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HUI-HUA CHANG*

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causes of diseases to natural factors, and, consequently, adopted nonmagical medical treatments, such as regimen and exercise.¹ The adoption and promotion of rational medicine by Greek intellectuals and some of the medical practitioners led to the composition of the Hippocratic treatises, produced between the fifth and the third centuries BCE.²

Most scholars agree that the development of rational medicine was a natural product of the intellectual interest and inquiry started by the Ionian thinkers in the sixth century BCE (the Presocratic philosophers), who concerned themselves with natural phenomena and cosmology. This formed a part of the general intellectual milieu in the Classical period.³ Those early philosophers had a strong interest in the origin of the cosmos and all beings, and they theorized about how the harmony and order of the cosmos were maintained. Their intellectual inquiries were often characterized by speculations and theoretical assumptions, and proof by empirical

1. In the time of Homer, the causes of dramatic, severe diseases and their treatments were tied to supernatural beliefs. Homer, *Iliad*, 1.44–52. [For this and all subsequent Greek language texts, unless otherwise indicated, I use the editions of the Loeb Classical Library (Cambridge, MA: Harvard University Press, 1912–2006).] Hesiod says that Zeus sent famine and plague to a city to kill men and render women barren, as punishment for the wicked deeds of one evil person. Hesiod, *Works and Days*, 238–47.

2. The Corpus includes textbooks on various medical subjects, such as surgery, gynecology, and dietetics, as well as day-to-day clinical records, commonplace books, and lectures addressed to the lay public. For a brief outline of the Hippocratic treatises and their dates and authorship, see Jacques Jouanna, *Hippocrates*, trans. M. B. DeBevoise (Baltimore, MD: Johns Hopkins University Press, 1999), 66–71, 373–416; and Paul Potter, *Short Handbook of Hippocratic Medicine* (Québec: Éditions du Sphinx, 1988), 13–31.

3. For studies on the relationship between philosophy and medicine, see W. H. S. Jones, *Philosophy and Medicine in Ancient Greece* (Baltimore, MD: Johns Hopkins University Press, 1946), 1–49; Ludwig Edelstein, *Ancient Medicine: Collected Papers of Ludwig Edelstein*, ed. Owsei Temkin and C. Lilian Temkin, trans. C. Lilian Temkin (Baltimore, MD: Johns Hopkins University Press, 1987), 349–66; Jouanna, *Hippocrates*, 259–85; and James Longrigg, *Greek Rational Medicine: Philosophy and Medicine from Alcmaeon to the Alexandrians* (London and New York: Routledge, 1993), 26–103. Recently, scholars have been examining the possible transmission of (or connections between) intellectual ideas, including medicine, from the Near East to Greece. See G. E. R. Lloyd, “The Debt of Greek Philosophy and Science to the Ancient Near East,” in *Methods and Problems in Greek Science* (Cambridge, England, and New York: Cambridge University Press, 1991), 278–98; R. David, “Rationality versus Irrationally in Egyptian Medicine in the Pharaonic and Graeco-Roman Periods,” in *Magic and Rationality in Ancient Near Eastern and Graeco-Roman Medicine*, ed. H. F. J. Horstmanhoff, Marten Stol, and C. R. van Tilburg (Leiden and Boston: Brill, 2004), 142–46; R. Thomas, “Greek Medicine and Babylonian Wisdom: Circulation of Knowledge and Channels of Transmission in the Archaic and Classical Periods,” in *Magic and Rationality*, 175–85.

experiment was not the primary concern of the philosophers.⁴ The lack of substantial empirical research in natural philosophy is echoed in rational medicine. Because the human body was seen as a micro-version of the cosmos, the health of the body was naturally seen to be dependent on the well being and perfect balance of the fundamental substance(s), or principles, from which the cosmos and the human body were thought to be formed.⁵

While the study of the intellectual background of Greek medicine has certainly provided a valuable insight into its development, an examination of the societal elements which may have affected the lives and careers of the physicians would enhance our understanding of their promotion of rational medicine and related medical practices. H. W. Pleket and H. F. J. Horstmannshoff have each argued that medical practitioners in antiquity who intended to improve their social esteem would adopt rational medical theories

4. As Lloyd points out, early Greek science was not an applied science; it was characterized by speculative theories and was rarely tested by experiments. In the fifth and the fourth centuries BCE, experimentation was used, but only on a limited scale. G. E. R. Lloyd, *Early Greek Science: Thales to Aristotle* (New York: W. W. Norton & Company, 1970), 135–44. Also see Richard D. McKirahan, Jr., *Philosophy before Socrates: An Introduction with Texts and Commentary* (Indianapolis, IN: Hackett Publishing Company, 1994), 69–78. For a detailed discussion on the nature of Greek Science, see G. E. R. Lloyd, *Magic, Reason, and Experience: Studies in the Origin and Development of Greek Science* (Cambridge: Cambridge University Press, 1979).

5. The hot-cold theory and the four-humor theory found in many of the Hippocratic treatises well exemplify the dominance of speculation and theorization in Greek rational medicine. Though some physicians warned against these speculative theories, classical Greek rational medicine for the most part did not develop empirically. The seven books of the *Epidemics* show the application of empiricism in the observation of patients and in the tracking of the course of a disease. However, Langholf points out that the *Epidemics* also contain theoretical concepts, such as *krisis* (critical days), *pépsis* (“cooking”), and *apóstasies* (“segregation” of the harmful substances); the authors gathered data by observation, not to question those doctrines, but to produce evidence in favor of them. Volker Langholf, *Medical Theories in Hippocrates: Early Texts “Epidemics”* (Berlin: de Gruyter, 1990), 179–90, 215–22. The author of *Ancient Medicine* openly criticized the adoption of philosophical theories favored by the new school of physicians because they present a major obstacle to medical practice. He pointed out the fundamental flaw in hypothesizing: the application of empty hypotheses cannot be tested to certainty, just as with speculations about “things in the sky or below the earth.” However, this author was still bound to a theoretical framework. He sees in man “salt and bitter, sweet and acid, astringent and insipid, and a vast number of other things, possessing properties of all sorts, both in number and in strength.” Whether these humors mix in harmony and compound with each other determines one’s health. Hippocrates, *Ancient Medicine*, 1, 14, in Émile Littré [hereafter = L.], *Œuvres complètes d’Hippocrate*, 10 vols. (Paris, 1839–61), 1: 572.2–8, 602.9–14; or in W. H. Jones, E. T. Withington, P. Potter, and W. D. Smith, *Hippocrates*, Loeb Classical Library [hereafter = Hp. Loeb], 8 vols. (Cambridge, MA: Harvard University Press, 1923–1995), 1: 12–15, 36–40.

in order to align their practices with the intellectual ideology of the elite.⁶ While Horstmanshoff argued that their primary motivation was financial security, and Pleket examined the increasing status of public physicians in particular, both focused mainly on the Hellenistic and Roman evidence and left room for further elaboration on the important role of Classical Greek doctors, who were the first to develop rational medicine.

In this paper, I present three interconnected arguments. First, the status of doctors in Classical Greece was often low, or at best ambivalent; however, the late Classical period also witnessed the opening of the elite class to new members, which provided an opportunity for some doctors to seek upward social mobility. Second, because of their status concerns, those doctors adopted speculative medical theories in order to align their practices with the nonutilitarian knowledge of natural philosophy favored by the upper social class. Third, I suggest that the establishment of an upper-class oriented regimen as a medical treatment or as preventive health care in the fifth century BCE strengthens the argument that these doctors targeted the tastes and interests of the learned elites. In closing, I examine the example of Eryximachus, who was not a Hippocratic writer, but was a physician who was well versed in rational theories. Eryximachus demonstrated that by using the concepts of natural philosophy, a physician could elevate himself to a position of equality with other intellectual members of the social elite.

THE AMBIVALENT SOCIAL STATUS OF GREEK PHYSICIANS

Unlike medical doctors in modern times, who are viewed as scientists and learned authorities on medicine, doctors in ancient Greece were hands-on craftsmen and were often viewed with suspicion. A largely negative picture of the profession and its practitioners has

6. H. W. Pleket, "The Social Status of Physicians in the Graeco-Roman World," in *Ancient Medicine in its Social-Cultural Context: Papers Read at the Congress Held at Leiden University, 13-15 April, 1992*, ed. Ph. J. van der Eijk, H. E. J. Horstmanshoff, and P. H. Schrijvers, 2 vols. (Amsterdam and Atlanta: Rodopi, 1995), 1: 27-33; H. E. J. Horstmanshoff, "The Ancient Physician: Craftsmen or Scientist?," *J. Hist. Med. Allied Sci.*, 1990, 45, 176-97.

come down to us through literature. Many examples indicate that the Greeks believed this profession, when undertaken to make a living, was a dubious occupation for gentlemen.⁷

The Greeks had several reasons for their low regard of medical practice and its practitioners. First of all, medicine was not in any way regulated by the Greek states. There was no standard training school, no examinations to take, and no system of licensure to ensure the qualification and quality of physicians. Though medical techniques and skills were usually transmitted through apprenticeship (like any other craft), anyone with quasi-medical knowledge could claim to be a doctor.⁸ The Hippocratic doctors commented that there were many poorly skilled doctors around; such practitioners often revealed in their practice that they did not have enough skill to tell the causes of diseases, to pronounce a prognosis, or to treat their patients correctly and efficiently. As a result, many patients had to suffer the painful, sometimes fatal, consequences, and the physicians who had made the mistakes were naturally

7. Two examples of Greek physicians may appear exceptional at first glance. Homer says, "For a healer (*iatros*) is worth many other men for the cutting out of arrows and the sprinkling on of soothing herbs." Homer, *Iliad*, 11.511–15. In regard to this example, Pleket suggests that the line of gentlemen-physicians, which began with Machaon and Podalirius in Homer, survived to Roman Imperial times. H. W. Pleket, "Arts en maatschappij in het oude Griekenland: de sociale status van de arts," *Tijdschrift voor Geschiedenis*, 1983, 96, 325–47; and Pleket, "Social Status," 33. Herodotus also gives us a detailed account of the remarkable career of Democedes, a Crotonian doctor in the late sixth century BCE. Herodotus, *The Persian Wars*, 3.129–32. However, these two instances may not represent the social status of most Greek doctors, who were *démioergoi*, professional manual workmen. In the *Iliad*, Machaon, though called an *iatros*, was also a warrior. Though Homeric heroes sometimes performed manual labor, they did not make their living by their skills, as craftsmen did in later time periods. Our evidence for this line of gentlemen-physicians in Classical Greece is scanty—even the life, family background, and medical training of Hippocrates cannot be confirmed. Wittern, "Hippokrates," in *Antike Medizin. Ein Lexikon*, ed. K.-H. Leven (München: C. H. Beck, 2005), 414–15; Jody Rubin Pinault, *Hippocratic Lives and Legends* (Leiden: Brill, 1992). In the case of Democedes, he was known as one of the top physicians of his time. But even so, when he went back to his hometown after escaping from the Persian court, he was obliged to offer a great sum of money in order to wed the daughter of Milon, a famous wrestler and a member of the elite circle in Croton. Democedes was allowed to become a local elite only after he demonstrated his newly gained wealth, not his quality as a top physician.

8. Lloyd, *Early Greek Science*, 51; Horstmanshoff, "Ancient Physician," 181. M. Horstmanshoff points out that the bad reputation of the *medici* in the Roman Empire also resulted from the lack of official qualifications for physicians and of supervision concerning the quality of medical practice. Manfred Horstmanshoff, "Ancient Medicine Between Hope and Fear: Medicament, Magic and Poison in the Roman Empire," *Eur. Rev.*, 1999, 7, 47.

regarded with contempt by the public.⁹ This may well have given all physicians a suspicious reputation.

Another negative stereotypical image of ancient physicians, which inevitably dragged down their social esteem, was that they were viewed as "poison providers." The popular fear of poison and this prejudice against physicians are well attested in Roman literature.¹⁰ Though fewer references are found in Greek sources, this was obviously a concern in ancient Greece as well. The often-discussed Hippocratic Oath states that a doctor should not administer a poison to anybody when asked to do so.¹¹

References to the medical profession were also often used to defame one's political rivals.¹² When Demosthenes attacked Aeschines's personal character in front of a jury in 343 and 330 BCE, he called Aeschines's father a slave who kept a school next-door to Heros the physician (*iatros*). Later on, he called Aeschines's mother a harlot who practiced her trade next-door to Heros the bone-setter (*kalamites*).¹³ Likewise, when Aeschines attacked Timarchus, he stated that as a youth, Timarchus settled down in the

9. Hippocrates, *Regimen in Acute Diseases*, 8 (Jones, Hp. Loeb, 2: 68–71; see also L., 2: 316.6–318.4); Hippocrates, *Epidemics*, 5.7 (Smith, Hp. Loeb, 7: 156–59; see also L., 5: 206.22–208.12); Hippocrates, *Ancient Medicine*, 9 (Jones, Hp. Loeb, 1: 26–29; see also L., 1: 590.9–17).

10. For a discussion of the Roman sources and the use of poison and black magic in the Empire, see Darrel W. Amundsen, "Romanticizing the Ancient Medical Profession," *Bull. Hist. Med.*, 1974, 48, 320–37; Darrel W. Amundsen, "Images of Physicians in Classical Times," *J. Pop. Culture*, 1978, 11, 642–65; Danielle Gourevitch, *Le triangle hippocratique dans le monde Gréco-romain. Le malade, sa maladie et son médecin* (Paris: École française de Rome, 1984), 347–414; and Horstmanshoff, "Ancient Medicine," 37–51. See also Fridolf Kudlien, "Medical Ethics and Popular Ethics in Greece and Rome," *Clio Med.*, 1970, 5, 97–104.

11. Hippocrates, *Oath* (Jones, Hp. Loeb, 1: 298–301; see also L., 4: 630.7–9). In Antiphon's *Prosecution of the Stepmother for Poisoning*, the prosecutor charged his stepmother with poisoning her husband and his friend with a poison disguised as a love potion. Horstmanshoff suggests that the use or sale of deadly drugs by medical practitioners was not uncommon in ancient Greece. In the eyes of the public, an *iatros* was not clearly distinguishable from a "root-cutter" (*rhizotomos*) or a "retailer of cures" (*pharmakopôlês*) who sold and administered drugs. Horstmanshoff, "Ancient Medicine," 45–46.

12. Nancy Demand, "Medicine and Philosophy: the Attic Orators," *Hippokratische Medizin und antike Philosophie, Verhandlungen des VIII. Internationalen Hippokrates-Kolloquiums in Kloster Banz/Staffelstein, vom 23. bis 28. September 1993*, ed. von Renate Wittern und Pierre Pellegrin (Hildesheim: Olms-Weidmann, 1996), 98–99.

13. Demosthenes, *De Falsa Legatione*, 249; Demosthenes, *De Corona*, 129. Speeches delivered in Athenian courts were usually exaggerated and biased and were aimed at disparaging the opponent to the greatest effect. However, the references to the physician that Demosthenes intentionally and repeatedly chose to include in an address to a jury of many hundreds of citizens were possibly a reflection of the public view of the profession.

Piraeus at the establishment of Euthydicus, the physician (*iatros*), pretending to be a student of medicine, but in fact hired himself out as a prostitute.¹⁴ Thus, we see attested in court speeches that physicians resided and practiced medicine in dishonorable districts or places frequented by lower-class people.

Greek doctors were regarded as craftsmen, on the same social level as common laborers. In the *Odyssey*, doctors were grouped together with other craftsmen, such as prophets, builders, and singers, who did services for the public using their *technē*.¹⁵ *Ancient Medicine* defines a physician as a “handicraftsman” (*cheirotechnes*) who has discovered the mode of life and nourishment that is suitable for the sick. Aristophanes also emphasized that doctors were no different from prophets, rhapsodes, astronomers, and sophists who earned money by their arts. Aeschines suggested that the practice of a doctor was in the same category as that of a smith, a fuller, a carpenter, or worse—even a pimp or prostitute, as discussed above.¹⁶

Since most physicians were seen as manual laborers working for pay, we need to consider the social status of craftsmen in Greek society in general. From the traditional point of view expressed in most Classical literature, working for pay was not regarded as an undertaking suitable for the elite class, and seeking profits was decried. Craftsmen who had to earn their living tended to be looked down upon, as observed by Herodotus in the fifth century BCE.¹⁷ Xenophon described manual labor and trades as ignoble. They softened the body, weakened the mind, and prevented citizens from attending civic affairs, because such jobs left them no spare time. In Sparta, it was unlawful for a citizen to engage in such activities.¹⁸

14. Aeschines, *Against Timarchus*, 40.

15. Homer, *Odyssey*, 17.383–87; Xenophon, *Oeconomicus*, 1.1.

16. Hippocrates, *Ancient Medicine*, 7 (Jones, Hp. Loeb, 1: 24–25; see also L., 1: 584.7–12); Aristophanes, *Clouds*, 331–34; Aeschines, *Against Timarchus*, 123–24.

17. Herodotus, *The Persian Wars*, 2.167.

18. Xenophon, *Oeconomicus*, 4.1–3. According to van den Hoven, “technical arts” (*mechanike technē*) in Antiquity can be classified into four types. The first type, physical labor or paid work, was regarded as a banalistic or illiberal art and was disparaged by Greek and Roman elites. But medicine, in van den Hoven’s opinion, can also be seen as a “theoretical science,” and, due to its moral value, can be classified as a semi-liberal art. Birgit van den Hoven, *Work in Ancient and Medieval Thought: Ancient Philosophers, Medieval Monks and Theologians and Their Concept of Work, Occupations and Technology* (Amsterdam: J. C. Gieben, 1996), 90–111. However, because he intended to provide a general discussion of medical practice in Antiquity, van den Hoven did not distinguish those Greek practitioners who adopted rational medical theories from those who did not.

The work of physicians was definitely a hands-on practice, and most of time it was a dirty, messy job. As the writer of *Breaths* pointed out, medicine was grievous to those who practiced it, because medical men saw terrible sights, touched unpleasant things, and witnessed the misfortunes of others.¹⁹ When Greek doctors performed surgery, not only would they wash and bandage the wounds; from time to time they also had to cut away or lance boils and cysts.²⁰ In Euripides's *Hippolytus*, Phaedra's nurse, a slave, laments that it is better to be sick than to look after the sick, because the latter involves grief for the heart as well as labor for the hand.²¹

When Aristotle discusses the best form of constitution, he does not deny that craftsmen were essential to daily life, and that in some constitutions craftsmen and hired laborers were citizens; however, he concludes that it would be impossible for them to be citizens in so-called aristocracies, or any other form of constitution in which honors were given according to merit and virtue, because no man could practice excellence, as virtue demanded, when he was living the life of a mechanic or laborer.²² But Aristotle does not label all doctors as mechanics or laborers; he divided physicians into three categories: the ordinary practitioner, the master physician, and the layman educated in the art of medicine.²³ The ordinary practitioner was bound by mere tradition and worked without the aid of broad generalizing concepts. He would use surgery, herbs, drugs, and soothing salves to treat wounds. The master physician was a doctor who practiced rational medicine. This included a study of the principles of nature and a theoretical knowledge of the causes of health and disease. He could give reasons for his diagnoses and treatments, as did Eryximachus in Plato's *Symposium*. The third type was

19. Hippocrates, *Breaths*, 1 (Jones, Hp. Loeb, 2: 226–27; see also L., 6: 90.1–8). When the plague ravaged Athens in 430/429 BCE, doctors attended the sick and witnessed the sufferings of the patients. Victims of the disease suffered from fevers, inflammations, swollen tongues, sneezing, coughing, and vomiting. Their skin erupted with small pimples or sores. When the disease descended to their bowels, the patients developed severe ulcerations and diarrhea. Thucydides, *History of the Peloponnesian War*, 2.49–51.

20. Hippocrates, *Prognostic*, 23 (Jones, Hp. Loeb, 2: 46–49; see also L., 2: 178.9–180.5); Hippocrates, *On Wounds in the Head*, 13–14 (Withington, Hp. Loeb, 3: 28–37; see also L., 3: 228.17–242.9).

21. Euripides, *Hippolytus*, 186.

22. Aristotle, *Politics*, 1278a5–27.

23. Aristotle, *Politics*, 1282a3–8.

composed of laymen who had an interest in medical matters.²⁴ This division indicates that by the late Classical period, Greek intellectuals had recognized a distinction between rational doctors and traditional practitioners.

Since rational medicine was not universally adopted by Greek practitioners, it is in our interest to ask why some doctors did adopt and practice this type of medicine in the late Classical period. There is no doubt that some of them truly believed that medicine was an art founded on natural principles, and that they pursued it for the purpose of preserving health and relieving disease. To them, theory was probably seen as the key to a successful practice of medicine.²⁵

However, there may have been another motive for some doctors to adopt deductive medical theories and to practice rational medicine. This purpose was practical and personal—it was for career and social advancement. The goal of such doctors would have been to avoid the low social esteem suffered by many practitioners. Though the idea of theorizing to improve their understanding of medicine may or may not have been in their minds, these doctors practiced rational medicine mainly to make themselves more attractive, not to just anybody, but to elite clients especially. By appealing to the wealthy minority who dominated a city's politics or the ruling

24. The medical techniques of ordinary practitioners existed as early as the time of Homer, and by the time of Plato, these "ancient" medical arts were attributed to Asclepius, the healing god. Homer, *Iliad*, 4.210–19; Plato, *Republic*, 405d–06a. Temkin elaborated on Aristotle's categories. In his discussion, a "physician" corresponds to Aristotle's "master physician," and a "leech" to Aristotle's "ordinary practitioner." Oswei Temkin, "Greek Medicine as Science and Craft," *Isis*, 1953, 44, 214–16, 218–19. Compare Aristotle's "master physicians" with Aristotle's "distinguished physicians" (discussed in note 62).

25. Hippocrates, *Ancient Medicine*, 3 (Jones, Hp. Loeb, 1: 16–21; see also L., 1: 574.8–578.11). In their perception, to theorize about what was going on inside the body was a way to reconstruct and to understand an invisible internal world. Because Greek physicians in the Classical period did not conduct human dissection, and the anatomical knowledge obtained from animal dissection and surgical experience was limited, rational doctors theorized to make up for the gaps in their knowledge of anatomy and physiology. Seeing man as part of the universe, they held that natural philosophy explained natural phenomena and processes and, likewise, opened up the mysterious depths of the body. Lloyd, *Early Greek Science*, 134; Jaap Mansfeld, "Theoretical and Empirical Attitude in Early Greek Scientific Medicine," *Hippocratica: Actes du Colloque Hippocratique de Paris, 4–9 septembre 1978*, ed. Mirko D. Grmek (Paris: Éditions du Centre national de la recherche scientifique, 1980), 380–81; Jouanna, *Hippocrates*, 310–22.

house in a monarchic state in Greece, rational doctors created an opportunity for themselves to move up the social ladder.

WAR, PROFIT-MAKING, AND SOCIAL MOBILITY

The elite class of the early fourth and late fifth centuries BCE was defined by wealth, a luxurious lifestyle, and a taste for at least a smattering of intellectual learning. War had brought a change in the components of the Athenian upper class in the late Classical period, which made upward social mobility possible, and created some room and flexibility for the elite to take in new members. By this time, the candidates who were fulfilling these qualifications were not limited to members of the old aristocracy; by a good usage of their wealth, new members of the elite played major roles in state affairs and were eager to establish their identity as elites by adopting the characteristic lifestyle of luxury and leisure. This is the social background in which some rational doctors attempted social advancement.

The inter-polis wars of the late fifth-century led to a considerable loss of human life and manpower, especially during the period from the beginning of the Peloponnesian War in 431 to the defeat of the Greek allies by Macedonia in 338 BCE. Many aristocrats died in the wars, and leading citizens were also often exiled due to political in-fighting.²⁶ During wartime, disease and famine were the other major causes of many deaths. The plague that ravaged Athens at the beginning of the Peloponnesian War was a consequence of war.

26. For a discussion of the casualties recorded by Thucydides for the Peloponnesian War, see Catherine Rubincam, "Casualty Figures in the Battle Descriptions of Thucydides," *Trans. Am. Philol. Assoc.*, 1991, 121, 181–98. Rubincam reminds us that Thucydides reported casualty figures almost exclusively for cavalry, hoplites, and specially equipped troops; his family background, as a knight, may partly explain his generally strong interest in the actions of cavalry forces. *Ibid.*, 187–89. Powell also points out that Thucydides reported the deaths of hoplites, "best men," and "men of note" but intentionally omitted the deaths of the poor, which was not a matter of great concern to him. Anton Powell, *Athens and Sparta: Constructing Greek Political and Social History from 478 BC* (Portland, OR: Areopagitica Press, 1988), 139. Concerning the war-time political transition in Athens, for example, many members of the Four Hundred, the oligarchic regime set up following the Sicilian defeat, were exiled, after the democracy was restored a few months later. In 405 BCE, Lysander put the Thirty in power in Athens, and they proceeded to tighten their control of the city by attacking its citizens. According to Aristotle, the Thirty killed no less than 1,500 men who were remarkable for wealth, family, or reputation. Aristotle, *Athenian Constitution*, 32.1–35.4.

Aided by the crowding of people in the city, the disease went out of control. Thucydides, who survived the disease and preserved an account of it as an eyewitness, gave death figures for the members of the Athenian elite: the plague killed no less than three hundred cavalrymen and no less than 4,400 hoplites.²⁷

Although the old aristocracy declined and many small farmers were uprooted from their land during wars, the political and social disturbances offered an opportunity for some. New men rose to the upper class, and they were different from the old aristocracy—who used to maintain close ties of guest-friendship (*xenia*), intermarried with other noble families of different regions, and observed a common code of pride in ancestry and wealth based on land property.²⁸ Many of the leading politicians of Athens in the late fifth century BCE were members of the “new rich,” and they often derived their money from business or manufacturing.²⁹

Politics was an easier pursuit for the wealthy, who had abundant leisure, than for the poor, and wealth was the measure for a high social, economic, and even political status. As a result, it is not hard to understand that Greek society had an increasing interest

27. For the abandonment of Attica's countryside, the plague, and the death toll, see Thucydides, *History of the Peloponnesian War*, 2.14–17, 2.49–51, 3.87. Powell believes that the plague killed about one-third of the wealthy in Athens, and the death rate among the poor was at least as high. Powell, *Athens and Sparta*, 157.

28. For a discussion on the essential features of the Greek aristocracy and elite networking in the Archaic period, see Mark Munn, *The School of History: Athens in the Age of Socrates* (Berkeley: University of California Press, 2000), 48, 67–68; Leslie Kurke, *Coins, Bodies, Games, and Gold: The Politics of Meaning in Archaic Greece* (Princeton, NJ: Princeton University Press, 1999), 17.

29. Manufacturing using slave-laborers, mining, and banking proved to be most profitable money-making enterprises and generated great fortunes for the new rich: Pericles' successors, Cleon, Hyperbolus, and Cleophon were “men of the agora.” Cleon's father, Cleainetus, owned a tannery that was worked by slaves, and Cleon was often called a “tanner” by Aristophanes. Aristophanes, *Knights*, 43–46; J. K. Davies, *Athenian Propertied Families 600–300 B. C.* (Oxford: Clarendon Press, 1971), 318–19. Hyperbolus ran a successful lamp-making business; Cleophon was a “lyre-maker.” Aristophanes, *Peace*, 690; Aristophanes, *Knights*, 739; Aristotle, *Athenian Constitution*, 28.3. Nicias' family was enriched by mining in the silver mines of Laureion, and his own substantial inheritance consisted of mining interests and mining slaves. Plutarch, *Nicias*, 4; Davies, *Athenian Propertied Families*, 403–4. Successful mining activity also raised Demosthenes' family from obscurity into the liturgical class in the mid-fourth century BCE. Davies, *Athenian Propertied Families*, 139. Among a number of families that attained an exceptional level of wealth in the fourth century BCE through banking, the most striking example that also demonstrates upward social mobility was Pasion. Though originally a slave, he became a successful banker, received Athenian citizenship, and acquired land property in Attica. Demosthenes (speech 36), *For Phormio*. Davies, *Athenian Propertied Families*, 427–37.

in money-making.³⁰ The love of money among the people inspired Aristotle to discuss the notion of riches, and the art of the acquisition of wealth.³¹ Wealth is also the central theme of *Plutus*, Aristophanes' comedy exhibited in 388 BCE. Aristophanes noted that people make sacrifices to Zeus, the ruler of the gods, to pray openly for wealth, and men pursued all sorts of crafts for the sake of moneymaking.³²

Doctors were conditioned by these same social values. In *Plutus*, Blepsidemus suggests that Chremylus should call in a doctor to cure the blindness of Plutus, the God of Wealth. Chremylus replies that there is no doctor in Athens to be found, because "the pay's not there, so the profession's not there either."³³ The Athenians might have found the mocking amusing, but they were also probably comfortable with Aristophanes' caricature. That is, physicians, like many other craftsmen, were after money. They frequented the marketplace, searching for employment opportunities.³⁴

Aristophanes' view of profit-seeking physicians is also reflected in the Hippocratic Corpus itself. The *Precepts*, possibly dating to the Hellenistic period, outlines a moral code for the profession of physicians. It urges a good physician not to seek profits but rather to think of his reputation. Given the fact that it discourages doctors from considering fees prior to the welfare of the patients, the note implies that profit-making is the orientation of this profession and the pursuit of many practitioners.³⁵ Though these words refer to physicians in general, there is no reason to believe that rational doctors are excluded from those who are portrayed as seeking profits with their medical skills. If any doctor wished to move up

30. As Xenophon tells us, even the Spartans, who used to obey the laws of Lycurgus prohibiting the private ownership of gold among citizens, took pride in their possession during this time period. Xenophon, *Constitution of the Lacedaemonians*, 14.2–3. The theft committed by the Spartan commander Gylippus in 405 BCE is an example. Furthermore, Gylippus' father, Clearchus, had fled at an earlier time, as he was believed to have taken a bribe from Pericles. Diodorus Siculus, *Library of History*, 13.106.7–10.

31. Aristotle, *Politics*, 1257b1–b8.

32. Aristophanes, *Plutus*, 133–34, 160–67, 193–96, 509–15.

33. Aristophanes, *Plutus*, 406–8.

34. Athens and many other *poleis* hired public doctors to assure that medical service was available to their people when needed. Plato indicates that Athens had plenty of doctors. Plato, *Laus*, 916b. That one must pay to obtain the aid of a physician is mentioned again in Aristophanes, *Birds*, 582–84.

35. Hippocrates, *Precepts*, 4, 6 (Jones, Hp. Loeb, 1: 316–19; see also L., 9: 254.14–256.7, 258.6–8). For the date of the treatise, see Jouanna, *Hippocrates*, 405–6.

the social ladder, he had to qualify for the upper class. The first step was to become wealthy, which began with a mentality inclined toward profit-seeking.

INTELLECTUAL ACTIVITIES AS AN UPPER-CLASS PURSUIT

Aside from allowing one to live luxuriously and without the need to perform manual labor, wealth also enabled one to engage in intellectual activities, a pursuit that distinguished the upper class. In the late Classical period, such intellectual activities were highlighted by the sophistic movement. Traveling from place to place, a group of teachers, known as sophists, taught skills of persuasion and a variety of other subjects.³⁶ Though they claimed that they would teach anyone who was able to pay, their fees were high, and so most of their pupils were rich young men. Sophists, therefore, did not offer an education to the masses.³⁷

By examining the subjects taught by these professional teachers, we are able to get an idea how this intellectual movement served the upper class, especially. The subjects with which sophists concerned themselves can be roughly divided into two categories—public speaking skills and “academic disciplines.” The first one, exemplified by the sophistic activities in Athens, focused on rhetoric.

36. Property dislocations and dubious business deals resulting from the Peloponnesian War caused legal cases to proliferate in Athens and other Greek states in the late Classical period. The concurrent necessity of arguing one's own case in the law courts (at least in Athens) led to the growth of the sophistic movement there, as sophists claimed to offer requisite rhetorical skills that could be used in the courts, among other subjects of academic interest. Much study has been done on sophists, their teaching activities, and their influence. Some examples are: W. K. C. Guthrie, *The Sophists* (London: Cambridge University Press, 1971); Jochen Martin, “Zur Entstehung der Sophistik,” *Saeculum*, 1976, 27, 143–64; G. B. Kerferd, *The Sophistic Movement* (Cambridge: Cambridge University Press, 1981); and Jacqueline de Romilly, *The Great Sophists in Periclean Athens*, trans. Janet Lloyd (Oxford: Clarendon Press, 1992).

37. For the fortunes of the sophists, see Aristophanes, *Clouds*, 94–98, 470, 872–76; Plato, *Meno*, 91d; Plato, *Greater Hippias* 282b–d. Davies believes that the long-term effect of this educational movement was deeply conservative because it strengthened those who were economically advantaged. J. K. Davies, *Democracy and Classical Greece*, 2nd ed. (Cambridge, MA: Harvard University Press, 1993), 178. Plato's *Hippias* says that rhetoric is designed to “convince the audience and to carry off, not the smallest, but the greatest of prizes, the salvation of oneself, one's property, and one's friends.” Plato, *Greater Hippias*, 304b, 421. This statement is supported by the legal cases recorded in the works of the fourth-century orators. These court cases were often about property disputes that involved the wealthy. Demosthenes' *For Phormio* is an example. Also see Josiah Ober, *Mass and Elite in Democratic Athens: Rhetoric, Ideology, and the Power of the People* (Princeton, NJ: Princeton University Press, 1989), 112–13.

In addition to rhetorical skills, sophists also taught the art of managing state affairs: in a dialogue of Plato, Protagoras claimed that he was able to teach his students to be the best of citizens.³⁸

The second category of sophistic teaching indicates that the sophists' audience was also interested in specialized knowledge, which did not necessarily serve a direct practical purpose. Thus, Hippias offered arithmetic, astronomy, mathematics, geometry, genealogy, literature, mythology, and history in his teaching. Prodicus of Ceos was interested in natural science, semantics, and ethics, and his linguistic theories had a quasi-metaphysical basis. The works of Protagoras—now mostly lost, included treatises such as *On Mathematics*, *On Virtues*, *On the Original State of Things*, *On Those in Hades*, *On the Gods*, and *Truth*.³⁹

Sophists were familiar with the writings of natural philosophers on cosmology and physiology as well, and, according to W. K. C. Guthrie, their own rationalism, skepticism, and rejection of divine causation were due to the latter.⁴⁰ Because sophists and natural philosophers had several common interests, many ancient writers did not distinguish one from the other. Anaxagoras was seen as a sophist in Plato's *Hippias Major*. Isocrates included natural philosophers, such as Alcmaeon, Empedocles, Ion of Chios, and Parmenides, along with Gorgias among the sophists. Aristophanes portrayed Socrates as a sophist in *Clouds*, who was engaged in pointless study of the heavens as well as of fleas and gnats, and believed in no god or goddess. Socrates denied that he was a sophist in his defense in the *Apology*, claiming that he did not discuss the nature of the universe, nor the laws that governed the phenomena of the heavens; nor did he investigate things beneath the earth and in the sky. All of these examples show that both sophists and natural

38. Rhetorical training was intended to create successful, persuasive speakers who would use their speaking skills at public gatherings, such as councils and assemblies, and in courts; therefore, it attracted men who were ambitious and who were seeking to become politically influential and successful. Aristophanes, *Clouds*, 431–34; Plato, *Protagoras*, 318e–319a. Ober argues that a formal education in rhetoric was important for an aspiring Athenian politician because it could allow entry into higher political offices in Athens without prior practical experience in local politics. For example, none of the known rhetors who eventually became leading politicians in Athens can be demonstrated to have been active in prior local politics. Ober, *Mass and Elite*, 115–16.

39. Plato, *Protagoras*, 318e; Aristophanes, *Clouds*, 360; Kerferd, *Sophistic Movement*, 42–47.

40. Guthrie, *Sophists*, 46.

philosophers sought to study and explain the existence and the origin of the cosmos, as well as various phenomena in the external world.⁴¹

In the end, we may wonder why the elite paid high fees to learn this sort of knowledge, in addition to the more practical rhetorical skills, from sophists. Some of them might have had a natural curiosity and an inquiring mind. On the other hand, the answer may also be found in the ideology and mentality of the upper class regarding intellectual learning. Engaging in studies like this demonstrated the essential characteristic of the elite—leisure. As Aristotle says,

It is therefore probable that at first the inventor of any art which went further than the ordinary sensations was admired by his fellow-men, not merely because some of his inventions were useful, but as being a wise and superior person. And as more and more arts were discovered, some relating to the necessities and some to the pastimes of life, the inventors of the latter were always considered wiser than those of the former, because their branches of knowledge did not aim at utility. Hence when all the discoveries of this kind were fully developed, the sciences which relate neither to pleasure nor yet to the necessities of life were invented, and first in those places where men had leisure [*escholasan*]. Thus the mathematical sciences originated in the neighborhood of Egypt, because there the priestly class was allowed leisure [*apheithe scholazein*]. . . . the reason for our present discussion is that it is generally assumed that what is called Wisdom is concerned with the primary causes and principles, so that, as has been already stated, the man of experience is held to be wiser than the mere possessors of any power of sensation, the artist than the man of experience, the master craftsman than the artisan; and the speculative sciences to be more learned than the productive. Thus it is clear that Wisdom is knowledge of certain principles and causes.⁴²

Only those who had wealth and leisure were able to pursue such a life of contemplation; accordingly, this kind of intellectual pursuit distinguished their upper-class status and wisdom. Cosmology, astronomy, geometry, and mathematics—and other such subjects studied by the elites—were not practical knowledge, like

41. Plato, *Greater Hippias*, 283a; Isocrates, *Antidosis*, 268–69; Aristophanes, *Clouds*, 145, 159, 171, 194, 201–6; Plato, *Apology*, 19a–e, 26d; Xenophon, *Memorabilia*, 1.1.11. Though Protagoras claimed that he was unable to discover whether gods and goddesses existed or not, in a strict sense, he was not an atheist. Plato, *Theaetetus*, 162d.

42. Aristotle, *Metaphysics*, 981b14–982a3, Loeb Classical Library, trans. H. Tredennick, 1933, 7–9. [Emphases mine.]

agriculture, ship-building, mining, or navigation; elites learned for the sake of knowledge, rather than for any utilitarian end. Though G. E. R. Lloyd rightly suggests that Aristotle's association of the development of speculative thought with leisure is not sufficient in itself to explain the emergence of philosophy and science in ancient Greece, I believe that it does provide us with a clue that helps us to understand the strong interest of the upper class in natural philosophy and certain sophistic subjects.⁴³

RATIONAL MEDICINE AND MEDICAL THEORIES

To seek answers to benefit human health and to find cures for diseases is a constant concern in any society. Therefore medicine and medical practitioners were in an advantageous position to draw curiosity and attention from the educated. It was not only natural philosophers like Alcmaeon and Empedocles who showed an interest in medicine; sophists also often used examples from medicine to illuminate their discussions.⁴⁴ Since medicine was already a promising field to trigger thoughts and enquiry, the physicians who wanted to promote their medicine needed only to make it an intellectual topic, and the upper class would then be easily drawn to it. All they needed to do was to add that magical touch—rational theories loaded with the same characteristics seen in other sophistic subjects—and their medicine would become immediately appealing.

What commonly characterizes the various subjects taught by sophists and studied by natural philosophers is their critical and reasoned questioning of tradition (such as their rejection of divine determination in human affairs), and their strong interest in the human mind and in human reasoning (which can be used to understand and discover the basic causes and principles of nature, and of "all things" in the world).⁴⁵ When we examine rational

43. For the causes of the emergence of Greek philosophy and science, see Lloyd, *Magic, Reason, and Experience*, 226–67.

44. For Alcmaeon and Empedocles, see Jones, *Philosophy and Medicine*, 3–6, 11–13; Longrigg, *Greek Rational Medicine*, 47–64, 54–57, 68–77. Protagoras often compares sophists to physicians. Plato, *Phaedrus*, 268a–c, 269b; Plato, *Theaetetus*, 167bc. The Hippocratic treatise *Art* demonstrates that sophists were interested in medicine and tried to incorporate it into their teaching. *Art* has many sophistic traits, and is thought to have been written by a sophist. Jones, *Philosophy and Medicine*, 23.

45. A. A. Long, "The Scope of Early Greek Philosophy," *The Cambridge Companion to Early Greek Philosophy*, ed. A. A. Long (Cambridge: Cambridge University Press, 1999), 1–21.

medical theories in the Corpus, we find that they reject supernatural power as the cause of diseases (and of magic as a valid treatment) and faithfully reflect the systematic thinking of natural philosophers and sophists. One of the Hippocratic treatises, *Nature of Man*, explains that some diseases are caused by regimen, and others—for example, epidemic diseases—by a corruption of air.⁴⁶ Likewise, the appearance of the “cough of Perinthus” in *Epidemics IV* was linked by its author to natural factors, namely the change of seasons and climatic conditions.⁴⁷ The author of *Airs Waters Places* also firmly believed that the physical environment—such as the peculiarities of specific locations, winds, soil, the properties of the waters, and the habits of the residents—has significant effects on human health.⁴⁸ *The Sacred Disease* explicitly claims that all diseases have natural causes—even epilepsy, the so-called “Sacred Disease.” The author refutes the popular belief in its divine causation and its traditional treatment by magic, and claims that neither this disease, nor any other, is to be seen as mischief or punishment sent by gods or goddesses.⁴⁹

This theorizing about the causation of diseases represents a clear break from the traditional view of divine intervention. Pathological theories, which were heavily influenced by natural philosophy, were also prevalent in Greek rational medicine. Those theories were hypothesizing and deductive; they remained untested, and arguably became an obstacle to the development of true scientific medicine. However, these theories about the creation of the universe and all

46. Hippocrates, *Nature of Man*, 9 (Jones, Hp. Loeb, 4: 24–29; see also L., 6: 52.8–10).

47. Hippocrates, *Epidemics*, 4.7 (Smith, Hp. Loeb, 7: 94–97; see also L., 5: 146.13–48.14). For an identification of the “cough,” see Mirko D. Grmek, *Diseases in the Ancient Greek World*, trans. Mireille Muellner and Leonard Muellner (Baltimore, MD: Johns Hopkins University Press, 1989), 319–28.

48. Hippocrates, *Airs Waters Places*, 1–3 (Jones, Hp. Loeb, 1: 70–77; see also L., 2: 12.1–18.17).

49. Hippocrates, *Sacred Disease*, 1–4 (Jones, Hp. Loeb, 2: 138–51; see also L., 6: 352.1–64.8). The cause of epilepsy is, according to his theory, the blockage of airflow in the veins of the brain. The theological attitude of the author inspired much discussion in the 1990s and early 2000s. Phillip van der Eijk holds the position that the author does not deny the divine. The author in fact believes in the gods who purify men following their transgressions. Though the author denies that the gods cause diseases, he agrees that the diseases have a divine aspect in that they show a constant and regular pattern of origin and development. van der Eijk, “The ‘Theology’ of the Hippocratic Treatise On the Sacred Disease,” in *Medicine and Philosophy in Classical Antiquity: Doctors and Philosophers on Nature, Soul, Health and Disease* (Cambridge: Cambridge University Press, 2005), 45–73.

beings, and the rational emphasis on the crucial balance of the “principles” or “elements” for the preservation of health, fit Aristotle’s description of “supreme knowledge,” the intellectual pursuit characterizing the leisurely elite class. The most popular of the philosophically based medical theories attested in rational medicine were the four humors and the hot–cold–dry–wet theories.

The natural philosopher Empedocles of Acragas (in the mid-fifth century BCE) used the four element theory—fire, water, air, and earth—to explain the composition of the human body, and accordingly held that flesh, sinews, bones, blood, sweat, and tears all originated from the mixture of the four elements in various proportions.⁵⁰ This Empedoclean idea became very popular, and it influenced many contemporary and later rational doctors and medical writers. Philistion of Locri (a contemporary of Plato) based his medical theories on the four elements and correlated them accordingly with their four opposites—hot, cold, wet, and dry. According to him, diseases had three general causes: imbalance of the elements, the condition of the body, and influences of external causes.⁵¹

Diocles of Carystus, possibly a contemporary of Aristotle, was called “the second in time and fame to Hippocrates” by Pliny.⁵² Diocles held the opinion that the living body is constituted of a

50. Empedokles, Fragmente 17 (DK31B17). Hermann Diels and Walter Kranz, *Die Fragmente der Vorsokratiker: griechisch und deutsch*, 6th ed. (Berlin: Weidmann, 1952), 1:315–318. In Lloyd’s opinion, the four-element theory had appeared in the works of natural philosophers who were active in the first half of the fifth century BCE, such as Heraclitus of Ephesus, Anaxagoras of Clazomenae, and Parmenides of Elea, and it could be further traced back to a contemporary of Thales—Anaximander of Miletus—in the middle of the sixth century BCE. G. E. R. Lloyd, “The Hot and the Cold, the Dry and the Wet in Greek Philosophy,” *J. Hellenic Stud.*, 1964, 84, 92–106.

51. W. H. S. Jones, ed., *The Medical Writings of Anonymus Londinensis* (Cambridge: Cambridge University Press, 1947), 80–81. section 20, lines 25–50; Longrigg, *Greek Rational Medicine*, 106–9. Plato’s ideas about human health were also influenced by Empedocles, probably through Philistion. Plato believed that the body is composed of earth, fire, water, and air and that diseases arise from the unnatural excess or deficiency of these or from their displacement from their proper place to an alien one. Plato, *Timaeus*, 81e–82b.

52. Pliny, *Natural History*, 26.10. Scholars have been trying to determine the date of Diocles’ medical activities since the turn of the twentieth century; because only fragments and later testimonies concerning his works remain, the task is difficult and all results remain controversial. Van der Eijk suggests that a relative chronology is best; that is, Diocles lived after Hippocrates and presumably earlier than Herophilus and Erasistratus, and he was probably familiar with many contemporary intellectual and philosophical thinkers, such as the Hippocratic writers, Plato, and Aristotle. Phillip J. van der Eijk, *Diocles of Carystus: A Collection of the Fragments with Translation and Commentary*, 2 vols. (Leiden: Brill, 2000), 2: Introduction, xxxi–vi.

mixture of hot, cold, dry, and wet, and that the four opposites govern the formation of the four humors—blood (hot and wet), phlegm (cold and wet), yellow bile (hot and dry), and black bile (cold and dry)—in the body. He further maintained that it is good and useful to have a moderate amount of all four humors, but that any occurring in excess would be harmful.⁵³

Such medical theories based on hypotheses appear in many treatises in the Corpus.⁵⁴ The treatise *Nature of Man*, thought to be the work of Polybus, Hippocrates' pupil and son-in-law, contains the classic Hippocratic exposition of the four humors—blood, phlegm, yellow bile, and black bile. These four humors make up the nature of the body. When they are proportioned to one another and are perfectly mingled, the person is healthy; when one of the elements is deficient or excessive, or if it is isolated from the others in the body, the person falls ill or experiences pain.⁵⁵ *Affections* contains a pathological theory based on two humors—bile and phlegm, as well as the opposites principle, hot-cold-dry-wet. According to this treatise, diseases arise when one of the two humors becomes too moist, too dry, too hot, or too cold inside the body.⁵⁶ The author of *Regimen* states that man, as well as all things throughout the universe, is constituted of fire—hot and dry, and water—cold and wet. By mutual exchange, fire has moisture from water, and water has dryness from fire. From the separation or mixture of the two elements, as a result of exchange, comes the diversity of living beings.⁵⁷ In *Places in Man*,

53. Van der Eijk, *Diocles of Carystus*, 1: 40–43; cf. his commentary, 2: 46–56. See also Longrigg, *Greek Rational Medicine*, 162.

54. Smith believes that Hippocrates himself also subscribed to theory. W. D. Smith, *The Hippocratic Tradition*, Electronic ed., revised, 2002, 31–60. <http://www.bium.univ-paris5.fr/ann/Hippo2.pdf> (accessed 18 June 2007) (originally published by Ithaca, NY: Cornell University Press, 1979). Scholars have been trying to identify the treatises written by Hippocrates and how he practiced medicine ever since Littré's edition was published in the mid-nineteenth century. However, because Hippocrates' writings cannot be positively identified, a point on which most scholars agree, Smith draws on an ancient source that refers to Hippocrates' teachings—Plato's *Phaedrus*—to trace Hippocrates' medical thought. Also see Temkin, "Greek Medicine," 216.

55. Hippocrates, *Nature of Man*, 4 (Jones, Hp. Loeb, 4: 10–13; see also L., 6: 38.19–40.9).

56. Hippocrates, *Affections*, 1 (Potter, Hp. Loeb, 5: 6–9; see also L., 6: 208.7–15). The bi-humoral theory is also found in *Diseases I*, another treatise that is possibly dated around the same time. Hippocrates, *Diseases*, 1.2 (Potter, Hp. Loeb, 5: 100–3; see also L., 6: 142.13–20).

57. Hippocrates, *Regimen*, 1.3–5 (Jones, Hp. Loeb, 4: 230–39; see also L., 6: 472.12–478.6).

pain is attributed to excesses or deficiencies in cold or heat. Excessive heating causes pain in parts of the body that are by nature cool, while excessive cold causes pain in parts that are hot.⁵⁸ In *Fleshes*, on the other hand, the constitutive elements of the human body, as well as the universe, are aether (or heat), earth, which is cold and dry, and air, which is thick and moist; the mixture and transformation of these primary elements produce different parts of the body, such as bones, vessels, intestines, and brain.⁵⁹

Another Hippocratic treatise, *Nutriments*, reflects the signature theory of the master sophist, Protagoras—relativity.⁶⁰ Nothing is absolutely good or bad, beneficial or harmful to all men:

Juices varied in colors and in powers, to harm or to help, or neither to harm nor to help, varied in amount, excess or defect, in combination of some but not of others. . . .

Milk nutriment, for those to whom milk is a natural nutrition, but for others it is not. For some, wine is nutriment, for others not. So with meats and the other many forms of nutriment, the differences being due to place and habit.⁶¹

Aristotle explicitly held a physician who theorizes to be higher and wiser than one who only has experience, even though the former may fail in his treatment. Experience allows one to judge what illness the patient is suffering from, and what would benefit him—these are mere facts; on the other hand, it is a matter of art to know the disease from a universal principle, and wisdom and proficiency belong to art rather than experience.⁶²

58. Hippocrates, *Places in Man*, 42.1, *Hippocrates: Places in Man*, ed. and trans. Elizabeth M. Craik (Oxford: Clarendon Press, 1998), 78–79.

59. Hippocrates, *Fleshes*, 2–17 (Potter, Hp. Loeb, 8: 132–57; see also L., 8: 584.9–606.17). The author also adopts a conception of numbers, which is similar to that found in the treatise *Seven*, whose author explains everything by the crucial number, seven. Hippocrates, *Fleshes*, 19 (Potter, Hp. Loeb, 8: 158–65; see also L., 8: 608.22–14.17). For a discussion of *Seven*, see Jouanna, *Hippocrates*, 70, 412–13; and Jones, *Philosophy and Medicine*, 7–10.

60. Protagoras' famous remark, "man is the measure of all things," is interpreted by Plato (*Theaetetus*, 152a) as "equivalent to the relativism of truth to individual perception and judgment." P. Woodruff, "Rhetoric and Relativism: Protagoras and Gorgias," *Cambridge Companion to Early Greek Philosophy*, 292. See also Guthrie, *Sophists*, 181–88.

61. Hippocrates, *Nutriments*, 11, 33 (Jones, Hp. Loeb, 1: 347, 355; see also L., 9: 102.6–8).

62. Aristotle, *Metaphysics*, 981a1–b14. In his discussion of Aristotle's "distinguished physicians" (*charientes tôn iatrôn*) in the *Ethica Nicomachea* and *De divinatione per somnum*, van der Eijk points out that Aristotle praises those physicians who base their practice on the

THE NOVEL MEDICAL TREATMENTS OF RATIONAL PHYSICIANS

The upper class would have been drawn to rational medicine not just for its medical theories, but also its particular treatments. Though traditional techniques, such as surgery and medications, were widely used among doctors, a great emphasis on regimen, or conduct of life, was regarded as essential to the maintenance of health, and was a distinctive way to treat diseases in some treatises of the Corpus. Several points about this therapy are particularly related to my discussion. First, regimen became the center of attention among physicians fairly late, in the fifth and fourth centuries BCE, corresponding to the time of the intellectual movement. Secondly, it was time-consuming for a patient to practice and took a lot of effort on the part of both doctors and patients. Judging the two factors together, it is reasonable to assume that such a treatment was often prescribed for “privileged” patients, who had the time to undertake it.

Even though *Ancient Medicine* confirms that doctors had known about the “*dynameis*” of food and drinks and their influence on the human body for a long period of time, their emphasis on regimen over surgery and drugs was a fairly late innovation.⁶³ In the early fourth and late fifth centuries BCE, regimen did not refer only to diet; it also incorporated exercise, bathing, sleep, and even sexual behaviors.⁶⁴ Plato made it clear that Asclepius and the physicians in

principles of the study of nature in general; the “distinguished, cultivated physicians” refer to those who practice their discipline in a more “inquisitive” and “philosophical” way. Phillip van der Eijk, “Aristotle on ‘Distinguished Physicians’ and on the Medical Significance of Dreams,” in *Ancient Medicine in its Socio-Cultural Context* (Amsterdam: Rodopi, 1995), 2:447–59.

63. Hippocrates, *Ancient Medicine*, 2, 3 (Jones, Hp. Loeb, 1: 14–21; see also L., 1: 572.9–12, 574.8–578.11). As Smith pointed out, the “*dynamis*” of food and drinks had been recognized through a long tradition of observation. W. D. Smith, “The Development of Classical Dietetic Theory,” in *Hippocratica: actes du Colloque hippocratique de Paris, 4–9 septembre 1978*, ed. Mirko D. Grmek (Paris: Éditions du Centre national de la recherche scientifique, 1980), 439–48. Applying such beliefs in medicine, a doctor would prescribe the right food/drink based upon its *dynameis* and the patient’s condition. For example, white vinous wine was believed to be a diuretic and laxative and was thought to pass more readily than other liquids into the bladder, so it was administered to purge the patient. Hippocrates, *Regimen in Acute Diseases*, 51 (Jones, Hp. Loeb, 2: 106–7; see also L., 2: 334.5–14).

64. Hippocrates, *Regimen*, 2.57–64 (Jones, Hp. Loeb, 4: 342–57; see also L., 6: 570.7–580.19); Hippocrates, *Affections*, 19, 53 (Potter, Hp. Loeb, 5: 32–35, 82–83; see also L., 6: 228.9–11, 264.7–10).

the Homeric period did not use regimen. Herodicus, a trainer and later a valetudinarian, was the first to blend gymnastics and medicine. The author of *Regimen in Acute Diseases* also said that the ancients had omitted it.⁶⁵

Affections, the dietetic treatise in the Corpus, shows an obvious influence from physiological and cosmological theories. It theorizes that all human diseases arise from bile and phlegm; when one of them inside the body becomes too moist, too dry, too hot, or too cold as a result of the intake of food and drinks, exertions, wounds, or heat and cold in the environment, this produces diseases. The dietetic therapy in the treatise is therefore administered according to this principle:

Of the foods or drinks that people employ in their regimen when they are in a state of health, for the ill you must use whichever are available, preparing cold, hot, moist and dry; instead of cold, hot and hot instead of not hot; dry instead of not dry, and the rest according to the same fashion.⁶⁶

Aside from the theoretical elements of regimen, which reflect the interests of the educated at that time, the practice of regimen was also particularly oriented toward the lifestyle of the rich. The author of *Regimen* provides an example of how one should practice a regimen, which is regulated according to the different seasons of the year, in order to maintain a healthy manner of life. In winter, one should eat food of a drying nature, such as roasted meat, and drink undiluted wine; do a lot of exercise—wrestling and running—to warm up the body; take sharp walks after exercise, short walks after dinner, and many walks in the early morning; take both cold and hot baths; have frequent sexual intercourse; and use several emetics a month.⁶⁷ As Edelstein pointed out, only a wealthy man would have time at his disposal to follow many of the

65. Plato, *Republic*, 405e; Hippocrates, *Regimen in Acute Diseases*, 3 (Jones, Hp. Loeb, 2: 62–65; see also L., 2: 238.8–240.6). According to Anonymus Londinensis (9.20–36), Herodicus of Selymbria thought that all diseases came from poor regimen. He argued that health is the result of a regimen according to nature; it has to include exercise so that the nourishment from blood can be digested. Jones, *Anonymus Londinensis*, 48–49. However, Herodicus' theory and practice were also criticized by many; see Plato, *Republic*, 406a–e; and Hippocrates, *Epidemics*, 6.3.18 (Smith, Hp. Loeb, 7: 242–43; see also L., 5: 302.1–4).

66. Hippocrates, *Affections*, 39 (Potter, Hp. Loeb, 5: 63; see also L., 6: 248.16–20).

67. Hippocrates, *Regimen*, 3.68 (Jones, Hp. Loeb, 4: 368–81; see also L., 6: 594.3–604.19).

physician's requirements—such as to avoid excessive exertion, to eat the right foods at the proper times, to stay home when it was hot outside, and to be active when it was cold.⁶⁸

The physicians themselves confirmed that regimen was quite a task. The author of *Regimen in Acute Diseases* points out that the preparation of gruel requires a lot of attention, and its use has to be carefully administered. And bathing, though believed to be beneficial by the author, may have been unaffordable for many: few houses had suitable equipment and attendants to manage the bath properly, and the patients did not have the necessary accommodations, such as a covered place free from smoke, and an abundant supply of water.⁶⁹

Although Plato believed that moderate exercise, such as simple gymnastics, was both suitable and necessary for an intellectual, he condemns the use of regimen by the rich and the “so-called fortunate” because of its demoralizing effects. His disapproval is due to its costly and time-consuming nature. The wealthy elite had the leisure to be sick and to doctor themselves all day long—but this practice came to occupy too much of their time and prevented them from fulfilling their civic duties. Since they were the ones who were supposed to lay down the laws and to rule, this entailed an unforgivable loss in terms of attention spent on running the polis.⁷⁰

We do not need to accept Plato's explanation that the former Asclepiads (physicians in times before his own) intentionally omitted regimen because of moral concerns. However, it is probably true that regimen became popular in his time because of its special appeal to the wealthy class, which had time for leisurely pursuits. Regimen aimed not only at preserving the mode of a healthy life—it also indicated the class identity of those who practiced it.

ERYXIMACHUS

If a physician was able to put rational medicine to good use, he could be very successful in his career. Eryximachus, an Athenian

68. Edelstein, “The Dietetics of Antiquity,” *Ancient Medicine*, 304–5.

69. Hippocrates, *Regimen in Acute Diseases*, 15–16, 65 (Jones, Hp. Loeb, 2: 72–75, 120–21; see also L., 2: 254.7–256.6, 364.5–12).

70. Plato, *Timaeus*, 88bc; Plato, *Republic*, 406d–07d.

doctor of the late fifth century BCE (who appears in Plato's *Symposium* and *Protagoras*), is a good example of a physician who adopted rational medical theories and attached himself to great intellectuals (sophists) in his time; he was subsequently accepted into the circle of the elite.

Eryximachus was the son of Acumenus, also a physician, and a friend of Phaedrus. Phaedrus, Acumenus, and Eryximachus belonged to the "Socratic circle" and were possibly associates of Alcibiades.⁷¹ Eryximachus believed in the effects of the opposites—hot, cold, dry, and moist—upon human health, and his speech in the *Symposium* on the principles of medicine stressed the importance of harmony among "contrary qualities" to human health.⁷²

His medical principles were influenced by natural philosophy, and Plato noted that Eryximachus took great interest in sophist subjects. In *Protagoras*, Eryximachus asked Hippias questions about natural science and astronomy.⁷³ While attending this intellectual gathering in Callias's house around 432 BCE, Eryximachus associated himself with the most well-known sophists of his time and their followers: Protagoras, Hippias of Elis, Prodicus of Ceos, as well as many young Athenian elites and Socrates.⁷⁴ That these guests represented the highest social circle in Athens gives us some insight into the practical motivations of the attending physician, and reveals what some doctors wished to achieve in their careers. As we will see, most of the pupils and followers of the sophists were youths from prominent families, and their acceptance of a newcomer as their equal was the ticket for an ambitious physician to improve his social status. Therefore, it would be overly simplistic to treat Eryximachus' presence as nothing more than a result of his pure interest in natural sciences and his admiration of sophistic wisdom.

71. Plato, *Symposium*, 176b; Plato, *Protagoras*, 315c; Plato, *Phaedrus*, 268ab; Xenophon, *Memorabilia*, 3.13.2.; Stamatu, "Eryximachos," *Antike Medizin*, 274.

72. Plato, *Symposium*, 186a–88a. According to Edelstein, Eryximachus is presented by Plato as a good doctor who persuades his patients to obey his advice so that they might attain balance in the desires of their bodies and reconcile the hostile elements in their constitutions. Edelstein, "The Role of Eryximachos in Plato's *Symposium*," *Ancient Medicine*, 153–71.

73. Plato, *Protagoras*, 315c.

74. Plato, *Protagoras*, 314b–15b. Socrates was seen as a sophist by many Athenians but was considered a true philosopher by Plato, possibly because Socrates did not accept pay. For a view of Socrates' public image, see Aristophanes, *Clouds*.

Because the social-economic backgrounds of Callias' guests are important to this study, I will focus on this aspect in the paragraphs below. I wish to include in this examination those guests who were students of sophists, as they have received less attention from scholars than other more prominent figures, such as Protagoras and Socrates. To begin, the host, Callias, was from a family that had enjoyed significant political influence in Athens since the post-Solonic era. His family had acquired enormous wealth from land property, cult incomes, and especially mining profits. Callias' father, Hipponicus, passed for the richest man in Greece, and left a large fortune for his son to exploit. Callias was known for his extravagance and aristocratic fecklessness, and for having paid large amounts of money to sophists.⁷⁵ Callias' two brothers on his mother's side, Xanthippus and Paralos, also attended the party. They belonged to one of the oldest and most prestigious families in the city—the Alcmaeonid.⁷⁶

Another young pupil was Charmides. His mother was from a wealthy family, which bred horses, and his father, Glaucon, was the grandfather of Plato.⁷⁷ Charmides' cousin, Critias, who came to the party with Alcibiades, was politically active until his death in 403 BCE.⁷⁸

Philippides, a devoted disciple of Protagoras, was also a notable elite. His family had investments in silver mines. Later, his son, Philomelos, followed the family tradition of frequenting sophists, and became a pupil of the orator Isocrates. Starting with Philippides, members of this family performed various liturgies, such as the *trierarchy*, a victorious *choregos*, generalships, ambassadorships, and they were politically active.⁷⁹

Alcibiades, an admirer and companion of Socrates, was an Alcmaeonid on his mother's side, and Pericles became his guardian after his father's death. Known for his extravagant lifestyle, Alcibiades was one of the wealthiest young aristocrats in Athens.

75. Plato stated that Callias paid more to these professional teachers than everybody else put together. For the ancient sources on Callias and his family, see Davies, *Athenian Propertied Families*, 254–63.

76. Davies, *Athenian Propertied Families*, 457–58.

77. *Ibid.*, 329–35.

78. Xenophon, *Hellenica*, 2.3.2 ff; Diodorus Siculus, *Library of History*, 14.33.2–3.

79. Davies, *Athenian Propertied Families*, 548–50.

His tie to Callias's family through marriage—he married Callias' sister—shows the close relations that existed among members of the upper-class circle in the city. Alcibiades' influence in politics is attested by Thucydides. During the Sicilian debate, he used his rhetorical skills to triumph over Nicias.⁸⁰

Though little is known about the career of Andron, son of Androtion, his family owned considerable property, which allowed him to indulge in sophistic learning. His son, also named Androtion, was a pupil of Isocrates, and became the governor of Arkesine; he helped to defend this town during the Social War by paying for its defenses with his own money.⁸¹

Hippocrates, son of Apollodorus, was eager to become a pupil of Protagoras, and led Socrates to the party. According to Socrates, Hippocrates was a noble youth from a prosperous family.⁸²

As we can see from the representatives at Callias' party, most of the prominent families in Athens were closely allied. Once Eryximachus was accepted and became part of this circle, he would have patrons, clients, and friends, not just from one family, but from the entire network of the prestigious elite in the city. In most Greek states—whether democratic, oligarchic, or monarchic—the wealthy elite were in control of city politics and affairs. Entry into the top ruling minority would certainly allow access to most, if not all, of the wealthiest and most powerful clans in the city.

Because the popularity of sophistic learning among the upper class was attested all over Greece, well beyond the boundaries of Athens, we may assume that to achieve upward social mobility was possible for physicians in other cities as well. The Hippocratic doctors visited Thessaly, where the famous sophist Gorgias eventually settled and became the teacher of Jason of Pherae, the tyrant. Gorgias' teaching was also popular in Larisa, where many cases from the *Epidemics* were recorded. Gorgias enlightened the leading men of the Aleuadae (the leading house of Larisa), and was seen as a cultivator of the minds of the once-barbaric horse-riding Thessalians.⁸³

80. Ibid., 9–22; Plutarch, *Alcibiades*, 1–12; Thucydides, *History of the Peloponnesian War*, 6.8–24.

81. Davies, *Athenian Propertied Families*, 33–34.

82. Plato, *Protagoras*, 316b, 318a.

83. Isocrates, *Antidosis*, 155–57. Gorgias of Leontini visited Athens in 427 BCE, and when he stayed in Athens, his lectures were quite popular. Diodorus Siculus, *Library of*

Another city that the Hippocratic doctors frequented was Abdera, where the interest in new learning was also evident. Democritos was one of the many magistrates who appeared on Abderite coinage. This late-fifth century Democritos may have been the natural philosopher of atomism of the same name. The reverse side of his coin featured a lyre, and Democritos—the philosopher—was known to write essays about music and poetry.⁸⁴ Even if the two Democritoi were different persons, the existence of the magistrate and his choice of symbols for coins attest that cultural activities were prospering among the ruling elite in the city.

It was in such a learned atmosphere that physicians found their opportunities, by raising their profession to an intellectual level. Rational doctors, like Eryximachus, were able to establish reputations in intellectual issues, as well as in medicine, to make themselves peers of their well-educated, upper-class associates.⁸⁵

CONCLUSION

Rational doctors found one way or another to explain the causes of diseases rationally. Such theories may not be comprehensible or sensible to modern scientists, but they echo the physiological and philosophical studies of the sophists and natural philosophers. We may conclude that a group of ambitious, Classical era doctors intended to attract into their clientele the ruling elite and the wealthy—people who could appreciate novel treatments and new medical theories derived from contemporary natural philosophy and sophistic teaching. These physicians did so because such clients could

History, 12.53.2–5; Plato, *Greater Hippias*, 282bc; Plato, *Meno* 70ab; Pausanias, *Description of Greece*, 6.17.9.

84. Because Democritos also wrote a monograph on Pythagoras, he was possibly the magistrate who issued a coin bearing the name and an idealized portrait of the philosopher. Benjamin H. Isaac, *The Greek Settlements in Thrace until the Macedonian Conquest* (Leiden: Brill, 1986), 103; G. S. Kirk, J. E. Raven, and M. Schofield, eds., *The Presocratic Philosophers: A Critical History with a Selection of Texts*, 2nd ed. (Cambridge: Cambridge University Press, 1983), 402–33.

85. Rhetorical ability and knowledge of the explanations of the natural philosophers could also be used as persuasive devices for some doctors to attain the position of salaried public physicians. Horstmanshoff, “Ancient Physician,” 189–93. However, there is little information about this institution before the Hellenistic period; we do not know the duties of the public physicians, what distinguished them from private practitioners, or their social and economic status. Louis Cohn-Haft, *The Public Physicians of Ancient Greece* (Northampton, MA: Department of History of Smith College, 1956), 8–11.

promise the doctors not only a thriving business, but even more importantly, heightened social prestige. Simply being a health benefactor and helper of the suffering, qualified one only as a craftsman, and did not change one's social status; only through a connection to the upper class were physicians able to rise to a higher position. Practicing intellectual medicine was the key, because rational theories were considered "superior"—as they were a form of "unpractical" knowledge. Indeed, to be considered worthy of elite recognition and status, a physician's proper pursuit should be directed toward the creation of theories and the invention of principles. Experience and the results of experiments, on the other hand, were not nearly as valued in the upper-class mentality—and so they were largely left behind by ambitious rational doctors. Classical-period rational medicine thus may well have remained at the level of speculation due to the social aspirations of its self-promoting practitioners. This was the social context in which the development of rational medicine needs to be understood.