. DK 22 B1). In another fragment from Parmenides, he writes that Necessity (ἀνάγκη; cf. the ἀνάγκην θείην at *Vict.* 5.2, 6.478 L.), “driving it along” (ἄγουσα; cf. the ἄγεται at Heraclit. DK 22 B117), compels the sky to hold the limits of the stars that cycle through it (DK 28 B10). As in Heraclitus, Parmenides speaks of an external force that “drives” a subordinate intelligence. He also asserts that this player will not overstep its proper limits because the more intelligent being is steering it along a pre-determined path. A passage from Euripides’ *Trojan Women* also seems to pick up on a similar set of images. After calling on Zeus and debating what name to give him, “either necessity of nature or mind of mortals” (εἴτ’ ἀνάγκη φύσεως εἴτε νοῦς βροτῶν), Hecuba asserts that the supreme god “travels a noiseless path” (δι’ ἀφόφου βαίνων κελεύθου) while he “drives” (ἄγει) all things that are mortal, doing so in such a way that these mortal things act “in accordance with justice” (κατὰ δίκην, E. *Tro.* 886–889). The path that Zeus travels is “noiseless” because the cosmic principles of “Necessity” and “Mind” rise above the noisy world of constant change.⁵³⁵ He drives mortal things “in accordance with justice” because Justice keeps the cosmic cycles within their proper limits. Mortal things need this guidance by “Necessity” and “Mind” because their intelligence is trapped within a body and hence too weak to direct itself. In light of these parallels, it seems likely that, as I have suggested, Heraclitus’ drunkard does indeed represent the majority of human beings. Those who

⁵³⁵ For the “rest” and “peace” that comes from leaving the cycles to reunite with the cosmic intelligence, see above, n. 532. Parmenides’ “many-voiced path” (ὁδὸν πολύφημον, DK 28 B1.2) closely recalls this line from Euripides and is probably used in a similar sense. Another possible interpretation is that by rising above the world of constant change, we are able to avoid the uninformed prattling of human beings. On this point, a good parallel would be the competing λόγοι that Heraclitus claims to have heard at DK 22 B108 (cf. B87).

lack insight into the λόγος are trapped within a world of constant change, getting up and “falling down” (σφαλλόμενος, DK 22 B117) just like the cycles that surround them.⁵³⁶ Even though the majority do not “perceive” where they are going (cf. the repetition of the verb ἐπαΐειν at Heraclit. DK 22 B112 and B117), they are not allowed to overstep their limits. In fact, through no effort of their own, all people will eventually find their way back to their “home” in the cosmic fire.⁵³⁷ This is because, as Heraclitus implies, all human beings are directed by emanations from the cosmic soul, emanations that will forever maintain the order of the universe and provide the fiery “intelligence” (γνώμη) that “steers all things in all circumstances” (ἐκυβέρνησε πάντα διὰ πάντων, DK 22 B41). These emanations will ensure that all souls eventually join back up with the cosmic intelligence. One presumes, however, Heraclitus would find it far more preferable to steer his own chariot than to just stumble along like a drunkard.⁵³⁸

As in *On Regimen*, Heraclitus contrasts the insights that our souls acquire after death with the ignorance of the soul within a body. He also resembles the author of *On Regimen* insofar as he believes that it is possible for a select few to acquire knowledge of the λόγος while still alive.⁵³⁹ Heraclitus himself has acquired knowledge of the λόγος, and he claims to be able to use this knowledge about the “whole” to gain insight into the parts, “dividing each thing in accordance

⁵³⁶ The verb σφάλλεσθαι also carries the connotation of “being overthrown,” of being dominated by some opponent just as the cosmic cycles involve a pendular back and forth of “victory” and “defeat.”

⁵³⁷ On the inevitability of joining up with the cosmic intelligence after death, see Heraclit. DK 22 A17, B21, B27.

⁵³⁸ On the delivering over to “young gods” the task of “steering” human souls as they try to make a return to the αἰθήρ, see Pl. *Tim.* 42b–e, where the “young gods” (νέοι θεοί, 42d) are also called “children” (παῖδες, 42e) in relation to the central intelligence. In this passage, the young gods are given the task of “governing the mortal creature (τὸ θνητὸν διακυβερνᾶν ζῶον) in the fairest and best way possible” (42e, trans. Bury, modified), while “he that has lived his appointed time well shall return again to his abode in his native star, and shall gain a life that is blessed and congenial” (42b, trans. Bury).

⁵³⁹ On the ignorance of the majority (οἱ πολλοί), see Heraclit. DK 22 B2, B17, B29, B104, and compare *Vict.* 1.3, 6.466–468 L., 4.3, 6.476 L., 24.1, 6.496 L., 68.2, 6.594 L. On the preferability of one intelligent man over 10,000 fools, see Heraclit. DK 22 B29, B39, B49, B104, B121.

with its φύσις and indicating how it is” (κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων ὅπως ἔχει, DK 22 B1).⁵⁴⁰ Like the author of *On Regimen*, Heraclitus presents himself as an “expounder” of the truth.⁵⁴¹ He also contrasts his own work with all previous accounts, asserting that no one has yet succeeded in recognizing the truth about the whole.⁵⁴² To understand the λόγος, the first thing we must do is understand *how* to seek it out. We must know how to listen and how to speak,⁵⁴³ “expect the unexpected” (DK 22 B18; cf. B27), and put away our “distrust” (ἀπιστία) in those who speak the truth.⁵⁴⁴ We should also prefer the “invisible harmony” (ἁρμονίᾳ ἀφανή) over that which is visible,⁵⁴⁵ rising above the world of constant change to pursue the one, unchanging “whole” that unites and governs all things. Like the author of *On Regimen*, Heraclitus emphasizes that knowledge about the “whole” requires a great deal of hard work. We must sift through many particulars to uncover the hidden truth, and even if we accumulate a large quantity of information, that information will be worthless unless we know how to extract the “one” from the “many,” to find the gold that lies hidden among the dirt.⁵⁴⁶ The best men, Heraclitus writes, seek out one thing, “ever-flowing fame” (κλέος ἀέναον), while the rest of us are like cattle, glutting ourselves on many things (DK 22 B29). We must doggedly pursue “that which is common” (τὸ

⁵⁴⁰ On the language of dividing wholes into parts, see above, n. 481.

⁵⁴¹ Compare Heraclit. DK 22 B1 (διηγέσθαι) with *Vict.* 1.3, 1.466 L. (ἐξηγευμένου).

⁵⁴² Compare Heraclit. DK 22 B108 (“Of all those accounts I have heard, none (οὐδεὶς) reaches the point of recognizing (γινώσκειν) that which is wise, set apart from all”) with *Vict.* 1.1, 6.466 L. (“though many have already written on the subject, no one (οὐδεὶς) has yet correctly recognized (ἔγνω) how he should treat it. Some have succeeded in one area, some in another, but none (οὐδεὶς) of my predecessors has yet succeeded in respect to the whole”).

⁵⁴³ Heraclit. DK 22 B19, B34, B87, B97, B104, B108, B112, B114.

⁵⁴⁴ Heraclit. DK 22 B86; cf. Heraclit. DK 22 A16 (= S.E. *Adv. math.* 7.131), Parm. DK 28 B1.53, B8.12, 28, 50.

⁵⁴⁵ Heraclit. DK 22 B54; cf. Parm. DK 28 B4 and above, pp. 211–212.

⁵⁴⁶ Heraclit. DK 22 B22, B35, B40, B123.

ζυνόν)⁵⁴⁷ and avoid random conjectures (DK 22 B47). We should rely on sensory perception and first-hand experience to the extent that is appropriate (DK 22 B55, B56), and we should supplement the senses with the proper use of our minds—all ideas that closely match what we find in *On Regimen*.⁵⁴⁸ One major difference, however, is that whereas the author of *On Regimen* affirms that he will not dwell on the mistakes of his predecessors (*Vict.* 1.2, 6.466 L.), Heraclitus ruthlessly attacks previous thinkers, calling out Homer, Hesiod, Archilochus, Pythagoras, Xenophanes, and Hecataeus by name.⁵⁴⁹ These figures come under attack not only because they preferred “much learning” (πολυμαθία) to the one, wise thing and did not realize that all opposites are two halves of the same whole, but also because they have lured other humans astray, using their authority to make people put trust in their ears—of all the organs of perception, by far the least reliable.⁵⁵⁰ Each of these men is highly esteemed (δοκιμώτατος), but all that he supposedly “recognizes” (γινώσκει) is restricted to the world of appearances (δοκέοντα, DK 22 B28).⁵⁵¹ Justice will catch up with these “fabricators and witnesses to things that are false” (ψευδῶν τέκτονας καὶ μάρτυρας, DK 22 B28), and we all will see things “unexpected and contrary to our beliefs” after we die (DK 22 B27; cf. B18).

The doxographers report some other details about Heraclitus, which, if genuine, would

⁵⁴⁷ Heraclit. DK 22 B2, B80, B103, B113, B114.

⁵⁴⁸ Heraclit. DK 22 A16, B40, B56, B107, B114; cf. B101. On the unreliability of the senses in comparison with the “mind” (νοῦς), “thinking” (οἶησις), and “intelligence” (γνώμη), see also Heraclit. DK 22 B46, B104. Of the senses, Heraclitus especially favors smell, presumably because the “smoke” (DK 22 B7) that carries odors is similar in substance to the souls that are the source of all intelligence. At DK 22 B98, he says that “souls” retain their sense of smell in Hades, i.e., when they are no longer confined to a body, while at DK 22 B67, he compares the unchanging cosmos to a fire that gives off different odors when mixed with different fragrances.

⁵⁴⁹ Heraclit. DK 22 A22, B40, B42, B56, B57, B81, B105, B106, B129.

⁵⁵⁰ Heraclit. DK 22 A23, B101a, B104, B108. What makes the ears such a poor organ of perception is that even when the majority hear the truth about things, they do not understand it, resembling people who are deaf (DK 22 B34; cf. B87).

⁵⁵¹ On the wordplay between δοκιμώτατος and δοκέοντα, compare Parm. DK 28 B1.32.

strengthen the connection with *On Regimen*. Like the author of *On Regimen*, Heraclitus is said to have divided the heavens into three circuits, populating these circuits with the sun, moon, and stars.⁵⁵² The sun is placed in the middle circuit and contains the “brightest and hottest flame” (λαμπροτάτην ... φλόγα καὶ θερμωτάτην, DK 22 A1 (= D.L. 9.10); cf. τὸ θερμώτατον καὶ ἰσχυρότατον πῦρ, *Vict.* 10.3, 6.486 L.), while the moon lies closest to earth and moves through a region that is less “pure” than the circuit of the sun.⁵⁵³ Fire is nourished by a “light” exhalation that rises from the sea (DK 22 A1 = D.L. 9.9), recalling the theory in *On Regimen* that nutritive moisture rises from the belly (= the sea) and separates off the “thinnest” component to feed the central fire in our chests (= the sun).⁵⁵⁴ Water, on the other hand, is said to be nourished by a “dark” exhalation that rises from the earth (DK 22 A1 = D.L. 9.9). This dark exhalation explains why the circuit of the moon is less “pure” than the circuit of the sun,⁵⁵⁵ and it advances an opposition between light and darkness that we have already observed in both *On Regimen* and Parmenides (above, pp. 182–183, 243). The same source also attributes other pairs of opposites to these “light” and “dark” exhalations, including day and night and summer and winter, each of which struggles to “gain the upper hand” over its opposite (DK 22 A1 = D.L. 9.10). Beyond the moon and the sun, Heraclitus is said to have placed a fiery circuit of stars within the αἰθήρ. In addition to regulating all that happens within the cosmos, this αἰθήρ is said to be the source of human souls. The soul is “a spark struck from the essential substance of the stars” (DK 22 A15, trans. Robinson; cf. B67a), an “exhalation (ἀναθυμίασιν) of which everything else is composed”

⁵⁵² Heraclit. DK 22 A1 (= D.L. 9.10).

⁵⁵³ Heraclit. DK 22 A1 (= D.L. 9.10), A12. Compare the reference to ἀήρ corrupting the heavenly bodies at *Vict.* 89.2, 6.644 L., and the moon’s mixture of fire and ἀήρ at Parm. DK 28 A37.

⁵⁵⁴ See above, p. 193.

⁵⁵⁵ Cf. especially Heraclit. DK 22 A1 (= D.K. 9.9): “Exhalations arise from both earth and sea; the former are dark, the latter bright and *pure* (καθαράς)” (trans. Robinson).

(DK 22 A15, trans. Robinson). All souls originate in the sun (DK 22 B67a), an “intelligent (νοερόν) ignited mass which comes from the sea” (DK 22 A12, trans. Robinson, modified).⁵⁵⁶

On the topic of the soul, Sextus Empiricus records a particularly interesting discussion of the “passages” (πόροι) through which sensory information reaches our central intelligence (DK 22 A16 = S.E. *Adv. math.* 7.129–130, trans. Robinson, modified):

According to Heraclitus, by drawing in this divine λόγος through our breathing we become intelligent; we are also forgetful when we are asleep, but rational again upon waking. For since, in sleep, the sense-passages are closed, the mind within us is cut off from its natural union with the surrounding substance (the only attachment that is preserved is by way of respiration, like that of a root),⁵⁵⁷ and cut off in this way it loses the power of memory that it previously possessed. When one awakes, however, it peeps out again through the sense-passages—through windows, as it were—and by linking itself with the surrounding substance becomes invested with the power to reason. Thus, just as cinders, when placed near fire, become ignited by the alteration, but die out when placed at a distance, so too the portion of the surrounding substance to which our bodies are host is rendered near-irrational by the separation from that substance, but by its *continuity* with it via the multiplicity of passages it is made like in kind with the whole.

This testimony contains numerous parallels with *On Regimen*, including the notion of “passages” through which sensations enter the body, the closing off of these passages during sleep, the idea that humans breathe in “souls” that permeate the air, the joining of two souls together to create intelligence, and the analogy about cinders near a fire, which closely recalls *On Regimen*’s analogy about two sets of coals that burn at different temperatures and are then combined with one another.⁵⁵⁸ In another testimony, Heraclitus is said to have held that, when we are asleep, “there appear before us representations of places we do not know and images of people living as well as

⁵⁵⁶ Regarding the sun’s origin in the sea, compare the τροπή between fire/soul and water/sea at DK 22 B31, B36, B77. These parallels further support the claim at DK 22 B67a that Heraclitus associated the “sun” with “soul.”

⁵⁵⁷ For the idea that we are “rooted” in the air by means of respiration, compare the testimony on Hippocrates in the *Anonymus Londinensis* (quoted above, p. 75).

⁵⁵⁸ On the “passages” for sensation and their closing during sleep, see above, p. 207. On the breathing in of souls, see pp. 180–181, 184–187. On the union of two souls, see pp. 225–226. On the coal analogy, see p. 184. For a reference to how the soul, like a spider in a web, sits in the center of our chests and can sense all parts of the body, see Heraclit. DK 22 B67a.

dead,” and that “in cases where divine powers guide the worthy, [the human mind] is subject to forewarning” (DK 22 A20, trans. Robinson). This, of course, recalls the dream interpretations that we find in *On Regimen*, although the author of *On Regimen* specifically leaves aside the “divine” class of dreams, choosing to focus exclusively on the dreams that directly reflect the interior state of the human body.

Empedocles is the third major cosmologist who constructed a system remarkably similar to what we find in *On Regimen*. One significant difference, of course, is that whereas the author of *On Regimen* advances a two-element theory of fire and water, Empedocles constructs a four-element theory of fire, water, earth, and αἰθήρ.⁵⁵⁹ Each of these elements is associated with one of four “roots” (ρίζωματα), which Empedocles describes in the following lines (DK 31 B6, trans. Inwood, modified):

First, hear the four roots of all things,
gleaming Zeus and life-bearing Hera and Aidoneus
and Nestis, who moistens with tears the spring of mortals.

As in *On Regimen*, Empedocles gives the name of Zeus to the visible sky (= αἰθήρ), while Aidoneus (i.e., Hades) is the invisible region on the other side of the earth. “Life-bearing” Hera is the surface of the earth, while Nestis who moistens with tears the springs of mortals” is a reservoir of water whose location is not immediately clear.⁵⁶⁰ On the one hand, the “tears” of Nestis could

⁵⁵⁹ For Empedocles, αἰθήρ represents the entire continuum of air from the surface of the earth to the furthest edge of the stars. It covers notions that can be translated as both “air” and “sky,” while ἄήρ refers to the moisture-laden “mist” that is the source of meteorological phenomena. For Empedocles, the only uncontested use of the term ἄήρ appears at DK 31 B38.5, where he speaks of the sun, the sea, and “wet ἄήρ” (ὕγρὸς ἄήρ). In this passage, ἄήρ is associated with *water*, not air, and does not designate the element often translated as “air.” Later doxographers used their own terminology when summarizing his views, and they refer to Empedocles’ “air” as ἄήρ. His own term was αἰθήρ, however, and I will defer to his usage in this section, both for the sake of fidelity to the text and to encompass the otherwise untranslatable union of “sky” and “air” that is critical to his system. For more on the distinction between αἰθήρ and ἄήρ as they apply to Empedocles, see Kingsley (1995, 15–35).

⁵⁶⁰ For the identification of these regions, see Kingsley (1995), whose argument would have been strengthened by a comparison with *On Regimen*. For the distinction between Zeus and Hades, see above, p. 183, and compare DK 31 B142, where Empedocles specifically refers to the “houses” of Zeus and Hades: “him neither the roofed house of

suggest precipitation from the moist αἴρ, which falls down from the clouds into the “springs of mortals” (i.e., the lakes and rivers). It has also been argued, however, that Nestis was a cult epithet of Persephone, the queen of the Underworld, and so another, perhaps better option is that she recalls the rivers and springs that flow underground.⁵⁶¹ The placement of Nestis under the earth would in fact create a very neat cosmic geography. The married couple of Zeus and Hera would be located on one side of the earth (i.e., the side on which we live), while the married couple of Nestis (= Persephone) and Hades would be located on the other side (i.e., the side that is shielded from our view). Although each of these “roots” is associated with one element, Empedocles is not referring to the elements *per se*. Instead, he uses the names of Zeus, Hera, Aidoneus, and Nestis to invoke four “reservoirs” of matter, not unlike the three “portions” of αἰθήρ, earth, and αἴρ that we have already seen in *On Flesh* (above, p. 139).⁵⁶² At DK 31 B52, Empedocles observes that “many fires burn under the earth” (πολλὰ δ’ ἔνερθ’ οὐδεος πυρὰ καίεται), while at DK 31 B55 he says that the sea is “earth’s sweat” (γῆς ἰδρῶτα θάλασσαν; cf. DK 31 A49). These passages reinforce the notion that both water and fire are concentrated under the earth, as do Empedocles’ assertions that “all the moisture on earth tends to be driven into its hollows, being forced by the constant whirls of the wind” (DK 31 A66, trans. Inwood), and that the first seeds of human beings arose from the earth when fire “brought up (ἀνήγαγε) the nocturnal shoots of men and women,” shoots that contained “whole-natured outlines having

aegis-bearing Zeus nor even the ... house ... of Hades” (trans. Inwood). The house of Zeus is “roofed” and Zeus himself is “aegis-bearing” inasmuch as the αἰθήρ is bounded by an impenetrable περιέχον. The adjective “life-bearing” (φερέσβιος) is applied to the earth in epic poetry (e.g., Hes. *Th.* 693; cf. Arist. *Mu.* 2, 391b13), suggesting that “Hera” must indeed denote the earth in the same way that Pherecydes had earlier described a marriage between “Zas” (= Zeus) and “Chthonie” (= Earth) in his allegorical description of the cosmos.

⁵⁶¹ The suggestion was first made by Sturz (1805) and is now widely accepted by modern scholars.

⁵⁶² Cf. DK 31 B17.28, where the “domains” (τιμαί) of the elements (i.e., the places in the cosmos where these elements are most concentrated; cf. DK 31 B30.2) recall the “domains” (τιμαί) that were allotted to Zeus, Poseidon, and Hades after the overthrow of Cronus (*Il.* 15.189).

a share of both water and heat” (DK 31 B62, trans. Inwood).

In Greek literature, the verb “to bring up” (ἀνάγειν) was very closely associated with the raising of the dead.⁵⁶³ Similarly, the adjective “nocturnal” (ἐννύχιος) was traditionally applied to the ghostly inhabitants of the “House of Night.”⁵⁶⁴ By using the terms ἀνάγειν and ἐννύχιος, Empedocles suggests that his anthropogony is a resurrection of the dead. In fact, he shares with the author of *On Regimen* the belief that “life” and “death” are two parts of a single cycle. Just as *On Regimen* says that substances pass “from the light into Hades” before eventually returning “from Hades into the light” (*Vict.* 4.2, 6.474 L.), so Empedocles believes that nothing is truly created nor destroyed, but everything “comes to be” and “passes away” by the twin processes of mixture and separation. In *On Regimen*, the author writes that “whenever I speak of ‘coming to be’ and ‘perishing,’ I am translating for the sake of the majority; but I will show that these things are really mixing and separating” (*Vict.* 4.3, 6.476 L.). Similarly, Empedocles says that “there is no birth of any of all mortal things nor any end in destructive death, but there exists only mixture and interchange of what is mixed, while birth is the name given to them by men” (DK 31 B8.1–4, trans. Inwood, modified; cf. B9, B17.27–35). For Empedocles, mixture and separation are governed by two opposing principles: love and strife. All things come together through the action of “love,” while all things move apart through the action of “strife.” Empedocles describes the actions of love and strife in terms reminiscent of *On Regimen*, as he writes about a pendular movement between love (= mixture) and strife (= separation) as a cycle in which each pole must eventually give way to its opposite (Emp. DK 31 B17.6–14, trans. Inwood, modified; cf. B26):

And these things never cease from constantly alternating,
at one time all coming together by love into one,

⁵⁶³ Hes. *Th.* 626, A. *Ag.* 1023, S. fr. 557.7 Radt, E. *Alc.* 985, Pl. *R.* 7.521c

⁵⁶⁴ In *Oedipus at Colonus*, for example, Sophocles refers to Hades as “lord of the nocturnals” (ἐννυχίων ἄναξ Ἀΐδωνεῖ, S. *OC* 1558). See also S. *Aj.* 660, *Tr.* 501.

and at another time again all being borne apart separately by the hostility of strife.
<Thus insofar as they have learned to grow as one from many>
and they finish up many as the one again grows apart,
in this respect they come to be (γίγνονται) and have no constant life (ἔμπεδος αἰών);
but insofar as they never cease from constantly interchanging,
in this respect they are always unchanged in a cycle (ἀκίνητοι κατὰ κύκλον).

Like the author of *On Regimen*, Empedocles believes in “stability through cycles.” When the cycles are considered only in part, they seem to be irregular and ever-changing, but when the cycles are considered as a whole, they are a stable and unchanging. Just as the author of *On Regimen* writes that fire and water “dominate and are dominated in turn, to the maximum and minimum of what is possible” (ἐν μέρει δὲ ἑκάτερον κρατεῖ καὶ κρατεῖται ἕς τὸ μήκιστον καὶ τὸ ἐλάχιστον ὡς ἀνυστόν, *Vict.* 3.1, 6.472–474 L.), so Empedocles writes that the elements “dominate in turn as time circles round” (ἐν δὲ μέρει κρατέουσι περιπλομένοιο χρόνοιο, DK 31 B17.29; cf. B26.1) and that “love” and “strife” both enjoy equal measures of supremacy (DK 31 B35.12–13; cf. the μέτρα in Heraclitus, above, p. 249). For both authors, this constant cycling guarantees that such notions as generation and destruction are mere illusions, for all that exists is “being,” while “not being” is inconceivable. Empedocles associates the claim that something which previously did not exist can “come to be” or that something which currently exists can be “destroyed” with the entertainment of thoughts that are not “long-lasting” (οὐ γὰρ σφιν δολιχόφρονές εἰσι μέριμναι, DK 31 B11.1). If you focus on anything other than the mixing and separating of fire, water, earth, and αἰθήρ, “truly they will abandon you quickly, as time circles round (περιπλομένοιο χρόνοιο), desiring to arrive at their own dear kind” (DK 31 B110.7–8, trans. Inwood).⁵⁶⁵ To appreciate the cosmos as a whole, we need to take the long view. We need to move beyond the perspective of a single human being—beyond the cycles in which we live—and view the cosmos

⁵⁶⁵ For the overturning of false opinions “as time circles round” (περιπλομένοιο χρόνοιο), cf. Parmenides’ assertion that ignorant mortals travel a road that is “backwards turning” (παλίντροπος, DK 28 B6.9).

from the perspective of the “long-lived gods” (θεοὶ δολιχαίωνες, DK 31 B17.41 = *P. Stras.* a(i).2) who have the ability to rise above the cycles themselves.

In one passage, Empedocles implies that knowledge about the “whole” provides mastery over the “parts” (DK 31 B110.1–5, trans. Inwood, modified):

For if, thrusting them deep down in your crowded mind,
you gaze on them in kindly fashion, with pure meditations,
absolutely all these things will be with you throughout your life,
and from these you will acquire many others; for these things themselves
will expand to form each character, according to the φύσις of each.⁵⁶⁶

In another passage, he observes that an over-reliance on the senses can trick us into thinking that we understand the “whole,” when in fact we understand nothing (DK 31 B2, trans. Inwood, modified):

For narrow devices are spread throughout the limbs,
but many wretched things strike in, and they blunt their meditations.
And having seen only a small portion of life in their experience
they soar and fly off like smoke, swift to their dooms,
each one convinced of only that very thing which he has chanced to meet,
as they are driven in all directions. But each boasts of having discovered the whole.
In this way, these things are neither seen nor heard by men
nor grasped with the understanding. But you, then, since you have stepped aside here,
you will learn. Mortal cunning has certainly gone no further.

This passage contains some interesting parallels with *On Regimen*. Just as Empedocles observes that humans claim to have discovered the “whole” when in fact they understand nothing (τὸ δὲ ὅλον <πᾶς> εὔχεται εὑρεῖν, DK 31 B2.6), so the author of *On Regimen* claims that his predecessors have failed to discover the “whole” (τὸ ὅλον) as it pertains to human regimen (*Vict.* 1.1, 6.466 L.). The author of *On Regimen* also echoes Empedocles’ reference to things that are “grasped with the understanding” (νόῳ περιληπτὰ, DK 31 B2.8) when he refers to “everything

⁵⁶⁶ The final line in this passage recalls Heraclit. DK 22 B1 (κατὰ φύσιν διαιρέων ἕκαστον καὶ φράζων ὅκως ἔχει). On the mastery that comes from knowledge of the whole, see also Emp. DK 31 B129.3. For the application of this knowledge to the parts, see Emp. DK 31 B110.4–5. For *On Regimen*’s views about “wholes” and “parts,” see above, pp. 213–214.

that can be grasped by human intelligence” (ὅσα δυνατόν ἀνθρωπίνῃ γνώμῃ περιληφθῆναι, *Vict.* 1.1, 6.466 L.), while Empedocles’ declaration that “mortal cunning has certainly gone no further” (οὐ πλεῖτόν γε βροτείῃ μῆτις ὄρωρεν) recalls the final sentence of *On Regimen*, in which the author proudly asserts that he has taken his insights as far as is humanly possible (ὡς δυνατόν εὑρεῖν ἄνθρωπον ἔόντα, *Vict.* 93.6, 6.662 L.).

To acquire insight into the “whole,” Empedocles believes that we have to properly prepare our minds (cf. above, p. 223). We must focus on “love” rather than “strife” (DK 31 B27a; cf. B17.23, B115.14, B121, B124, B128, B136), contemplate “good” instead of “evil” (DK 31 B112.2–3, B131.4, B144, B145; cf. B4.1), favor “light” and “purity” over “darkness” and “impurity” (DK 31 B3.1–2, B110.2, B121.4, B122.4, B132.2; cf. B23.9–11), and “step aside” from the world of appearances to consider the universe as a whole (DK 31 B2.9, B17.21).⁵⁶⁷ Like the author of *On Regimen*, Empedocles associates the acquisition of insights with “recognition” (γνώσις)⁵⁶⁸ and contrasts truth with mere “opinion” (δόξα).⁵⁶⁹ He also associates false beliefs with “madness” (μανία),⁵⁷⁰ and observes that most people are inclined to disbelieve the truth that he speaks (ἀπιστεῖν, DK 31 B34.1; cf. B2.5, B71.1), resisting “the onrush of persuasion upon their mind” (ἐπὶ φρένα πίστιος ὁρμή, DK 31 B114.3).⁵⁷¹ Empedocles shares with the author of *On Regimen* the belief that perception occurs through “passages” (πόροι) that make their way to the

⁵⁶⁷ At DK 31 B39, Empedocles refers to a false opinion that is “poured out in a vain stream from the tongues in the mouths of many, who have seen little of the whole.” This passage recalls the “many-voiced path” that Parmenides escapes at DK 28 B1.2 and the “noiseless path” that is travelled by Zeus at E. *Tro.* 886–889.

⁵⁶⁸ Emp. DK 31 B4.3.

⁵⁶⁹ Emp. DK 31 B3.6, B114.1, B132.2. At DK 31 B17.26, Empedocles asserts that his own account of cosmic cycles is “not deceptive” (οὐκ ἀπατηλόν), recalling Parmenides’ contrast between the “truth” (i.e., the stability of the cycles themselves) and the “deceptive” account of what appears to occur within each cycle (DK 28 B8.52).

⁵⁷⁰ Emp. DK 31 B3.1. Cf. Emp. DK 31 B115.14, Heraclit. DK 22 B5, B15, B92, *Vict.* 24.2, 6.496 L., 35.7, 6.518 L., 35.10, 6.520 L., 35.11, 6.520–522 L., 89.7, 6.648 L., 93.5, 6.662 L.

⁵⁷¹ Cf. the materialist take on “conversation” in *On Regimen* (above, pp. 223–224).

mind that is located in the center of our chests.⁵⁷² He also identifies the blood with intelligence (DK 31 A30, B105), associates women with the cold element and men with the hot (DK 31 B65, B67; cf. *Vict.* 34, 6.512 L.), and assumes that sluggish souls have blood that is colder (Brink 1969), recalling the soul-mixtures that appear in *On Regimen* (above, p. 191).

Empedocles' notion of divinity provides another point of comparison with *On Regimen*. Like the author of *On Regimen*, Empedocles believes that “all things have thought and a share of understanding” (πάντα γὰρ ἴσθι φρόνησιν ἔχειν καὶ νόματος αἴσαν, DK 31 B110.10; cf. B102, B103) and that this intelligence governs the universe as a whole (DK 31 A31, A32). He shares with the author of *On Regimen* the belief that the intelligence within our own bodies is divine (DK 31 A32, B132.1)⁵⁷³ and that it is “blunted” by being confined to a mortal form (DK 31 B2.10; cf. DK 31 B126). “Blessed is he,” he writes “who has obtained the wealth of a divine heart (θείων πραπίδων ... πλοῦτον), and wretched is he who has a dark opinion about the gods (σκοτόεσσα θεῶν πέρι δόξα)” (DK 31 B132).⁵⁷⁴ When our mind connects with the intelligence that permeates all things, it increases in size (φρένας αὔξει, DK 31 B17.14; cf. DK 31 B106, Heraclit. DK 22 B115) and we “see” what can only be seen by the mind.⁵⁷⁵ We send our souls out into farthest

⁵⁷² Emp. DK 31 B2.1–2, B3.12, B4.3, B100.22–25, B105, B110.1, B114.3, B133. Among the terms that Empedocles applies to this “mind” are νοῦς, νόημα, μήτις, μέριμνα, φρήν, and πραπίδες. At DK 31 B105, Empedocles refers to blood that “leaps back and forth” (ἀντιθορόντος) from its position around the heart, suggesting an inward and outward movement of the intelligent soul in a manner very similar to what we find in *On Regimen*.

⁵⁷³ Note also S.E. *Adv. math.* 1.303: “Empedocles called himself a god because he alone, having kept his mind pure from evil and unsullied, had grasped the god without by means of the god within himself” (trans. Inwood).

⁵⁷⁴ For the description of knowledge as “wealth,” cf. Heraclit. DK 22 B22. For the association of darkness and impurity with intelligence-blunting moisture, see Emp. DK 31 B21.5, B111.6, B121.4, and cf. above, p. 208.

⁵⁷⁵ Empedocles uses verbs of “seeing” for denoting what we grasp with the mind at DK 31 B110.2, B129.5. In another fragment, he notes that the majority think they have found the “whole” when in fact they “have seen only a small part of life in their lifetimes” (παῦρον δ' ἐν ζωῇσι βίου μέρος ἀθρήσαντες, DK 31 B2.3). At DK 31 B133, he writes that the divine element cannot be seen or touched, recalling *On Regimen*'s description of the body's central fire as “untouched by both sight and touch” (ἄθικτον καὶ ὄψει καὶ φάσει, 10.3, 6.486 L.). Note also the distinction between true knowledge and “dark opinion” at DK 31 B132.2, and Empedocles' insistence on making the truth “visible” and “clear” at DK 31 B3.9–13, B131.4—passages that recall *On Regimen*'s penchant for the verb δηλοῦν (see above, n. 437).

reaches of the cosmos, and we bring back insights that span “ten or twenty human lifetimes” (DK 32 B129).⁵⁷⁶ In an impressive embrace of this belief that all intelligence is divine, Empedocles claims to be an “immortal god, no longer subject to death” (θεὸς ἄμβροτος οὐκέτι θνητός, DK 31 B112.4; cf. B23.11, B131.1). He is one of the “divinities who have obtained a long-lasting life” (δαίμονες οἷτε μακραίωνος λελάχασι βίοιο, DK 31 B115.5; cf. DK 31 B3.3, B21.12, Heraclit. DK 22 B25), a being who “surpasses mortal humans who are destroyed many times” (θνητῶν περίειμι πολυφθερέων ἀνθρώπων, DK 31 B113.2; cf. DK 31 B2.4, B3.4, B131.1, B112.12). This pedigree supposedly gives Empedocles skills in both divination and healing (DK 31 B112.10–11). He also promises that anyone who listens to him will be able to accomplish marvelous deeds (DK 31 B111), and that they will ultimately rejoin the fiery intelligence that governs the entire cosmos, “sharing hearth and table with other immortals, being free of manly woes, untiring” (DK 31 B147).⁵⁷⁷ Like the author of *On Regimen*, Empedocles believes that there are “divinities” (δαίμονες) who “dwell in and administer affairs all over the earth, being very numerous” (DK 31 A31, trans. Inwood). These divinities can “turn away” impure substances just like the “apotropaic” gods in *On Regimen* (ἀποτρέφατε, DK 31 B3.1; cf. ἀποτροπαίοισι, *Vict.* 89.14, 6.652 L.), and they also “mix” with one another just like the souls that mix together in *On Regimen* (ἐμίσητο δαίμονι δαίμων, DK 31 B59.1; cf. ψυχὴν ... προσμίγεσθαι ψυχῇ, *Vict.* 29.2, 6.504 L.). When Empedocles asks the “immortal Muse” (ἄμβροτε μοῦσα) to give him insight into the cosmos, he requests that she “let our concerns pass through your mind” (ἡμετέρας μελέτας ... διὰ φροντίδος ἐλθεῖν, DK 31 B131), employing the same language that he elsewhere applies to the mixture of the elements that “run through one another” (δι’ ἀλλήλων δὲ θέοντα, DK 31

⁵⁷⁶ On the limited perspective of a human “lifetime” (αἰών), cf. Heraclit. DK 22 B52 (discussed above, p. 255).

⁵⁷⁷ The adjective “untiring” (ἀτειρεῖς) recalls the references to “weariness” in Heraclitus (above, n. 532).

B17.34, B21.13, B26.3). In another passage, Empedocles refers to the “maiden Muse” (παρθένη μοῦσα) as someone who “drives a well-reined chariot from the place of reverence” (παρ’ εὐσεβίης ἐλάουσ’ εὐήνιον ἄρμα, DK 31 B3), a passage that could suggest that this Muse is a “young” emanation of a much larger, cosmic intelligence, not unlike the “youth” in Heraclitus’ allegory about a drunkard (above, p. 257) or the “maiden” daughters of Helios who leave the house of Night and help steer Parmenides’ chariot in his fiery reunion with the cosmic soul (above, p. 237).⁵⁷⁸

Like the other thinkers we have described up to this point, Empedocles assumes that the δαίμονες receive their instructions from a multi-named divinity, whose power is derived from the fact that it embodies the totality of cosmic intelligence. Of the four elements, Empedocles assumes that fire is the main representative of this multi-named divinity. It is “separating fire” (κρινόμενον πῦρ) that first brought forth human beings from the earth (DK 31 B62), and it is fire that has the power to send things back to the realm of the invisible (DK 31 B109.2). Fire hardens both αἰθήρ and earth, solidifying the starry sky, the moon, and the rocks upon the earth (DK 31 A51, A60, B73), and it is fire that causes the winds to move around and change their directions midair (DK 31 A64; cf. above, p. 182).⁵⁷⁹ Aristotle sees fire as so important for Empedocles that, when summarizing his views, he claims that Empedocles actually reduced the four elements to two, “for he sets all the others in opposition to fire” (DK 31 A36, trans. Inwood; cf. A37, B21.4). Like the author of *On Regimen*, Empedocles appears to place a special emphasis on the sun, which is “bright to look on and hot in every respect” (DK 31 B21.3; cf. B27.1) and was the first thing to

⁵⁷⁸ For another reference to Empedocles’ insights coming from a “Muse,” see DK 31 B4.2. For the association of these insights with “honor” and “reverence,” see DK 31 B3.6–7, B21.12, B112.5, B112.8, and cf. Heraclit. DK 22 B24, B55, B132.

⁵⁷⁹ On the power of fire, see also DK 31 A58.

be created when fire separated off from the other elements (DK 31 A49a; cf. DK 31 B38.1). At DK 31 B41, the sun's revolution around the earth is described in language that suggests a unit of soldiers on patrol (DK 31 B41; cf. Wright 1995, 200), recalling Heraclitus' description of the sun as the "overseer and sentinel for defining, arbitrating, proclaiming, and displaying the changes and the seasons that bear all things" (DK 22 B100). In another fragment, the sun is called the "lord" (ἄναξ) of the moon (DK 31 B47). It shines with a "fearless face" (DK 31 B44), and it occupies a "pure" region of αἰθήρ that is contrasted with the "evils" that lie in the region under the moon (DK 31 A62; cf. above, p. 182).

Another important divinity for Empedocles is Aphrodite, the divine embodiment of love, mixture, and the unity of opposites.⁵⁸⁰ Although Empedocles puts "love" and "mixture" at one pole of a cycle with "strife" and "dissolution," Aristotle reports that Empedocles "only praises mixture" (DK 31 A40), and that he believes that "love is the cause of good things, strife of bad things" (DK 31 A39, trans. Inwood). The reason why Empedocles elevates "love" over "strife" is because he associates the cosmic intelligence with the unity of opposites. "Gaze on her with your understanding," he writes, "and do not sit with stunned eyes. For she is deemed even by mortals to be inborn in their bodies and by her they think loving thoughts and accomplish works of unity calling her by the names Joy and Aphrodite" (DK 31 B17.21–24, trans. Inwood).⁵⁸¹ Aphrodite is so important for our reunion with the cosmic intelligence that Empedocles exhorts his audience to rise above the world of dissension and strife to both think and act in accordance with the "whole." In one noteworthy fragment, he claims that there is "an oracle of Necessity, an ancient

⁵⁸⁰ For the claim that "Aphrodite" rises above the constant cycling of the elements, see especially DK 31 B17.25 ("Her no mortal man has perceived whirling (ἐλίσσομένην) among them," trans. Inwood). With this, we may compare Parmenides' encounter with the goddess whom some sources also identify as "Aphrodite" (above, p. 236).

⁵⁸¹ On the "joyfulness" of unifying opposites to create a stable whole, see also Emp. DK 31 B27, B28, where the unity of the elements "rejoices" in its own steadfastness and solitude.

decree of the gods, eternal, sealed with broad oaths” (DK 22 B115.1–2). This decree prohibits the rending apart of anything that contains a soul, and it stipulates as punishment for such an act thirty thousand years spent “wandering (ἀλάλησθαι) away from the blessed ones, being born (φύομενον) as all sorts of mortal forms through the passage of time” (DK 31 B115.6–7; cf. B128.8–10, B136, B137, B138, B139 = *P. Stras.* d5–6). Empedocles himself claims to be one of these wayward divinities, “an exile from the gods and a wanderer, trusting in mad strife” (φυγὰς θεόθεν καὶ ἀλήτης, νείκει μαινομένω πίσυνος, DK 31 B115.13–14, trans. Inwood). As we see at DK 22 B115, it was not Aphrodite who administered this punishment, but rather another, even higher manifestation of the cosmic intelligence. This force is Necessity (Ἀνάγκη), which, according to Plutarch, is the name that Empedocles gives to the combination of love and strife (DK 31 A45; cf. A38, A49a, *Vict.* 5.2, 6.478 L.).

Like the author of *On Regimen*, Empedocles uses analogies not only as explanatory tools, but also as a means to illustrate the interconnectedness of nature, according to which any account of the cosmos requires constant doubling back through other analogous accounts.⁵⁸² In one fragment, he compares the eye to a lamp (DK 31 B84), while in another, he says that the mixture of the elements resembles the mixture of a painter’s pigments. “Painters,” he writes, “take in their hands many-colored pigments, mixing them in harmony (ἁρμονίῃ μίζαντε), some more, others less.” As a result, they “prepare forms resembling all things, making trees and men and women and beasts and birds and water-nourished fish and long-lived gods, first in their prerogatives”

⁵⁸² Cf. Emp. DK 31 B35.1–2 (“But I shall return again (παλινόρσος ἐλεύσομαι) to the passage of songs which I previously recited, channeling that account from another,” trans. Inwood). As with Parmenides’ assertion that “wheresoever I begin is one and the same, for I will come back there again,” DK 28 B5), this “doubling back” reflects the cosmic cycles of which the universe is composed. As we saw above, this tendency to “double back” is especially strong in *On Regimen*, in which the author’s analogy between the body and the cosmos is constructed in such a way that virtually every discussion of the body reflects the cosmos and vice versa. For other examples of “doubling back” in Empedocles, see DK 31 B17.15–16, B24, B25, B35.1–2.

(DK 31 B23, trans. Inwood). This analogy with painting recalls *On Regimen*'s analogies between the body, the cosmos, and the τέχναι (above, pp. 73, 210–211). It especially recalls the analogy with a musician composing songs (above, pp. 216–219), as both Empedocles and the author of *On Regimen* stress that opposites will only be combined if they achieve a certain “harmony” (ἁρμονία).⁵⁸³ Both authors are also fond of using allegories to reinterpret the traditional gods of Greek myth.⁵⁸⁴ We have already seen how Empedocles associates each of the elements with Zeus, Aidoneus, Hera, and Nestis. In his poetry, Aphrodite stands for love, Hephaestus for fire (DK 31 B96.3, B98.2), and in one notable fragment, he is said to have argued against the anthropomorphic depiction of Apollo. The majority is mistaken about this god, he writes (DK 31 B134, trans. Inwood):

For he is not fitted out in limbs with a human head,
nor do two branches dart from his back
nor feet, nor swift knees nor shaggy genitals;
but he is only a sacred and ineffable thought organ (φρήν)
darting through the entire cosmos with swift thoughts.

Like the author of *On Regimen*, Empedocles reinterprets Apollo as a “sacred and ineffable” intelligence. He is an emanation of the cosmic soul, filling the air with “swift thoughts” and darting through the cosmos like the rays of the sun. Elsewhere, Empedocles claims that Iris, a divine messenger who recalls *On Regimen*'s allegorization of Hermes (above, p. 232), “brings wind or great rain from the sea” (DK 31 B50). In other words, she separates out a portion of water and

⁵⁸³ On the use of the term “harmony” to describe the unity of opposites, see also Emp. DK 31 B22.1, B27.3, B35.17, B71.4, B91, B96.4, B107. At DK 31 B59, the observation that “daimon mixed more with daimon, and these things came together as each happened to meet” (trans. Inwood) recalls *On Regimen*'s description of embryology, specifically the observation that when two “seeds” mix together, their harmony is not directed by the seeds themselves, but instead depends on a certain “chance” (above, p. 219). Cf. DK 31 B98.1, B104.

⁵⁸⁴ Cf. Men. Rh. 1.5, p. 337 Spengel (= Parm. DK 28 A20): “when uttering a hymn to Apollo we declare him to be the sun, and discuss the sun’s nature, and say of Hera that she is air, and that Zeus is the hot; for such hymns are descriptive of nature. Both Parmenides and Empedocles give full expositions, whereas Plato recalls it briefly” (trans. Gallop).

brings it up into the sky, thereby driving the cycle of evaporation and precipitation.

Of course, Parmenides, Heraclitus, and Empedocles are not the only Greek thinkers to show affinities with *On Regimen*. This is especially true regarding his theory of the soul. We may recall, for example, Thales' reported claims that the universe is "ensouled" (ἐμψυχον) and that "all things are full of gods" (πάντα πλήρη θεῶν, DK 11 A22; cf. A1 (= D.L. 1.27), A3, A23), which could suggest a notion of divinity very similar to what we find in *On Regimen*.⁵⁸⁵ Pherecydes of Syros was reputed to have been the first person to claim that our souls are immortal and that they can move from one body to the next (fr. 2, 7, 85 Schibli).⁵⁸⁶ He was also said to have claimed that souls come from the αἰθήρ (fr. 86 Schibli) and that the universe is ruled by "Zas," an embodiment of "life" (τὸ ζῆν) who is married to Chthonie (i.e., "Earth") and who is variously identified with fire, αἰθήρ, and the sun (fr. 65–66, 68–69 Schibli).⁵⁸⁷ The Orphics also gave a special status to fire, αἰθήρ, and the sun.⁵⁸⁸ They claimed that the body is a "tomb" or a "prison" in which the soul is enclosed (Pl. *Cra.* 400b–c), that "the soul comes in from the whole when breathing takes place, being borne in upon the winds" (Arist. *De an.* 1.5, 410b, trans. Barnes; cf. above, pp. 180–181), and that their initiates should seek liberation from the "cycle" (κύκλος), a term that suggests a succession of "births" and "deaths" through which the soul must pass before

⁵⁸⁵ On the claim that "all things are full of gods," cf. Parm. DK 28 A46, B16.4, Heraclit. DK 22 B45, Emp. DK 31 B110.10. One source also reports that Thales believed that the universe is governed by a divine "mind" (νοῦς), which shapes everything out of water (DK 11 A23). If accurate, this testimony would recall *On Regimen*'s combination of an active, architectonic force (fire/soul/mind) with a passive, malleable material (i.e., water). It would also fit well with the reports that Thales believed that both magnets and amber attract substances by means of a "soul" that lies within them.

⁵⁸⁶ In reality, this view predates the Greeks: see Kahn (2001, 19).

⁵⁸⁷ As we have already noted, Pherecydes was sometimes identified as the author of *On Regimen* (above, p. 164).

⁵⁸⁸ Note, for example, Macr. *Sat.* 1.18.17, where an Orphic *Hymn to the Sun* identifies Helios with Dionysus. The "great tablet" of Thuri contains the phrase "fire conquers all," and it, too, seems to give a privileged place to the sun (Bernabé and Jiménez San Cristóbal 2008, 143–145).

it can enter the ranks of the “heroes.”⁵⁸⁹ Like the Orphics, the Pythagoreans also believed in the immortality of the soul and a cycle of life and death.⁵⁹⁰ One Pythagorean, Hippasus of Metapontum, is said to have claimed that our souls are fiery and that fire is divine (DK 18 7–9),⁵⁹¹ while another, Ecphantus of Syracuse, said that everything is moved by a divine power, variously called “mind” (νοῦς) and “soul” (ψυχή) (DK 51 1).⁵⁹² Another thinker who drew on this world view was Epicharmus, a comic poet from Syracuse whose fragments display a marked interest in cosmology. Epicharmus is said to have written that “everything that lives also has understanding (γνώμην)” (DK 23 B4), that “Mind sees and Mind hears; everything else is deaf and blind” (DK 23 B12), and that “If you are by nature pious in mind (εὐσεβὴς νόῳ), you cannot suffer any hurt after death; your spirit (πνεῦμα) will survive above in heaven” (DK 23 B22; cf. B9, all quotations trans. Freeman). Furthermore, Ennius’ *Epicharmus* (a Roman imitation of Epicharmus) contains many parallels with *On Regimen*: a dreamer seeing visions that are usually reserved for the dead (fr. 1 Warmington), the claim that all things are a mixture of the hot, the

⁵⁸⁹ Bernabé and Jiménez San Cristóbal 2008, 121. On the Orphic gold tablets, the dead are instructed during their underworld journey to approach the fountain of Memory, where there are guardians nearby (cf. Justice guarding the “gates of the paths of Night and Day” in Parmenides’ poem). The dead are then instructed to tell these guardians that they are “the child of Earth and starry Heaven, but my race is heavenly”—a line that suggests a distinction between the earthly and heavenly components of human beings, not unlike the distinction between earthly water and divine, intelligent fire in *On Regimen*. After the dead drink the “eternally flowing” water of Memory, they will then join the other heroes. If Bernabé and Jiménez San Cristóbal (2008, 43) are correct in thinking that these heroes do not ascend to the αἰθήρ but rather stay attached to the earth, they could potentially play a role similar to what we see in *On Regimen*, flying around the earth and directing those things which lack the intelligence to steer themselves.

⁵⁹⁰ Cf. Porphy. *VP* 19: “What he [= Pythagoras] said to his disciples no man can tell for certain, since they preserved such an exceptional silence. However, the following facts in particular became universally known: first that he held the soul to be immortal, next that it migrates into other kinds of animals, further that past events repeat themselves in a cyclic process and nothing is new in an absolute sense, and finally that one must regard all living things as kindred (ὁμογενῆ)” (trans. Guthrie 1962, 186). See also Arist. *De an.* 1.2, 404a17, 1.3, 407b20–24.

⁵⁹¹ Cf. the third-century BCE tomb inscription from Pherai (Bernabé and Jiménez San Cristóbal 2008, 43), which claims that the dead man is “of the root of great Zeus, in appearance, but really of eternal fire,” and that our bodies come from the earth, while our souls belong to the αἰθήρ.

⁵⁹² Summarizing the views of the early Pythagoreans, Guthrie (1962, 201) observes that they believed “the essential part of man, his soul, was not mortal, and it owed its immortality to this circumstance, that it was neither more nor less than a small fragment or spark of the divine and universal soul, cut off and imprisoned in a perishable body.”

cold, the dry, and the wet (fr. 2 Warmington), an association of the body with earth and the mind with fire (fr. 7 Warmington), the claim that our souls are a fiery emanation from the sun (fr. 8 Warmington) and that the sun is entirely made of “soul” (fr. 9 Warmington), and a penchant for allegory, associating Jupiter with air, Ceres (and perhaps also Juno) with earth, and Proserpina with the moon (fr. 6, 10–14 Warmington). Finally, Plato’s dialogues present a theory about the soul that displays numerous parallels with *On Regimen*. In the *Phaedrus*, for example, we find the observations that “every soul is immortal” (245c), that “every body which derives motion from without is soulless, but that which has its motion within itself has a soul” (245e), that “soul, considered collectively, has the care of all that which is soulless” (246b), that “when it is perfect and fully winged, (the soul) mounts upward and governs the whole world, but the soul which has lost its wings is borne along until it gets hold of something solid, when it settles down, taking upon itself an earthly body, which seems to be self-moving, because of the power of the soul within it” (246c), that “more than any other thing that pertains to the body (the soul) partakes of the nature of the divine” (246d), that this cosmic soul is represented by “the great leader in heaven, Zeus, driving a winged chariot,” who “is followed by an army of gods and spirits,” each driving a chariot of their own (246e–247c), that the place of assembly for these divinities “is visible only to the mind” and houses the general as distinguished from the particular (247c–e), that all other souls yearn to reunite with this cosmic divinity (247e–248b), and that the best way to ensure our reunion with this cosmic soul is to devote our mortal lives to contemplating wisdom, justice, and the true nature of the divine (248e–249d, all quotations trans. Fowler).

From these parallels, we can see that *On Regimen* adopts a world view that struck a chord with many Greek thinkers of the Classical period. This world view was elaborated and re-envisioned many times over during the sixth, fifth, and fourth centuries BCE, and it cannot be attributed to

any one thinker in particular.⁵⁹³ It is difficult to say whether the author of *On Regimen* came to this world view by way of his own professional interests as a doctor, or whether he arrived at it independently of his profession. However he encountered it, he certainly saw many parallels between this world view and his own professional concerns as a doctor. While looking for high-level commonalities that transcend particular differences, he would have found echoes of this research in the undying, unchanging, and undifferentiated “whole”—a whole that embraces all particulars through the pendular movement of cosmic cycles.

⁵⁹³ The Aristotelian *On the Universe* provides a good summary of this world view. Its fifth chapter in particular contains many affinities with *On Regimen*, including the observations that “nature has a liking for contraries and evolves harmony out of them,” that “the arts ... imitate nature,” and that “an unbroken permanence, which all things conspire to secure, counteracting one another—at one time dominating, at another being dominated—preserves the whole unimpaired through all eternity” (396a–397b, trans. Barnes).

Conclusion

Johannes Stobaeus, a fifth-century anthologist, transmits the following testimony on Alcmaeon of Croton, a nebulous figure who seems to have belonged to more or less the same generation as Petron of Aegina (DK 24 B4 = Stob. 4.37.2):

Alcmaeon says that the containing cause of health is equality among the powers (τὴν ἰσονομίαν τῶν δυνάμεων)—wet, dry, cold, hot, bitter, sweet, and the rest—while the single rule among these (τὴν ἐν αὐτοῖς μοναρχίαν) is productive of disease.

In modern discussions of this testimony, it has sometimes been assumed that Alcmaeon practiced the same approach to medicine that is attacked in *On Ancient Medicine*. That is, he identified the cause of a disease as one “power” like the hot, the cold, the dry, or the wet, and he then removed it by applying its opposite. As I noted in my discussion of *On Ancient Medicine*, however, it is highly unlikely that any Greek doctor from the Classical period actually simplified medicine to this extent. The doctor-cosmologists did not reduce the art of healing to the wholesale treatment of the hot with the cold, the dry with the wet. Instead, they restricted such treatments to the *remote* cause of a disease, while the proximate cause was still treated by concocting and then purging peccant humors from the body. The doxographer understands this distinction between remote and proximate causes when he calls Alcmaeon’s principle of ἰσονομία the “containing cause” of health (τῆς μὲν ὑγείας ... συνεκτικήν). In ancient discussions of causation, a “containing cause” was understood to be a cause that *maintains* a state of being. It does not restore that state after it is lost, but it simply keeps it where it is. For Alcmaeon, the balance of the hot, the cold, the dry, and the wet is like the nail that holds a picture on a wall. Once the nail is removed, the picture falls to the ground, but the restoration of the nail will not magically make the picture jump back into place.

This two-tiered model of pathogenesis is vital to understanding the systems of the doctor-

cosmologists. These doctors did not replace humors with ὑποθέσεις, but they combined their first principles with more traditional models of disease. This observation is important for the larger question of whether we can really say that the doctor-cosmologists belonged to a “movement” in any restrictive sense of the term. On the one hand, these doctors certainly share many points in common. We have noted, for example, that they often used arguments from induction to establish the existence of universal principles, that they believed that the microcosm of the body can shed light on the macrocosm of the universe, and that they sought to overcome individual differences by identifying high-level commonalities that transcend all particulars. At the same time that we recognize these similarities among the figures I have identified as “doctor-cosmologists,” it must be admitted that their systems are hardly parallel in form. For some, the first principles of the universe are the material stuffs from which all things are composed; for others, their first principles are what Aristotle would call an “efficient cause.” Some are happy to speculate about what is invisible, while others, like Polybus, specifically renounce any interest in substances that cannot be directly perceived. Such variations suggest that the doctor-cosmologists were not primarily in dialogue with each other. Instead, they seem to have responded to more general trends in early Greek medicine, sometimes focusing on the “powers” (δυνάμεις) that bring about health and disease, and sometimes considering the shared “nature” (φύσις) of both the human body and the universe as a whole.

Instead of separating themselves from the rest of the medical tradition, the doctor-cosmologists formed part of a continuum. There is no clear distinction between these doctors and other medical writers who sought out high-level commonalities. The author of *On the Seed-Nature of the Child*, for example, makes many claims that may be labeled “cosmological.” He never explicitly defines the first principles of the universe, but he is nevertheless engaging in essentially the same inquiry that we see in *On the Nature of the Human Being*, *On Breaths*, *On Flesh*, and *On*

Regimen. What makes the category of “doctor-cosmologist” so amorphous is the fact that these doctors did not see themselves as departing from their peers. They maintained the same theories about πνεῦμα, humors, and the “powers” of food and drink that we find in other texts, and they built on pre-existing approaches to medical inquiry, especially as regards the comparison of dissimilar phenomena in the hope of finding “one similarity” that unites and governs them all. Some contemporaries of these doctors would have certainly criticized them for investigating “the things on high,” but what actually qualified as medically relevant in this period was still up for debate. The doctor-cosmologists saw themselves primarily as doctors and only secondarily as cosmologists. It is with this in mind that I have approached them in this study, and I hope that future research will further integrate these doctors into our historical understanding of early Greek science.

Bibliography

- Adams, F. 1886. *The Genuine Works of Hippocrates*. New York: Wood.
- Agge, K. 2004. *Die pseudo-hippokratische Schrift von der Siebenzahl. Edition, Übersetzung und Kommentar*. Marburg: Tectum Verlag.
- Allen, J. 2000. "Galen as (Mis)informant about the Views of His Predecessors." *Archiv für Geschichte der Philosophie* 83: 81–89.
- Allen, T.W. 1912. *Homeri Opera*, vol. 5. Oxford: Clarendon Press.
- Baader, G., and R. Winau, eds. 1989. *Die hippokratischen Epidemien. Theorie–Praxis–Tradition*. Stuttgart: Steiner.
- Barnes, J. 1983. "Aphorism and Argument." In K. Robb (ed.), *Language and Thought in Early Greek Philosophy*. La Salle: Hegeler Institute. 91–109.
- , ed. 1984. *The Complete Works of Aristotle: The Revised Oxford Translation*. Princeton: Princeton University Press.
- Bartoš, H. 2009. "Soul, Seed, and Palingenesis in the Hippocratic *De victu*." *Apeiron* 42: 17–47.
- . 2012. "The Analogy of Auger Boring in the Hippocratic *De victu*." *The Classical Quarterly* 62: 92–97.
- . 2015. *Philosophy and Dietetics in the Hippocratic On Regimen*. Leiden: Brill.
- Bernabé, A., and Jiménez San Cristóbal, A.I. 2008. *Instructions for the Netherworld: The Orphic Gold Tablets*. Leiden: Brill.
- Bertier, J. 1972. *Mnésithée et Dieuchès*. Leiden: Brill.
- Bidez, J., and Leboucq, G. 1944. "Une anatomie antique du coeur humain. Philistion de Locres et le *Timée* de Platon." *Revue des Études Grecques* 57: 7–40.
- Blass, F. 1901. "Die pseudippokratische Schrift περὶ φύσων und der *Anonymus Londinensis*." *Hermes* 36: 405–410.
- Bonnet-Cadilhac, C. 1993. "Traduction et commentaire du traité hippocratique *Des maladies des jeunes filles*." *History and Philosophy of the Life Sciences* 15: 147–163.
- Bourgey, L. 1953. *Observation et expérience chez les médecins de la collection hippocratique*. Paris: Vrin.
- Brink, C.O. 1969. "Horace and Empedocles' Temperature: A Rejected Fragment of Empedocles." *Phoenix* 23: 138–42.

- Brisson, L. 2013. "Le *Timée* de Platon et le traité hippocratique *Du régime*, sur le mécanisme de la sensation." *Études platoniciennes* 10 [online]. <http://etudesplatoniciennes.revues.org/367>
- Brock, A.J. 1916. *Galen: On the Natural Faculties*. London and New York: Heinemann / Putnam's Sons.
- Burgess, T.C. 1902. "Epideictic Literature." *The University of Chicago Studies in Classical Philology* 3: 89–261.
- Burkert, W. 1985. *Greek Religion*. Translated by J. Raffan. Cambridge, MA: Harvard University Press.
- Bury, R.G. 1929. *Plato: Timaeus, Critias, Cleitophon, Menexenus, Epistles*. Cambridge, MA: Harvard University Press.
- . 1932. *The Symposium of Plato*. 2nd ed. Cambridge: Heffer.
- Calvus, F.M. 1525. *Hippocratis Coi ... octoginta volumina*. Rome: Minutius.
- Capelle, W. 1912. "Μετέωρος—μετεωρολογία." *Philologus* 71: 414–448.
- Carrick, P. 2001. *Medical Ethics in the Ancient World*. Washington, D.C.: Georgetown University Press.
- Chang, H.–H. 2008. "Rationalizing Medicine and the Social Ambitions of Physicians in Classical Greece." *Journal of the History of Medicine and Allied Sciences* 63: 217–244.
- Clifford, R.J., ed. 2007. *Wisdom Literature in Mesopotamia and Israel*. Atlanta: Society of Biblical Literature.
- Conche, M. 1996. *Parménide: Le poème*. Paris: Presses Universitaires de France.
- Cooper, G.L., and K.W. Krüger. 1998. *Attic Greek Prose Syntax*. Ann Arbor: The University of Michigan Press.
- Cooper, J.M. 2004. *Knowledge, Nature, and the Good: Essays on Ancient Philosophy*. Princeton: Princeton University Press.
- Corcoran, S., B. Salway, and P. Salway. 2002. "Moritix Londiniensium: A Recent Epigraphic Find in London." *British Epigraphy Society Newsletter* n.s. 8: 10–12.
- Cordero, N.–L. 2004. *By Being, It Is*. Las Vegas: Parmenides Publishing.
- Cornarius, J. 1538. *Hippocratis Coi medici ... libri omnes*. Basle: Froben.
- Cornford, F.M. 1952. *Principium Sapientiae: The Origins of Greek Philosophical Thought*. Cambridge: Cambridge University Press.

- Cosgrove, M.R. 1974. "The ΚΟΥΡΟΣ Motif in Parmenides: B 1.24." *Phronesis* 19: 81–94.
- Coxon, A.H. 2009. *The Fragments of Parmenides*. Revised edition. Las Vegas: Parmenides Publishing.
- Craik, E.M. 1998. *Hippocrates: Places in Man*. Oxford: Clarendon Press.
- . 2001a. "Thucydides on the Plague: Physiology of Flux and Fixation." *The Classical Quarterly* 51: 102–108.
- . 2001b. "Medical Reference in Euripides." *Bulletin of the Institute of Classical Studies* 45: 81–95.
- . 2009a. "Hippocratic Bodily 'Channels' and Oriental Parallels." *Medical History* 53: 105–116.
- . 2009b. *The Hippocratic Treatise On Glands*. Leiden: Brill.
- Davies, G. 1985. "The Significance of the Handshake Motif in Classical Funerary Art." *American Journal of Archaeology* 89: 627–640.
- Deichgräber, K. 1933. "Πρόφασις: eine terminologische Studie." *Quellen und Studien zur Geschichte der Naturwissenschaften und der Medizin* 3: 209–225.
- . 1935. *Über Entstehung und Aufbau des menschlichen Körpers* (Περὶ σαρκῶν). Leipzig: Teubner.
- . 1937. "Petronas." *Paulys Realencyclopädie der classischen Altertumswissenschaft* 19.1: 1191–1192.
- . 1971. *Die Epidemien und das Corpus Hippocraticum: Voruntersuchungen zu einer Geschichte der koischen Ärzteschule*. 2nd edition. Berlin: de Gruyter.
- Demont, P. 1993. "Die *epideixis* über die *techne* im V. und IV. Jh." In W. Kullmann and J. Althoff (eds.), *Vermittlung und Tradierung von Wissen in der griechischen Kultur*. Tübingen: Narr. 181–209.
- Denyer, N. 2008. *Plato: Protagoras*. Cambridge: Cambridge University Press.
- des Places, E. 1973. *Numénios: Fragments*. Paris: Les Belles Lettres.
- di Benedetto, V. 1966. "Tendenza e probabilità nell'antica medicina greca." *Critica storica* 5: 315–368.
- Diels, H. 1893. *Supplementum Aristotelicum, vol. 3, pars 1. Anonymi Londinensis Iatrica*. Berlin: Reimer.
- . 1910. "Hippokratische Forschungen I." *Hermes* 45: 125–150.
- Diels, H., and W. Kranz. 1952. *Die Fragmente der Vorsokratiker*. 6th ed. Berlin: Weidmann.

- Diller, H. 1936. Review of Deichgräber (1935). *Gnomon* 12: 367–377.
- . 1938. “Philistion (4).” *Paulys Realencyclopädie der classischen Altertumswissenschaft* 19.2: 2405–2408.
- . 1959. “Der innere Zusammenhang der hippokratischen Schrift *De victu*.” *Hermes* 87: 39–56.
- . 1964. “Ausdrucksformen des methodischen Bewusstseins in den hippokratischen Epidemien.” *Archiv für Begriffsgeschichte* 9: 133–150.
- . 1971. “Zum Gebrauch von εἶδος und ἰδέα in vorplatonischer Zeit.” In G. Mann, H.-H. Eulner, G. Preiser, R. Winau, and O. Winkelmann (eds.), *Medizingeschichte in unserer Zeit*. Stuttgart: Enke. 23–30.
- Dover, K. 1980. *Plato: Symposium*. Cambridge: Cambridge University Press.
- Ducatillon, J. 1977. *Polémiques dans la collection hippocratique*. Paris: Champion.
- . 1983. “Le traité des Vents et la question hippocratique.” In F. Lasserre and P. Mudry (eds.), *Formes de pensée dans la Collection hippocratique*. Geneva: Droz. 263–276.
- Duminil, M.-P. 1998. *Hippocrate: Plaies, Nature des os, Coeur, Anatomie*. Paris: Les Belles Lettres.
- Dümmler, F. 1889. *Akademika: Beiträge zur Literaturgeschichte der sokratischen Schulen*. Gießen: Ricker.
- Edelstein, L. 1931. *Περὶ ἀέρων und die Sammlung der hippokratischen Schriften*. Berlin: Weidmann.
- Elman, Y. 1975. “Authoritative Oral Traditions in Neo-Assyrian Scribal Circles.” *Journal of the Ancient Near Eastern Society* 7: 19–32.
- Ermerins, F.Z. 1859–1864. *Hippocratis et aliorum medicorum veterum reliquiae*. Utrecht: Kemink.
- Ferrari, G. 2008. *Alcman and the Cosmos of Sparta*. Chicago: University of Chicago Press.
- Festugière, A. 1948. *Hippocrate: L’ancienne médecine. Introduction, traduction et commentaire*. Paris: Klincksieck.
- Flashar, H. 1966. *Melancholie und Melancholiker in den medizinischen Theorien der Antike*. Berlin: de Gruyter.
- Flemming, R., and A.E. Hanson. 1988. “Hippocrates’ *Peri partheniôn* (‘Diseases of Young Girls’): Text and Translation.” *Early Science and Medicine* 3: 241–252.
- Fowler, H.N. 1914. *Plato: Euthyphro, Apology, Crito, Phaedo, Phaedrus*. Cambridge, MA: Harvard University Press.
- Fredrich, C.J. 1899. *Hippokratische Untersuchungen*. Berlin: Weidmann.

- Freeman, K. 1946. *The Pre-Socratic Philosophers*. Cambridge, MA: Harvard University Press.
- . 1948. *Ancilla to the Pre-Socratic Philosophers*. Cambridge, MA: Harvard University Press.
- Furley, D.J. 1973. "Notes on Parmenides." In E.N. Lee, A.P.D. Mourelatos, and R.M. Rorty (eds.), *Exegesis and Argument: Studies in Greek Philosophy Presented to Gregory Vlastos*. Assen: Van Gorcum. 1–15.
- Furley, D.J., and J.S. Wilkie. 1984. *Galen on Respiration and the Arteries*. Princeton: Princeton University Press.
- Gallop, D. 1984. *Parmenides of Elea: Fragments*. Toronto: University of Toronto Press.
- Garofalo, I. 1988. *Erasistrati fragmenta*. Pisa: Giardini.
- . 1997. *Anonymi medici de morbis acutis et chroniis*. Translated by B. Fuchs. Leiden: Brill.
- Geller, M.J. 2010. *Ancient Babylonian Medicine: Theory and Practice*. Malden, MA: Wiley-Blackwell.
- Gigon, O. 1968. *Der Ursprung der griechischen Philosophie*. 2nd ed. Basel: Schwabe.
- Gill, C. 2013. *Marcus Aurelius: Meditations, Books 1–6*. Oxford: Oxford University Press.
- Gillespie, C.M. 1912. "The Use of εἶδος and ἰδέα in Hippocrates." *The Classical Quarterly* 6: 179–203.
- Grapow, H., ed. 1954–1973. *Grundriss der Medizin der alten Ägypten*. Berlin: Akademie-Verlag.
- Grensemann, H. 1968. "Der Arzt Polybos als Verfasser hippokratischer Schriften." *Abhandlungen der geistes- und sozialwissenschaftlichen Klasse der Akademie der Wissenschaften und der Literatur in Mainz* 2: 53–95.
- . 1975. *Knidische Medizin*. Berlin: de Gruyter.
- Gundert, B. 1992. "Parts and Their Roles in Hippocratic Medicine." *Isis* 83: 453–465.
- . 2000. "Soma and psyche in Hippocratic Medicine." In J. Wright and P. Potter (eds.), *Psyche and Soma: Physicians and Metaphysicians on the Mind-body Problem from Antiquity to Enlightenment*. Oxford: Oxford University Press. 13–35.
- Gurney, O., and J.J. Finkelstein, eds. 1957–1964. *The Sultantepe Tablets*. London: British Institute of Archaeology at Ankara.
- Guthrie, W.K.C. 1962. *A History of Greek Philosophy, I: The Earlier Presocratics and the Pythagoreans*. Cambridge: Cambridge University Press.
- . 1965. *A History of Greek Philosophy, II: The Presocratic Tradition from Parmenides to Democritus*.

- Cambridge: Cambridge University Press.
- Hadot, Pierre. 1998. *The Inner Citadel: The Meditations of Marcus Aurelius*. Translated by M. Chase. Cambridge, MA: Harvard University Press.
- Hahn, D.E. 1977. *The Origins of Stoic Cosmology*. Columbus: Ohio State University Press.
- Hankinson, R.J. 1991. "Greek Medical Models of Mind." In S. Everson (ed.), *Psychology*. Cambridge: Cambridge University Press. 194–217.
- . 1998. *Galen: On Antecedent Causes*. Cambridge: Cambridge University Press.
- . 2001. *Cause and Explanation in Ancient Greek Thought*. Oxford: Oxford University Press.
- Hanson, A.E. 1975 "Hippocrates: *Diseases of Women 1*. Translated with a Headnote." *Signs* 1: 567–584.
- Hard, R., and C. Gill. 2011. *Marcus Aurelius: Meditations*. Oxford: Oxford University Press.
- Harris, C.R.S. 1973. *The Heart and the Vascular System in Ancient Greek Medicine; from Alcmaeon to Galen*. Oxford: Clarendon Press.
- Heeßel, N.P. 2000. *Babylonisch-assyrische Diagnostik*. Münster: Ugarit-Verlag.
- Heidel, W.A. 1912. "On Anaximander." *CP* 7: 212–234.
- . 1914. "Hippocratea, I." *Harvard Studies in Classical Philology* 25: 139–203.
- . 1941. *Hippocratic Medicine, Its Spirit and Method*. New York: Columbia University Press.
- Hey, O. 1908. *Der Traumglaube der Antike*. Munich: Staub.
- Hoessly, F. 2001. *Katharsis: Reinigung als Heilverfahren. Studien zum Ritual der archaischen und klassischen Zeit sowie zum Corpus Hippocraticum*. Göttingen: Vandenhoeck & Ruprecht.
- Holmes, B. 2010. *The Symptom and the Subject: The Emergence of the Physical Body in Ancient Greece*. Princeton: Princeton University Press.
- Huffman, C.A. 1993. *Philolaus of Croton: Pythagorean and Presocratic. A Commentary on the Fragments and Testimonia*. Cambridge: Cambridge University Press.
- Hüffmeier, F. 1961. "Phronesis in den Schriften des Corpus Hippocraticum." *Hermes* 89: 51–84.
- Hunter, R. 2004. *Plato's Symposium*. Oxford: Oxford University Press.
- Inwood, B. 2001. *The Poem of Empedocles*. Revised edition. Toronto: University of Toronto Press.

- Isnardi Parente, M., and T. Dorandi. 2012. *Senocrate e Ermodoro: testimonianze e frammenti*. 2nd ed. Pisa: Edizioni della Normale.
- Jacques, J.-M. 2008. "Aristōn (I)." In P.T. Keyser and G.L. Irby-Massie (eds.), *The Encyclopedia of Ancient Natural Scientists: The Greek Tradition and Its Many Heirs*. London: Routledge. 139.
- Jaeger, W. 1938. *Diokles von Karystos*. Berlin: de Gruyter.
- 1944. *Paideia: The Ideals of Greek Culture*, vol. 3. Oxford: Oxford University Press.
- Joly, R. 1960. *Recherches sur le traité pseudo-hippocratique Du régime*. Paris: Les Belles Lettres.
- . 1967. *Hippocrate: Du régime*. Paris: Les Belles Lettres.
- . 1972. *Hippocrate: Du régime des maladies aiguës, Appendice, De l'aliment, De l'usage des liquides*. Paris: Les Belles Lettres.
- . 1978. *Hippocrate: Des lieux dans l'homme, Du système des glandes, Des fistules, Des hémorroïdes, De la vision, Des chairs, De la dentition*. Paris: Les Belles Lettres.
- . 1984. *Hippocrate: Du régime*. 2nd ed. With the collaboration of S. Byl. Berlin: Akademie Verlag.
- Jones, W.H.S. 1923. *Hippocrates*, vol. 2. Cambridge, MA: Harvard University Press.
- . 1931. *Hippocrates*, vol. 4. Cambridge, MA: Harvard University Press.
- . 1947. *The Medical Writings of Anonymus Londinensis*. Cambridge: Cambridge University Press.
- Jouanna, J. 1961. "Présence d'Empédocle dans la Collection Hippocratique." *Bulletin de l'Association G. Budé* 20: 452–463.
- . 1966. "La théorie de l'intelligence et de l'âme dans le traité hippocratique *Du Régime*: ses rapports avec Empédocle et le *Timée* de Platon." *Revue des Études Grecques* 79: xv–xviii.
- . 1969. "Le médecin Polybe est-il l'auteur de plusieurs ouvrages de la *Collection hippocratique*?" *Revue des Études Grecques* 82: 552–558.
- . 1974. *Hippocrate. Pour une archéologie de l'école de Cnide*. Paris: Les Belles Lettres.
- . 1977. "La *Collection hippocratique* et Platon (*Phèdre* 269c–272a)." *Revue des Études Grecques* 90: 15–28.
- . 1988. *Hippocrate: Des vents, De l'art*. Paris: Les Belles Lettres.
- . 1989. "Note sur l'histoire de la subdivision du traité hippocratique *Du régime* en livres et sur le problème de l'existence de l'ΥΤΙΕΙΝΟΝ dans la *Collection hippocratique*." *Studi Classici e Orientali* 29: 13–19.

- . 1992. “La naissance de la science de l’homme chez les médecins et les savants à l’époque d’Hippocrate: problèmes de méthode.” In J.A. López Férez (ed.), *Tratados hipocráticos: Estudios acerca de su contenido, forma e influencia*. Madrid: Universidad Nacional de Educación a Distancia. 91–111.
- . 1998. “L’interprétation des rêves et la théorie micro-macrocosmique dans le traité hippocratique du *Régime*: sémiotique et mimésis.” In K.-D. Fischer, D. Nickel, and P. Potter (eds.), *Text and Tradition: Studies in Ancient Medicine and Its Transmission*. Leiden: Brill. 161–174.
- . 2000. *Hippocrate: Épidémies V et VII*. Paris: Les Belles Lettres.
- . 2002. *Hippocrate: La nature de l’homme*. 2nd ed. Berlin: Akademie Verlag.
- . 2003. *Hippocrate: La maladie sacrée*. Paris: Les Belles Lettres.
- . 2003. “Sur la dénomination et le nombre des sens d’Hippocrate à la médecine impériale: réflexions à partir de l’énumération des sens dans le traité hippocratique du *Régime*, c. 23.” In I. Boehm and P. Luccioni (eds.), *Les cinq sens dans la médecine de l’époque impériale: sources et développements*. Paris: De Boccard. 9–20.
- . 2007. “La théorie de la sensation, de la pensée et de l’âme dans le traité hippocratique du *Régime*: ses rapports avec Empédocle et le *Timée* de Platon.” *Annali dell’Università degli Studi di Napoli “L’Orientale”* 29: 9–39.
- Kahn, C.H. 1960. *Anaximander and the Origins of Greek Cosmology*. New York: Columbia University Press.
- . 1979. *The Art and Thought of Heraclitus*. Cambridge: Cambridge University Press.
- . 2001. *Pythagoras and the Pythagoreans: A Brief History*. Indianapolis: Hackett.
- Kannicht, R. 2004. *Tragicorum graecorum fragmenta*, vol. 5. Göttingen: Vandenhoeck & Ruprecht.
- Kassel, R., and C. Austin. 1983–2001. *Poetae comici Graeci*. Berlin: de Gruyter.
- Kerferd, G.B. 1981. *The Sophistic Movement*. Cambridge: Cambridge University Press.
- Kind, F.E. 1936. Review of Deichgräber (1935). *Philologische Wochenschrift* 56: 625–639, 676–684.
- Kingsley, P. 1995. *Ancient Philosophy, Mystery, and Magic: Empedocles and the Pythagorean Tradition*. Oxford: Clarendon Press.
- Kirk, G.S. 1954. *Heraclitus: The Cosmic Fragments*. Cambridge: Cambridge University Press.
- Kleingünther, A. 1933. Πρώτος εὑρετής. *Untersuchungen zur Geschichte einer Fragestellung*. Leipzig: Dieterich.

- Köcher, F. 1963–2007. *Babylonisch-assyrische Medizin in Texten und Untersuchungen*. Berlin: de Gruyter.
- Konstan, D., and E. Young-Bruehl. 1982. “Eryximachus’ Speech in the *Symposium*.” *Apeiron* 16: 40–46.
- Kranz, W. 1916. “Über Aufbau und Bedeutung des parmenideischen Gedichtes.” *Sitzungsberichte der Kgl. Preussischen Akademie der Wissenschaften Berlin* 47: 1157–76.
- Kudlien, F. 1967. *Der Beginn des medizinischen Denkens bei den Griechen*. Zürich: Artemis.
- Kühn, C.G. 1821–1833. *Claudii Galeni opera omnia*. Leipzig: Cnobloch.
- Kurz, D. 1970. Ἀκρίβεια: *Das Ideal der Exaktheit bei den Griechen bis Aristoteles*. Göppingen: Kümmerle.
- Laks, A. 1998. “Éditer l’influence? Remarques sur la section C du chapitre Diogène d’Apollonie dans les *Fragmente der Vorsokratiker* de Diels-Kranz.” In W. Burkert, L. Gemelli Marciano, E. Matelli, L. Orelli, and G.W. Most (eds.), *Fragmentsammlungen philosophischer Texte der Antike*. Göttingen: Vandenhoeck & Ruprecht. 89–105.
- . 2008. *Diogène d’Apollonie: édition, traduction et commentaire des fragments et témoignages*. Sankt Augustin: Academia Verlag.
- Lami, A. 2007. “[Ippocrate], *Sui disturbi virginali*: testo, traduzione e commento.” *Galenos* 1: 15–59.
- Langholf, V. 1986. “Kallimachos, Komödie und hippokratische Frage.” *Medizinhistorisches Journal* 21: 3–30.
- . 1989. “Generalisationen und Aphorismen in den Epidemienbüchern.” In G. Baader and R. Winau (eds.), *Die hippokratischen Epidemien: Theorie, Praxis, Tradition*. Stuttgart: Steiner. 131–143.
- . 1990. *Medical Theories in Hippocrates. Early Texts and the Epidemics*. Berlin: de Gruyter.
- . 2004. “Structure and Genesis of Some Hippocratic Treatises.” In H.F.J. Horstmanshoff and M. Stol (eds.), *Magic and Rationality in Ancient Near Eastern and Graeco-Roman Medicine*. Leiden: Brill. 219–275.
- Leichty, E. 1988. “Guaranteed to Cure.” In E. Leichty and M. Ellis (eds.), *A Scientific Humanist: Studies in Memory of Abraham Sachs*. Philadelphia: University Museum. 261–264.
- Licciardi, C. 1989. “Tendance et probabilité dans les *Epidémies II. IV. VI*.” In G. Baader and R. Winau (eds.), *Die hippokratischen Epidemien: Theorie, Praxis, Tradition*. Stuttgart: Steiner. 117–130.

- Lichtenthaeler, C. 1991. *Le traité des vents est typiquement pseudo-hippocratique. Amicus Aristoteles, sed magis amica veritas*. Geneva: Dros.
- Liddell, H.G., R. Scott, and H.S. Jones (eds.). 1996. *Greek-English Lexicon*, with a revised supplement by P.G.W. Glare. Oxford: Clarendon Press.
- Littre, É. 1839–1861. *Oeuvres complètes d'Hippocrate*. Paris: Ballière.
- Lloyd, G.E.R. 1963. "Who Is Attacked in *On Ancient Medicine*?" *Phronesis* 8: 108–126.
- . 1964. "The Hot and the Cold, the Dry and the Wet in Greek Philosophy." *JHS* 84: 92–106.
- . 1966. *Polarity and Analogy: Two Types of Argumentation in Early Greek Thought*. Cambridge: Cambridge University Press.
- . 1975. "The Hippocratic Question" *The Classical Quarterly* 25: 171–192.
- . 1979. *Magic, Reason, and Experience: Studies in the Origin and Development of Greek Science*. Cambridge: Cambridge University Press.
- . 1987. *The Revolutions of Wisdom: Studies in the Claims and Practices of Ancient Greek Science*. Berkeley: University of California Press.
- . 1991. *Methods and Problems in Greek Science: Selected Papers*. Cambridge: Cambridge University Press.
- Lo Presti, R., and S. Marino. 2011. "Διαλέγεσθαι: fisiologia di un atto. Interazioni fra lessico medico e lessico filosofico fra V e IV secolo (Corpus Hippocraticum e Platone)." *Journal of Ancient Philosophy* 5(2): 1–41.
- Lobel, E., and D. Page. 1955. *Poetarum Lesbiorum fragmenta*. Oxford: Clarendon Press.
- Longrigg, J. 1993. *Greek Rational Medicine: Philosophy and Medicine from Alcmaeon to the Alexandrians*. London: Routledge.
- Lonie, I.M. 1981. *The Hippocratic Treatises On Generation, On the Nature of the Child, Diseases IV: A Commentary*. Berlin: de Gruyter.
- López Férez, J. A., and E. García Novo. 1997. *Tratados hipocráticos*, vol. 2. Madrid: Editorial Gredos.
- Manetti, D. 1990. "Doxographical Deformation of Medical Tradition in the Report of the *Anonymus Londinensis* on Philolaus." *Zeitschrift für Papyrologie und Epigraphik* 83: 219–233.
- . 1992a. "Hippo Crotoniates." *Corpus dei papiri filosofici greci e latini* I.1: 455–461.
- . 1992b. "Plato 129T." *Corpus dei papiri filosofici greci e latini* I.1: 528–578.

- . 1999. “‘Aristotle’ and the Role of Doxography in the *Anonymus Londinensis* (PBrLibr Inv. 137).” In P.J. van der Eijk (ed.), *Ancient Histories of Medicine: Essays in Medical Doxography and Historiography in Classical Antiquity*. Leiden: Brill. 95–141.
- . 2005. “Medici contemporanei a Ippocrate: problemi di identificazione dei medici di nome Erodico.” In P.J. van der Eijk (ed.), *Hippocrates in Context*. Leiden: Brill. 295–313.
- . 2008a. “Euruphōn of Knidos.” In P.T. Keyser and G.L. Irby-Massie (eds.), *The Encyclopedia of Ancient Natural Scientists: The Greek Tradition and Its Many Heirs*. London: Routledge. 321–322.
- . 2008b. “Petrōn(as) of Aigina.” In P.T. Keyser and G.L. Irby-Massie (eds.), *The Encyclopedia of Ancient Natural Scientists: The Greek Tradition and Its Many Heirs*. London: Routledge. 638–639.
- . 2008c. “Philistiōn of Lokroi.” In P.T. Keyser and G.L. Irby-Massie (eds.), *The Encyclopedia of Ancient Natural Scientists: The Greek Tradition and Its Many Heirs*. London: Routledge. 649–650.
- . 2008d. “Polubos.” In P.T. Keyser and G.L. Irby-Massie (eds.), *The Encyclopedia of Ancient Natural Scientists: The Greek Tradition and Its Many Heirs*. London: Routledge. 681–682.
- . 2011. *Anonymus Londiniensis: De medicina*. Berlin: de Gruyter.
- Manetti, D., and A. Roselli. 1982. *Ippocrate: Epidemie, libro sesto. Introduzione, testo critico, commento e traduzione*. Florence: La Nuova Italia.
- Mansfeld, J. 1971. *The Pseudo-Hippocratic Tract Περὶ ἑβδομάδων Ch. 1–11 and Greek Philosophy*. Assen: Van Gorcum.
- . 1980. “Plato and the Method of Hippocrates.” *Greek, Roman, and Byzantine Studies* 21: 341–362.
- Marganne, M.-H. 2000. “Autre version ou commentaire du Régime II, 49 hippocratique? À propos de P. Tebt. III 897.” In H. Melaerts (ed.), *Papyri in honorem Johannis Bingen octogenarii*. Leuven: Peeters. 1–10.
- Maucolin, B. 2009. *Untersuchungen zur hippokratischen Schrift Über die alte Heilkunst*. Berlin: de Gruyter.
- Meyerhof, M., and J. Schacht. 1931. *Galen: Über die medizinischen Namen*. Berlin: Verlag der Akademie der Wissenschaften.
- Michler, M. 2003. *Westgriechische Heilkunde: Eine Skizze*. Würzburg: Königshausen & Neumann.
- Miller, H.W. 1949. “On Ancient Medicine and the Origin of Medicine.” *Transactions and Proceedings of the American Philological Association* 80: 187–202.
- Mudry, P. 1980. “Sur l’étiologie des maladies attribuée à Hippocrate par Celse, *De medicina*, préf. 15.” In Grmek, M.D., and F. Robert (eds.), *Hippocratica*. Paris: Éd. du CNRS. 409–415.

- . 1982. *La préface du De medicina de Celse: texte, traduction et commentaire*. Lausanne: Institut suisse de Rome.
- Müller, C.W. 1965a. *Gleiches zu Gleichem: ein Prinzip frühgriechischen Denkens*. Wiesbaden: Harrassowitz.
- . 1965b. “Schreibkunst oder Malerei?” *Sudhoffs Archiv* 49: 307–311.
- Müri, W. 1936. *Arzt und Patient bei Hippokrates*. Bern.
- Naddaf, G. 2005. *The Greek Concept of Nature*. Albany: State University of New York Press.
- Nails, D. 2002. *The People of Plato. A Prosopography of Plato and Other Socratics*. Indianapolis: Hackett.
- Nelson, A. 1909. *Die hippokratische Schrift περί φύσων: Text und Studien*. Uppsala: Almqvist & Wiksell.
- Nightingale, A.W. 1995. *Genres in Dialogue: Plato and the Construct of Philosophy*. Cambridge: Cambridge University Press.
- Nikitas, A. 1968. *Untersuchungen zu den Epidemienbüchern II, IV, VI des Corpus Hippocraticum*. Hamburg (doctoral thesis).
- Nunn, J.F. 1996. *Ancient Egyptian Medicine*. Norman: University of Oklahoma Press.
- Nutton, V. 1992. “Healers in the Medical Market Place: Towards a Social History of Greek and Roman Medicine.” In A. Wear (ed.), *Medicine in Society: Historical Essays*. Cambridge: Cambridge University Press. 15–58.
- . 2007a. “Philistion (1).” *Brill’s New Pauly: Antiquity* 11: 46–47.
- . 2007b. “Polybus (6)” *Brill’s New Pauly: Antiquity* 11: 504–505.
- Oldfather, C.H. 1933. *Diodorus Siculus: Library of History*, vol. 1. Cambridge, MA: Harvard University Press.
- Olson, S.D. 2007 *Athenaeus: The Learned Banqueters, Books 3.106e–5*. Cambridge, MA: Harvard University Press.
- Orelli, L. 1998. “Vorsokratiker und hippokratische Medizin.” In W. Burkert, L. Gemelli Marciano, E. Matelli, L. Orelli, and G.W. Most (eds.), *Fragmentsammlungen philosophischer Texte der Antike*. Göttingen: Vandenhoeck & Ruprecht. 128–145.
- Oser-Grote, C.M. 2004. *Aristoteles und das Corpus Hippocraticum: Die Anatomie und Physiologie des Menschen*. Stuttgart: Steiner.

- Palm, A. 1933. *Studien zur hippokratischen Schrift Περὶ διαίτης*. Tübingen: Tübinger Chronik.
- Parker, R. 2002. "Apotropaic gods." *Brill's New Pauly: Antiquity* 1: 891–892.
- Pease, A.S. 1926. "Things without Honor." *Classical Philology* 21: 27–42.
- Peck, A.L. 1928. *Pseudo-Hippocrates Philosophus*. Dissertation. Cambridge.
- . 1936. "The Hippocratic Treatise *On Flesh*." *CR* 50: 62–63.
- Pelling, C. 2000. *Literary Texts and the Greek Historian*. London: Routledge.
- Pigeaud, J. 1984. "Prolégomènes à une histoire de la mélancholie." *Histoire, économie et société* 3: 501–510.
- Plamböck, G. 1964. "Dynamis im Corpus Hippocraticum." *Akademie der Wissenschaften und der Literatur, Mainz. Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse* 2: 58–110.
- Pormann, P.E. 2008. *Rufus of Ephesus: On Melancholy*. Tübingen: Mohr Siebeck.
- Potter, P. 1988a. *Hippocrates*, vol. 5. Cambridge, MA: Harvard University Press.
- . 1998b. *Hippocrates*, vol. 6. Cambridge, MA: Harvard University Press.
- . 1995. *Hippocrates*, vol. 8. Cambridge, MA: Harvard University Press.
- . 2010. *Hippocrates*, vol. 9. Cambridge, MA: Harvard University Press.
- Primavesi, O. 2009. "Medicine Between Natural Philosophy and Physician's Practice: A Debate Around 400 BC." In S. Elm and S.N. Willich (eds.), *Quo Vadis Medical Healing: Past Conceptions and New Approaches*. Dordrecht: Springer. 29–40.
- Radt, S. 1999. *Tragicorum Graecorum fragmenta*, vol. 4. 2nd ed. Göttingen: Vandenhoeck & Ruprecht.
- Rawlings, H.R. 1975 *A Semantic Study of prophasis to 400 B.C.* Wiesbaden: Steiner.
- Reinhardt, K. 1916. *Parmenides und die Geschichte der griechischen Philosophie*. Bonn: Cohen.
- Robinson, T.M. 1987. *Heraclitus: Fragment*. Toronto: University of Toronto Press.
- Rochberg, F. 2004. *The Heavenly Writing: Divination, Horoscopy, and Astronomy in Mesopotamian Culture*. Cambridge: Cambridge University Press.
- Rowe, C. 1999. "The Speech of Eryximachus in Plato's *Symposium*." In J.J. Cleary (ed.), *Traditions of Platonism*. Aldershot: Ashgate. 53–64.

- Schibli, H.S. 1990. *Pherekydes of Syros*. Oxford: Clarendon Press.
- Schiefsky, M.J. 2005. *Hippocrates: On Ancient Medicine*. Leiden: Brill.
- Schöner, E. 1964. *Das Viererschema in der antiken Humoralpathologie*. Wiesbaden: Steiner.
- Sisko, J.E. 2006. "Cognitive Circuitry in the Pseudo-Hippocratic *Peri Diaites* and Plato's *Timaeus*." *Hermathena* 180: 5–17.
- Smith, W. 1867. *A Dictionary of Greek and Roman Biography and Mythology*, vol. 3. Boston: Little, Brown, and Co.
- Smith, W.D. 1979. *The Hippocratic Tradition*. Ithaca: Cornell University Press.
- . 1983. "Analytical and Catalogue Structure in the *Corpus Hippocraticum*." In F. Lasserre and P. Mudry (eds.), *Formes de pensée dans la Collection hippocratique*. Geneva: Droz. 277–284.
- . 1989. "Generic Form in *Epidemics I to VII*." In G. Baader and R. Winau (eds.), *Die hippokratischen Epidemien: Theorie, Praxis, Tradition*. Stuttgart: Steiner. 117–130.
- . 1994. *Hippocrates*, vol. 7. Cambridge, MA: Cambridge University Press.
- . 1999. "The Genuine Hippocrates and His Theory of Therapy." In I. Garofalo, A. Lami, D. Manetti, and A. Roselli (eds.), *Aspetti della terapia nel Corpus Hippocraticum*. Florence: Olschki. 107–118.
- Spengel, L. 1853–1856. *Rhetores Graeci*. Leipzig: Teubner.
- Squillace, G. 2012. *Menecrate di Siracusa: un medico del IV secolo a.C. tra Sicilia, Grecia e Macedonia*. Hildesheim: Olms.
- Steckerl, F. 1958. *The Fragments of Praxagoras of Cos and His School*. Leiden: Brill.
- Stieber, M. 2011. *Euripides and the Language of Craft*. Leiden: Brill.
- Stol, M. 1991–1992. "Diagnosis and Therapy in Babylonian Medicine." *Jaarbericht Ex Oriente Lux* 32: 42–65.
- Sturz, F.W. 1805. *Empedocles Agrigentinus*. Leipzig: Göschen.
- Tarán, L. 1965. *Parmenides: A Text with Translation, Commentary, and Critical Essays*. Princeton: Princeton University Press.
- Taylor, A.E. 1911. *Varia Socratica*. Oxford: Parker.
- Temkin, O. 1953. "Greek Medicine as Science and Craft." *Isis* 44: 213–225.

- Thivel, A. 1981. *Cnide et Cos? Essai sur les doctrines médicales dans la Collection hippocratique*. Paris: Les Belles Lettres.
- . 1983. “Médecine hippocratique et pensée ionienne, réponse aux objections et essai de synthèse.” In F. Lasserre and P. Mudry (eds.), *Formes de pensée dans la Collection hippocratique*. Geneva: Droz. 211–232.
- Thomas, R. 1993. “Performance and Written Publication in Herodotus and the Sophistic Generation.” In W. Kullman and J. Althoff (eds.), *Vermittlung und Tradierung von Wissen in der griechischen Kultur*. Tübingen: Narr. 225–244.
- Thompson, R.C. 1923. *Assyrian Medical Texts from the Originals in the British Museum*. London: Oxford University Press.
- Touwaide, A. 2007. “Petron(as).” *Brill’s New Pauly: Antiquity* 10: 874–875.
- Trédé, M. 1992. *Kairos: l’à-propos et l’occasion. Le mot et la notion, d’Homère à la fin du IV^e siècle avant J.-C.* Paris: Klincksieck.
- van der Eijk, P.J. 1990. “Aristoteles über die Melancholie.” *Mnemosyne* 43: 33–72.
- . 1995. “Aristotle on ‘Distinguished Physicians’ and on the Medical Significance of Dreams.” In P.J. van der Eijk, H.F.J. Horstmanshoff, and P.H. Schrijvers (eds.), *Ancient Medicine in Its Socio-Cultural Context*, vol. 2. Amsterdam: Rodopi. 447–459.
- . 2001. *Diocles of Carystus. A Collection of the Fragments with Translation and Commentary. Vol. II: Commentary*. Leiden: Brill.
- . 2004. “Divination, Prognosis, Prophylaxis: The Hippocratic Work ‘On Dreams’ (*De victu* 4) and Its Near Eastern Background.” In H.F.J. Horstmanshoff and M. Stol (eds.), *Magic and Rationality in Ancient Near Eastern and Graeco-Roman Medicine*. Leiden: Brill. 187–218.
- . 2005. *Medicine and Philosophy in Classical Antiquity. Doctors and Philosophers on Nature, Soul, Health and Disease*. Cambridge: Cambridge University Press.
- . 2008. “The Role of Medicine in the Formation of Early Greek Philosophical Thought.” In P. Curd and D.W. Graham (eds.), *Oxford Guide to Presocratic Philosophy*. Oxford: Oxford University Press. 385–412.
- Vegetti, M. 1999. “Culpability, Responsibility, Cause: Philosophy, Historiography, and Medicine in the Fifth Century.” In A.A. Long (ed.), *The Cambridge Companion to Early Greek Philosophy*. Cambridge: Cambridge University Press. 271–289.
- Vogel, C. 1956. *Zur Entstehung der hippokratischen Viersäftelehre*. Marburg (unpublished doctoral thesis).
- von Arnim, J. 1903–1924. *Stoicorum veterum fragmenta*. Leipzig: Teubner.

- von Staden, H. 1989. *Herophilus: The Art of Medicine in Early Alexandria*. Cambridge: Cambridge University Press.
- . 1998. “*Dynamis*: The Hippocratics and Plato.” In K.J. Boudouris (ed.), *Philosophy and Medicine*, vol. 2. Athens: International Centre for Greek Philosophy and Culture. 262– 277.
- Walzer, R. 1935. “Galens Schrift *Über die Siebenmonatskinder*.” *Rivista di Studi Orientali* 15: 323–357.
- Warmington, E.H. 1935. *Remains of Old Latin*, vol. 1. Cambridge, MA: Harvard University Press.
- Wellmann, M. 1901. *Die Fragmente der sikelischen Ärzte Akron, Philistion und des Diokles von Karystos*. Berlin: Weidmann.
- . 1926. “Hippokrates, des Thessalos Sohn.” *Hermes* 61: 329–334.
- Wenkebach, E., and F. Pfaff. 1934. *Galenus In Hippocratis Epidemiarum libros I et II*. Leipzig: Teubner.
- Wenskus, O. 1995. “Ist die gegliederte Rede für De carnibus eine Form der sinnlichen Wahrnehmung?” *Rheinisches Museum* 138: 129–133.
- Wilamowitz-Möllendorff. 1901. “Die hippokratische Schrift περί ἱρῆς νούσου.” *Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften zu Berlin*: 2–23.
- Willerding, F. 1914. *Studia Hippocratica*. Göttingen: Officina Academica Dieterichiana.
- Winer, G.B. 1860. *A Grammar of the New Testament Diction*. Trans. E. Masson. 2nd edition. Philadelphia: Smith, English, and Co.
- Withington, E.T. 1928. *Hippocrates*, vol. 3. Cambridge, MA: Harvard University Press.
- Wittern, R. 1974. *Die hippokratische Schrift De morbis I. Ausgabe, Übersetzung und Erläuterungen*. Hildesheim: Olms.
- Wright, M.R. 1995. *Empedocles: The Extant Fragments*. Revised edition. London: Bristol Classical Press.
- Zeller, E. 1862. *Die Philosophie der Griechen in ihrer geschichtlichen Entwicklung, II.2: Aristoteles und die alten Peripatetiker*. 2nd edition. Tübingen: Fues.