

“...GOING FURTHER ON DOWN THE ROAD...”
THE ORIGIN AND FOUNDATIONS
OF MILESIAN THOUGHT

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Then they turned to political matters and invented laws and all the things that bring cities together, and such thought, in turn, they called wisdom. For of such a sort were the seven wise men, who discovered certain political virtues. Then, going further on down the road, they proceeded also to the bodies themselves and the nature of their production, and this is more properly called natural inquiry, and we say these sorts are wise with respect to the things concerning nature.¹

I

ACCORDING TO THE TRADITIONAL VIEW, philosophy dawned on the West in a city in present-day Turkey called Miletus and in the thought of a man of legend named Thales.² There for the first time in our tradition, human beings dared to give accounts rather than tell stories about the origin and foundations of the world, to engage in cosmology and

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¹ John Philoponus, *Introduction to the Arithmetic of Nicomachus I*, in *The Works of Aristotle Volume XII: Select Fragments*, ed. David Ross (Oxford: Clarendon Press, 1952), 1.41–7. All translations are my own. For the fragments of Thales and Anaximander, I have used *The Texts of Early Greek Philosophy Part I*, ed. Daniel Graham (Cambridge: Cambridge University Press, 2010) and provided the citation of the original text, followed parenthetically with “G” for Graham, then Graham’s abbreviations (“Ths” for Thales and “Axr” for Anaximander), and finally a fragment number. When the text cited includes but exceeds Graham’s selection, I have prefaced the citation of Graham with a greater-than symbol (“>”); when Graham’s selection includes but exceeds the text cited, I have prefaced the citation of Graham with a less-than symbol (“<”). For Heraclitus, I have used Miroslav Marcovich, *Heraclitus: Greek Text with a Short Commentary* (Merida: Venezuela, 1967) for the numbering and text, with the traditional Diels-Kranz numbering given in parentheses, for example, “Heraclitus, M43 (DK 47).” All other citations are to the Oxford Classical Texts editions of those works.

² Simplicius, *Physics* 23.29–33 (G.Ths.13); Hippolytus, *Refutation of All Heresies* 1.1.1 (< G.Ths.20).

cosmogony.³ However crude their accounts may have been, however much they may have adopted their predecessor's mythology and superstition, beneath this fumbling and residue was a shift seismic and enduring. For with these Milesian thinkers, man relied no longer on the traditional stories told of our beginnings and of the structure of the κόσμος—on the tales told by Hesiod, in particular—but on what was accessible to human reason alone.⁴ Cosmogony replaced theology; cosmology, the rule of Zeus.⁵ But this is not the core of Hesiod's thought. Hesiod singles himself out by name as the bearer of a poetic, distinctly human wisdom that contrasts in its weakness with the powerful, divine wisdom of Zeus.⁶ Hesiod's distinction between human and divine wisdom is a crucial premise of his worldview, a premise not conditioned on the myths he relates, but rather they on it. So even if the myths—myths Hesiod himself likely did not believe⁷—were not empirically grounded, nevertheless this core premise of the weakness of human wisdom may very well have been and still be so grounded. Given the basic contours of Hesiod's thought, the first question philosophy would have to face is that of the limits of human wisdom, of whether

³ Compare Keimpe Algra, "The Beginnings of Cosmology," in *The Cambridge Companion to Early Greek Philosophy*, ed. Anthony A. Long (Cambridge: Cambridge University Press), 45–65, 45–49. Robin Waterfield, *The First Philosophers* (Oxford: Oxford University Press, 2000), 3: the Milesians "wanted to give a comprehensive picture and explanation of the whole universe, from the largest scale down to everyday phenomena such as rain and mist and rainbows. At the very birth of science and philosophy, the daring of this enterprise is breathtaking." As Waterfield's observation suggests, the humility of science arrived late on the scene, for at its inception science had to assume the same ambitions of what it sought to replace. For Thales as discoverer of the whole, see Jon Lenkowski, "The Origin of Philosophy," *The St. John's Review* 37 (1986): 81–92, 81–82; Friedrich Nietzsche, *The Pre-Platonic Philosophers*, trans. Greg Whitlock (Urbana: University of Illinois Press, 2001), 7–8, 27–28.

⁴ Of course the actual exercise of human reason was not so clean, as is well-acknowledged. Algra, "Beginnings," 63, calls the Milesians "protoscientists" (compare 54). For the most scientific interpretation, see Stephen White, "Milesian Measures: Space, Time, and Matter," in *The Oxford Handbook of Presocratic Philosophy*, ed. Patricia Curd and Daniel Graham (Oxford: Oxford University Press, 2008), 89–133.

⁵ Compare Malcolm Schofield, "The Ionians," in *Routledge History of Philosophy, Vol. I: From the Beginning to Plato*, ed. C. C. W. Taylor (New York: Routledge, 1997), 47–87, 49.

⁶ Compare Hesiod, *Theogony*, 1–23, *Works and Days*, 458–92.

⁷ Compare Hesiod, *Theogony*, 22–28; Herodotus, *Histories*, 2.53.1–2.

man can overcome the ambiguities that pervade his experience and bridge thereby the divide with divine wisdom. Only a thinker who confronted this question would properly have faced the challenge the prephilosophic worldview levels against the budding philosopher.

In this article I will examine philosophy's first steps into its proper domain by turning to the origins of the Milesian school in the figures of Thales and Anaximander. Our guiding question will be whether their thought as it is available to us sufficiently addresses the worldview it seeks to replace. I argue that these two thinkers' attempt to bridge the divide between divine and human wisdom inadequately addresses the ambiguities characteristic of human wisdom. Through an examination of the tension between Thales' political wisdom and natural philosophy and, later, between Anaximander's cosmology and cosmogony, we will see that their attempt to gain access to the ground of human experience will ignore a fundamental problem, namely, that the very nature of that ground is to be entirely other than, and so inexplicable in terms of, our experience. As I will argue, these thinkers understand experience to be a variety of determinations of a more fundamentally indeterminate ground, while problematically attempting to give this indeterminate ground discursive determination.⁸ After treating Thales and Anaximander in sections II and III respectively, I will conclude with some comment on how Hesiod represents this philosophical problem poetically and how Heraclitus appears to be the first thinker to confront the problem philosophically, inasmuch as his attempt to bridge the divide between divine and human wisdom always keeps one eye on the ambiguities that pervade human experience. The thesis of the paper is

⁸ At the outset, this account perhaps seems better suited to Anaximander than to Thales. And though I will argue that they agree on this point in the course of the essay, perhaps at present we can rely on G. W. F. Hegel, *Lectures on the History of Philosophy I: Greek Philosophy to Plato*, trans. E. S. Haldane (Lincoln: University of Nebraska Press, 1995), 177, who points out that, by claiming water to be the ἀρχή of all things, "Thales comprehends essence as devoid of form" (cf. 180–1). But I would also caution against the approach of Charles Kahn, *Anaximander and the Origins of Greek Cosmology* (New York: Columbia University Press, 1960), 8, for whom "the name of Anaximander stands . . . as a symbol for the anonymous creative spirit of Ionian thought in the sixth century," among whom he would include Thales. While we may know too little to conclude anything firm about these early thinkers, we know too much simply to view their respective doctrines through the lens of whichever one contemporary scholars deem their greatest. It is not negligible that after Descartes scholars are enamored with Anaximander, but guided by Plato we might be more interested in Thales.

that the prephilosophic worldview cannot be dismissed as mere superstition or mythology, for prephilosophic thinkers like Hesiod make substantive claims about the character and limits of human wisdom, claims that deserve attention if the origins of philosophy are to be philosophic—rational rather than simply willful. For an immanent, philosophical critique of that worldview, we must turn not to Thales or Anaximander, these seminal, yet flawed thinkers, but to Heraclitus.

II

Thales. Among the Milesian philosophers, Thales stands out for his political activity and practical wisdom, which together earned him a place among the legendary seven sages of Greece. Among these sages, however, he is unique for his philosophic activity.⁹ Thales thus possesses a duality that eludes simple taxonomy. So diverse are Thales' achievements, that many, in both ancient and modern times, have doubted the veracity of the feats attributed to him.¹⁰ While knowing precisely what he did and did not achieve is obviously important, Thales' duality, as philosopher and statesman, is beyond doubt.¹¹ We may with right, then, treat these tales as symptoms of an underlying condition and consequently wonder what sort of a man could cut such a figure that,

⁹ The seven sages “were all essentially *practical* men who played leading roles in the affairs of their respective states, and were far better known to the earlier Greeks as lawgivers and statesmen than as profound thinkers and philosophers.” D. R. Dicks, “Thales,” *The Classical Quarterly* 9 (1959): 294–309, 298. Compare Richard McKirahan, *Philosophy before Socrates*, 2nd ed. (Indianapolis: Hackett, 2010), 21.

¹⁰ Dicks, “Thales,” gives an invaluable criticism of the “exaggerated views of Thales” common at the time. I follow him on many points, but make the separate effort to present the character of Thales' wisdom.

¹¹ Reviewing the early sources about Thales, Dicks concludes that “he had a reputation chiefly as a *practical* man of affairs, who was capable of giving sensible political advice . . . , was astute in business matters . . . , and had an inquiring turn of mind with a bent towards natural science and the ability to put to practical use whatever knowledge he possessed.” Dicks, “Thales,” 297; compare 306. Compare Algra, “Beginnings,” 49; G. S. Kirk and J. E. Raven, *The Presocratic Philosophers* (Cambridge: Cambridge University Press, 1957), 83–84; Patricia O'Grady, *Thales of Miletus: The Beginnings of Western Science and Philosophy* (Aldershot, U.K.: Ashgate, 2002), ix.

mythical as it may be, still remains unique in the Greeks' minds.¹² Who could earn such a reputation, exaggerated or not?¹³ Is there any connection between Thales the statesman and Thales the philosopher? As we will see in the course of this essay, the latter is an extension of the former, and in such a way that Thales illuminates the intentions of his follower Anaximander—perhaps even of the Milesian school more generally. If we take τὸ καλόν in its whole range of applications, then Plutarch's fictionalization of Thales reveals the intention of Milesian thought best when he says, "[I]t's necessary for those content with safety without τὸ καλόν to rule (ἄρχειν) so many cattle, horses, and oxen, but not human beings."¹⁴ That is, in the legendary Thales, we see not just a unique man's paradoxical combination of political prowess and philosophic thought, but man raising himself above self-preservation and into the range of distinctively human and manifestly higher endeavors, statecraft and cosmology alike.

We do well to begin from the soil that fostered Thales, from what he held in common with the other seven sages, for Diogenes Laertius tells us that, "after political things, he engaged in inquiry (ἐγένετο θεωρίας) into nature."¹⁵ While the sense of ἐγένετο θεωρίας is ambiguous, the most literal translation of the entire clause is "he came to be among inquiry into nature," and so we might translate it more idiomatically as "he arrived at inquiry into nature." Was natural science just another of Thales' interests, or did his political activities compel him down this road? Whatever the sense, Thales seems at some point to have transitioned from one to the other, and so it may be helpful to follow his admittedly faded footprints as best we can down this road. Aside from sharing with the seven sages a certain laconic style, of which

¹² Stanley Rosen, *Essays in Philosophy: Ancient* (South Bend, Ind.: St. Augustine's Press, 2013), takes a similar approach, esp. 76 and following. Nietzsche, *Pre-Platonic Philosophers*, 7, rightly argues that "[t]he Greeks regarded Thales of Miletus as the first philosopher. In itself it is arbitrary to say that so-and-so is the first and that before him there were no philosophers, for a type does not [come to] exist all at once."

¹³ "There must be a reason why all those stories were attributed to Thales and not to someone else." McKirahan, *Philosophy before Socrates*, 31.

¹⁴ Plutarch, *Dinner of the Seven Sages*, 147d.

¹⁵ Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 1.23: μετὰ δὲ πολιτικά τῆς φυσικῆς ἐγένετο θεωρίας.

Plato's Socrates makes much,¹⁶ Thales was a statesman, and, if we trust Diogenes Laertius, "he seems, even among the statesmen, to have deliberated best."¹⁷ Herodotus relates three stories about Thales in this vein. The last is the most typical of the sages, for there Herodotus relates the advice not just Thales, but also Bias, another of the seven, respectively gave the Ionians. Both men counsel the Ionians on how best to achieve political unity among themselves, preserving their freedom relative to one another and deliberating as a common body.¹⁸ In the other two Herodotean passages, Thales uses his knowledge of nature in his political dealings. In one, Thales predicts an eclipse, whose darkness stops a battle and thus prompts the combatants to negotiate a peace.¹⁹ In the other, Thales diverts a river, so that Croesus, on a campaign against the Persians, may cross it.²⁰ We find similar stories of applied natural knowledge elsewhere among the *testimonia*.²¹ While it is tempting to see in these stories little more than applied knowledge of nature, we must note that in each story nature obstructs political aims, so that Thales' natural philosophy proves not simply convenient or useful, but *necessary* to successful political action. Political life seeks to establish itself in opposition to nature, or rather strives toward the same effective capability and permanence as nature. Another of the seven sages, Cleobolus, allegedly inscribed the following verses on Midas's tomb:

I am a bronzen maiden, and I lie upon Midas's marker.
 So long as water flows, trees have grown tall,
 the rising sun shines, and the shining moon,
 the rivers run, and the sea crashes,
 remaining on his much lamented tomb,

¹⁶ Plato, *Protagoras* 342a7–3b3. Compare Nietzsche, *Pre-Platonic Philosophers*, 14–22.

¹⁷ Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 1.25.

¹⁸ Herodotus, *Histories*, 1.170.1–3 (> G.Ths.3).

¹⁹ Herodotus, *Histories*, 1.74.1–3 (> G.Ths.4). For an extensive examination of Thales' prediction, see White, "Milesian Measures," 90–102.

²⁰ Herodotus, *Histories*, 1.75.1–5 (> G.Ths.6).

²¹ Compare Seneca, *Natural Questions*, 4a.2.22 (G.Ths.22); Aëtius, P 4.1.1 (G.Ths.23); Callimachus, *Iambics*, frag. 191, Pfeiffer (G.Ths.2).

I shall tell passersby that Midas rests here.²²

The wisdom of the seven sages attempts to achieve in the political world the same permanence seen in nature. For Thales, however, the chief obstacle to political action is not human beings but the natural world. Here Plutarch's fictionalization is again helpful. In the *Dinner of the Seven Sages*, a certain Neiloxenos, a stranger from Egypt, falsely attributes to Thales the statement that the most paradoxical thing he has seen is a tyrant grown old. Thales corrects him, saying, "I would wonder not at seeing a tyrant, but a pilot grown old."²³ Laws can tame only men; something further is necessary to tame the seas.

Accordingly, it's tempting to interpret Thales' cosmology on the model of its modern counterpart, which Bacon and Descartes introduced as an attempt to become "as masters and possessors of nature."²⁴ While certainly some such aim is implicit, even manifest, in Thales' political actions, he has far more ambitious aims for his cosmology. To understand this ambition, let us follow Thales' footsteps a little further along. Later tradition holds that Thales traveled at some point to learn from the Egyptian priests their knowledge of mathematics and, perhaps, some philosophy.²⁵ His books, however, were all astronomical in character, if he wrote anything at all.²⁶ Beyond astronomy, Thales had a keen interest in cosmology and is noted for

²² Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 1.89–90. Socrates humorously dismembers these verses for being written inorganically (compare Plato, *Phaedrus* 264d2–5).

²³ Plutarch, *Dinner of the Seven Sages*, 147a–c.

²⁴ Bacon, *New Organon*, 1.3, 2.4; Descartes, *Discourse on the Method*, pt. 6. Compare Machiavelli, *The Prince*, chap. 14.

²⁵ Compare Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 1.25, 27; Proclus, *On Euclid*, 65.3–11 (G.Ths.9); Aëtius, P 1.3.1, S 1.10.12 (G.Ths.16); Plutarch, *Dinner of the Seven Sages*, 146e; compare Aristotle, *Metaphysics* 1.1.981b10 and following. Dicks is rightly critical of the tradition ascribing certain geometrical proofs to Thales, but does admit that "he may have possessed some mathematical knowledge of the empirical type of Egyptian or Babylonian mathematics." Dicks, "Thales," 302–03. Likewise Kirk and Raven, *Presocratic Philosophers*, 83–84; McKirahan, *Philosophy before Socrates*, 25–27.

²⁶ Compare Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 1.23; Simplicius, *Physics*, 23.29–33 (G.Ths.13); Pliny, *Natural History*, 18.213 (G.Ths.27): *quoque*.

claiming that the earth rests in water, as though it were a ship.²⁷ Water is essential not just to his astronomy, but also to his physics more generally. His most famous claim, as related by Aristotle, is that water is the ἀρχή of all things.²⁸ While his reasons for singling out water are unclear, Aristotle surmises that Thales “perhaps took this judgment from seeing that the nourishment of all things is moist.”²⁹ Other authors, perhaps under Aristotle’s influence, give similar reasons.³⁰ And while Aristotle gives other possible justifications, this seems to me closest to the mark, for to deduce that water is the ἀρχή of all things from the observation that it nourishes many things implies that everything requires nourishment, is therefore alive, and thus has a soul.³¹ That is, it implies another of Thales’ core views, in which water bears a connection to soul and the divine. Among the versions of this view that come down to us, we hear that “a divine power pervades the moist

²⁷ Compare Aristotle, *On the Heavens* 2.13.294a28–33 (G.Ths.18); Seneca, *Natural Questions*, 3.14.1 (G.Ths.19); Hippolytus, *Refutation of All Heresies*, 1.1.2 (< G.Ths.20).

²⁸ Schofield argues that “modern scholarship takes it to be much more likely that the role Thales assigned to water was—as with Anaximander’s infinite—that of ἀρχή in a different and earlier sense: the origin of things, where and what they came from.” Malcolm Schofield, “APXH,” *Hyperboreus* 3 (1997): 218–35, 219; compare McKirahan, *Philosophy before Socrates*, 29–30. Schofield presumes that the use of ἀρχή is Thales’, and not Aristotle’s application of a later term to an earlier thinker’s thought, a tendency of Aristotle’s that Schofield acknowledges. Schofield “APXH,” 220; compare Kirk and Raven, *Presocratic Philosophers*, 87–89; McKirahan, *Philosophy before Socrates*, 27–28. While interpreting ἀρχή as “beginning” rather than “principle” situates Thales more neatly between the Hesiodic and Orphic theogonies, on the one hand, and Anaximander’s cosmogony, on the other, there is no evidence that Thales intended to craft a cosmogony. Accordingly, the most judicious conclusion is that of Kirk and Raven, *Presocratic Philosophers*, 92–93. In the body of the text, I argue that Thales’ natural science develops out of his political thought, so that his concern is to make sense of his wisdom rather than the ultimate beginnings of the κόσμος. As I intend to show, how Thales understands his wisdom has important cosmogonic implications, addressed by Anaximander, if not by Thales as well.

²⁹ Aristotle, *Metaphysics* 1.3.983b22–3 (< G.Ths.15).

³⁰ Compare Aëtius, P 1.3.1, S 1.10.12 (G.Ths.16), where τρέφεται is used not only for plants, but also for the sun and stars; Simplicius, *Physics*, 23.21–29 (G.Ths.17).

³¹ Strange though these views may sound, we should not allow their strangeness to lead us to conclude hastily that “heady speculation, not ingenious observation, is now the order of the day.” Schofield, “Ionians,” 43.

element, and so moves (κινητικὴν) it”;³² that god “formed the entirety of things from water”;³³ that Thales “perhaps supposed all things are full of gods” because soul “is mixed in the whole”;³⁴ and finally that “it seems (ἔοικε) Thales supposed the soul is a thing that induces motion (κινητικόν), since he says the lodestone has a soul, because it moves iron.”³⁵ For Descartes, the mastery of nature is *instrumental* to the alleviation of man’s estate, with morality, mechanics, and medicine the fruits of physics: if psychology and engineering are not separate sciences, then the former is reduced to the latter.³⁶ For Thales, no such distinction obtains, for everything has soul: statecraft is the model on which he builds his physics, engineering is a mode of persuasion, and both are united in a cosmology, in which water is the ἀρχή of all things.

Thales’ cosmology, however, is not reductive, as some have claimed.³⁷ He understands water to induce motion (κινητικόν), and so by extension to be soul.³⁸ It is more accurate to say, then, that the political art has been extended to encompass what we would name separately as natural science. To recall two of Herodotus’s stories,

³² Aëtius, P 1.7.11, S 1.1.29b (G.Ths.37).

³³ Cicero, *On the Nature of the Gods*, 1.10.25 (G.Ths.36).

³⁴ Aristotle, *On the Soul* 1.5.411a7–8 (G.Ths.35).

³⁵ Aristotle, *On the Soul* 1.2.405a19–21 (G.Ths.34). Aristotle appears to qualify his conclusion by introducing it with ἔοικε, but here he seems to mean this remark is an inference, an inference that, in my estimation, seems correct in spirit, if not also in its particular content (compare Kirk and Raven, *Presocratic Philosophers*, 95).

³⁶ On the mastery of nature as instrumental, see Descartes, *Discourse on the Method*, pt. 6; on the “tree” of philosophy, see *Principles of Philosophy*, “Letter”; and on the relationship of physics to psychology, see *Discourse on the Method*, pt. 5, *Passions of the Soul*, “Preface.” And see, again, Machiavelli, *The Prince*, chap. 14.

³⁷ Consider McKirahan’s objection: “If everything is composed of water, how can there be different kinds of things in the world, some of them, such as fire, seemingly opposed to water?” McKirahan, *Philosophy before Socrates*, 29. Algra, “Beginnings,” 52–54, argues that Thales physicalized and depersonalized the divine, while personalizing matter by giving it “an intrinsic principle of change.” But if matter has soul, then to physicalize is of necessity to personalize. Compare Waterfield, *First Philosophers*, 3.

³⁸ Criticizing what he calls Diogenes’ “perversion” of Aristotle, Hegel, *Lectures*, 183, argues that Thales “expressed the Idea,” that is, “absolute form,” “generally as soul so that absolute essence should be the unity of simple essence and form.” That is, “soul” would be an image for how simple essence always gives rise to form, an image possible only if the nature of soul is to give its internal simplicity an external definition.

Thales uses one and the same art, first, to divert the river so Croesus's army could cross it and, second, to advise the Ionians on how to unify politically. Some such intention seems to underlie Thales' cosmology, and thus to be behind Thales' duality of statesman and natural philosopher. What unites statecraft and natural science in Thales' mind is obscure, but the connection seems to lie in the character of the wisdom of the seven wise men. Jean-Pierre Vernant's characterization of this wisdom is especially helpful:

Sophia was concerned not with the universe of *physis* but with the human world: the elements that made it up, the forces that divided it against itself, and the means by which they might be harmonized and unified so that their conflict might give birth to the human order of the city. This early wisdom was the fruit of a long history, difficult and harsh, in which many factors were interwoven, but which from the start turned from the Mycenaean concept of the sovereign to seek another path. The problems of power, of the forms it took and the factors that formed its substance, were immediately posed in new terms.³⁹

As Vernant goes on to elaborate, this wisdom establishes a κόσμος among men by reconciling conflicting interests.⁴⁰ Uniquely among the seven sages, however, Thales understood this wisdom to be of τὸ κινητικόν, of what induces motion. From his knowledge, not just of political affairs, but of physics, as well, he seems to have noticed the pervasiveness of τὸ κινητικόν and interpreted his art in the broadest manner possible, so that his cosmology in particular, if not Milesian cosmology more generally, emerged naturally from his self-understanding.⁴¹ Accordingly, the core premise to Thales' cosmology

³⁹ Jean-Pierre Vernant, *The Origins of Greek Thought* (Ithaca, N.Y.: Cornell University Press, 1984), 40. Also on σοφία, see Nietzsche, *Pre-Platonic Philosophers*, 8–9: "I must emphasize that Thales was designated σοφός on entirely other grounds than [those invoked] when he was called the first philosopher," that is, on the human world rather than the universe of φύσις, as Vernant puts it.

⁴⁰ Vernant, *Origins*, 69–75. For a more extensive discussion of cosmic and democratic justice, see Gregory Vlastos, *Studies in Greek Philosophy, Vol. I: The Presocratics*, ed. Daniel Graham (Princeton, N.J.: Princeton University Press, 1995), 57–88.

⁴¹ On the relation between fluidity and intelligibility in Thales' thought, see Rosen, *Essays*, 85–86. Hegel, *Lectures*, 176–77, argues that the principle of water is deduced from the fact that the gods swear their oaths by the water of Styx. This interesting suggestion would indicate a providential or at least promissory character to Thales' wisdom.

seems to be an ambitious conception of the power of human wisdom to discern and establish a κόσμος not just of men, but of things as a whole. Such would seem to be the necessary consequence of the apparent progress of Milesian philosophy's demythologization of prephilosophical theogonies like Hesiod's. Thales unites the political and the natural into a singular wisdom that Hesiod had claimed to be the preserve of Zeus alone.⁴² The ordering of man and nature is thus no longer the work of divine providence, but rather human.

The question of whether or not Thales' thought constitutes progress over Hesiod's thus turns on whether Thales is successful in uniting the political and the natural into a single realm governed by a single art. At this point, we must add a final nuance to our portrait of this singular figure. So far, we have emphasized Thales' self-perceived competence in both political action and natural science. Despite his reputation as a sage, however, he was occasionally characterized as somewhat detached from practical affairs. Once, when his pursuit of philosophy was accused of uselessness, Thales used his knowledge of astronomy to predict a fruitful olive crop for the year, subsequently established an early monopoly on the oil presses, and was thereby able to make a large sum of money.⁴³ That is, he studied without concern for narrower, practical aims, that is, at leisure like the Egyptian priests from whom later sources claim he learned.⁴⁴ Uncertain of whether Thales had a family, Diogenes Laertius says he may have been μονήρης καὶ ἰδιαστής.⁴⁵ The most famous and illuminating of these anecdotes, however, comes from Plato's *Theaetetus*, in which Thales is said to have incurred the mockery of a Thracian slave girl when, gazing up at the stars, he tripped and fell into a well.⁴⁶ What initially appeared to be the deemphasis of political life in the broader context of the natural world and a consequent competence in the management of both, now slowly begins to appear as a rift. Was Thales, the man with a singular art over

⁴² Compare Hesiod, *Works and Days*, 483–84.

⁴³ Compare Aristotle, *Politics* 1.11.1259a5–21 (G.Ths.8); Plutarch, *Solon*, 2.4 (G.Ths.10), *Dinner of the Seven Sages*, 145d–e.

⁴⁴ Compare Aristotle, *Metaphysics* 1.1.981b18–20 (< G.Ths.15).

⁴⁵ Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 1.25.

⁴⁶ Plato, *Theaetetus* 174a4–8 (G.Ths.7). Compare, however, Plato, *Republic* 600a4–7; Aristophanes, *Birds*, 1004–09, *Clouds*, 175–80.

τὸ κινητικόν, really so impractical?⁴⁷ Was his attempt to put into human hands a wisdom once deemed the preserve of the gods hubristic? Did Thales' ambitions for his wisdom get the better of his judgment?⁴⁸ Directed away from the man and back to his thought, we may seek guidance in Aristotle's appraisal of Anaximander's innovation over his predecessor, that if the ἀρχή of all things is a particular element, as it is for Thales, then it would have destroyed its contrary entirely, which is manifestly not the case.⁴⁹ Thales' cosmology might ultimately say more about the man than it does about the κόσμος. Anaximander's reaction was to work to develop a coherent cosmology, to which we will momentarily turn. Guided by Hesiod, however, we might instead judge Thales' stumble as the foolhardy attempt to overcome the weakness of human wisdom.⁵⁰ To recall Plutarch's Thales, this paradoxical and seminal figure not only exposes the broader range of meanings of τὸ καλόν, but himself falls prey to the beautiful but hubristic deception of a cosmically competent art. As Aristotle says of Thales' monopoly on the oil presses, people understood Thales "to have made a *show* of his wisdom."⁵¹

III

Anaximander. Nevertheless, Anaximander took another road, and with him natural science emerges for the first time as a separate art from that of politics. Because of his critique of and advance beyond Thales, Anaximander has rightly earned among ancient and modern commentators alike his reputation as a formidable natural scientist.⁵² Likewise, he is praised for his account of the equilibrium of the earth at

⁴⁷ Many note Plato's counterintuitive characterization of Thales in the *Theaetetus* without commenting on his more familiar characterization in the *Republic*. I attempt to make some sense of this duality, noted by Plato, in the body of the text. See Kirk and Raven, *Presocratic Philosophers*, 78–79.

⁴⁸ Compare Plato, *Laws* 899b3–c1.

⁴⁹ Aristotle, *Physics* 3.5.204b22–29 (G.Ths.17).

⁵⁰ Compare Herodotus, *Histories* 1.75.1–78.2 (> G.Ths.6).

⁵¹ Aristotle, *Politics* 1.11.1259a19 (< G.Ths.8): ἐπιδείξιν ποιήσασθαι τῆς σοφίας (emphasis mine).

⁵² Compare Kirk and Raven, *Presocratic Philosophers*, 112–14; Schofield "APXH," 218. Against this view, see Martin Heidegger, *The Beginning of Western Philosophy* (Bloomington: Indiana University Press, 2015), 6–7, 26.

the center of the cosmos,⁵³ his rudimentary version of an evolutionary theory,⁵⁴ and general reliance on experience in the navigation of theoretical questions.⁵⁵ At the same time, however, his views are referred to variously as imaginative, inventive, and even poetic for their use of similes, metaphors, and anthropomorphic language to relate his cosmogony and cosmology.⁵⁶ While in some instances Anaximander recognizes that experience refutes or supports the use of this or that term as an explication of certain phenomena, in others he displays a marked lack of sensitivity to the terms he applies to other phenomena. The same man who insists on using an indefinite term for the indefinite ἀρχή of all things readily speaks of the world in terms of wheels and whistles. The traditional view of Anaximander's thought thus suggests two contrary elements in his character, the scientist and the artist.⁵⁷ As with Thales' duality as statesman and philosopher, again we ask what connection there is between the two Anaximanders.

Let us begin with Anaximander the scientist, and first with his relationship to Thales. Various sources refer to Anaximander as Thales' student, successor, acquaintance, cocitizen, relative, and comrade.⁵⁸

⁵³ Compare Algra, "Beginnings," 55; Kirk and Raven, *Presocratic Philosophers*, 134–35.

⁵⁴ Compare Kirk and Raven, *Presocratic Philosophers*, 142. McKirahan, *Philosophy before Socrates*, 43, argues that, because Darwin's theory differs from Anaximander's, he should not be deemed "the father of evolution." But difference and even error are not sufficient on their own to exclude him from this tradition. As Graham, *Texts*, 69, points out, "Anaximander recognizes a kind of progression of life, if not a systematic evolution of species." Compare Waterfield, *First Philosophers*, 8. Against the attribution of any sort of evolutionary theory to Anaximander, see Kahn, *Anaximander*, 69–71.

⁵⁵ Compare Kirk and Raven, *Presocratic Philosophers*, 100; McKirahan, *Philosophy before Socrates*, 41.

⁵⁶ Compare Simplicius, *Physics*, 24.20–1 (< G.Axr.9); Graham, *Texts*, 69; Kirk and Raven, *Presocratic Philosophers*, 142.

⁵⁷ Compare Schofield, "Ionians," 53. Francis Cornford, "Was the Ionian Philosophy Scientific?" in *Studies in Presocratic Philosophy Vol. 1: The Beginnings of Philosophy*, ed. R. E. Allen and David J. Furley (New York: Routledge, 1970), 29, considers the scientific status of all Ionian cosmology questionable, though he phrases it in somewhat different terms.

⁵⁸ Agathemerus, *Sketch of Geography*, 1.1 (G.Axr.6): ἀκουστής; Eusebius, *Praeparatio Evangelica*, 10.14.11 (G.Axr.2): ἀκουστής; Pseudo-Plutarch, *Miscellanies*, 2 (G.Axr.19): ἑταῖρος; Strabo, *Geographica*, 1.1.11 (G.Axr.7): γνώριμος καὶ πολίτης; Simplicius, *Physics*, 24.14 (< G.Axr.9): διάδοχος καὶ μαθητής; *Suda* s.v. Anaximandros (G.Axr.4): συγγενῆς καὶ μαθητῆς καὶ

While their actual relationship remains unclear, if not invented,⁵⁹ Diogenes Laertius summarizes their intellectual relationship neatly as follows: Anaximander “claimed τὸ ἄπειρον is the ἀρχή and element, not defining it as air or water, or some other thing.”⁶⁰ Without venturing just yet to understand what Anaximander means by τὸ ἄπειρον, let us simply note that he chooses an indefinite term over one that refers to a definite kind of thing.⁶¹ Aristotle gives what he takes to be Anaximander’s reasons for choosing something indefinite as “the one and simple thing” from which everything else comes to be:

There are some who make this thing τὸ ἄπειρον, but not air or water, so that everything else is not destroyed by τὸ ἄπειρον of these (sc. air or water): for they have opposition with respect to one another, e.g. air is cold, water moist, fire hot. If one of these were ἄπειρον,

διάδοχος. “All these words imply a personal contact between a younger and an older man.” Kahn, *Anaximander*, 28.

⁵⁹ “The arrangement of the early philosophers into ‘schools’, and into masters and pupils within these schools, was initiated by Theophrastus.” Kirk and Raven, *Presocratic Philosophers*, 101 n. 2. Compare Waterfield, *First Philosophers*, 3.

⁶⁰ Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 2.1. The references to wind and water seem to be to Anaximenes and Thales, respectively. For a powerfully direct restatement of Anaximander’s innovation, see Hegel, *Lectures*, 186–87. Diogenes Laertius’s statement derives from Theophrastus’s lost work on the early Greek philosophers. See the helpful juxtaposition of sources in Kirk and Raven, *Presocratic Philosophers*, 105–07. Kahn, *Anaximander*, 11–71, masterfully reconstructs Theophrastus’s statements on Anaximander by giving an extensive account of the relative reliability of the sources, followed by a comparative assessment of what they say about various themes of Anaximander’s thought.

⁶¹ On the controversies surrounding the character of τὸ ἄπειρον, see Elizabeth Asmis, “What is Anaximander’s *Apeiron*?” *Journal of the History of Philosophy* 19 (1981): 279–97; R. M. Dancy, “Thales, Anaximander, and Infinity,” *Apeiron* 22 (1989): 149–90; Aryeh Finkelberg, “Anaximander’s Conception of the *Apeiron*,” *Phronesis* 38 (1993): 229–56; Graham, *Texts*, 66–67; Kahn, *Anaximander*, 231–39. Against the impetus driving the debate, see Heidegger, *Beginning*, 26; McKirahan, *Philosophy before Socrates*, 36. My position is closer to that of Heidegger and McKirahan, for the emphasis on the otherness of τὸ ἄπειρον to our experience should duly caution us against the attempt to give it a determinate character. As Waterfield, *First Philosophers*, 5, judiciously notes, “perhaps [Anaximander] did not make [what he means by τὸ ἄπειρον] clear,” for, given the confused doxography, “it seems most likely that Anaximander said nothing definite about his boundless.” Asmis may come close to Heidegger’s view, though it is unclear whether, by identifying τὸ ἄπειρον with “the infinite process of generation” (287), she means an infinite causal chain or the ground for the possibility of that chain.

everything else would already have been destroyed. But now they say it is another thing, from which these things [come to be].⁶²

Similarly, Simplicius says of Anaximander that, “seeing the change (μεταβολήν) of the four elements into one another, this man did not deem any one of them worthy of being made the underlying thing, but something else aside from these.”⁶³ Thales’ claim that all is water, even in its nonreductive interpretation, fails to account adequately for the heterogeneity of experience, including the succession of opposites. If the ἀρχή of all things is something definite with an opposite, then the change from it into its opposite is impossible, unless it somehow is its opposite. And, as Aristotle’s examples show, the move to something altogether indefinite, to τὸ ἄπειρον, guarantees that we avoid the complex way in which this problem might arise: fire’s heat is contrary not just to air’s coolness, but also to water’s moistness. Anaximander thus saw in Thales’ natural science a failure to recognize that what unifies all things must be, in Aristotle’s words, something ἕτερον—indeed, inasmuch as it can be nothing definite, it must be *altogether* ἕτερον. Whereas Thales posited water as the ἀρχή of all things from his understanding of his wisdom’s power, Anaximander sees through this projection’s argumentative flaws and corrects his predecessor’s account.

Anaximander’s correction, like all corrections, innovates beyond, while being indebted to, his predecessor’s thought. Anaximander, no less than Thales, seeks the unity of things in their ἀρχή. And though this ἀρχή does not unify the wisdom of the statesman and the engineer as vividly as that of Thales, it nevertheless unifies Anaximander’s wisdom by unifying his object of contemplation. We might ask, therefore, whether Anaximander, like Thales, projects unity onto the world in order to bring unity to himself, and so whether the problem of cosmology as it manifested itself in Thales is more complex than we earlier surmised. Toward this end, let us consider the role Anaximander intends τὸ ἄπειρον to play in his cosmology. As Simplicius and Aristotle noted, the changing over (μεταβολή) of one element into another led Anaximander to reject water as the ἀρχή of all things. This

⁶² Aristotle, *Physics* 3.5.204b24–9 (< G.Axr.17). Compare *Turba Philosophorum*, 109.20–110.1 (G.Axr.29).

⁶³ Simplicius, *Physics*, 24.21–2 (G.Axr.9).

leads to the conclusion, articulated by Diogenes Laertius, that, “while the parts change (μεταβάλλειν), the whole is unchanging (ἀμετάβλητον).”⁶⁴ Anaximander’s ἀρχή can bring unity to cosmology only by making that unity other than its constituent parts. Whereas our experiences of water and soul made Thales’ identification or collapse of the two at least partially, if not altogether, intelligible, Anaximander posits something so other than our experience that it is unclear what, if any, explanatory purpose it might serve. Speaking of those who posit τὸ ἄπειρον as the ἀρχή of all things, Aristotle says, “they say it is something other (ἕτερον), from which these things [came to be].”⁶⁵ Simplicius, too, notes that it is “some other, boundless nature (ἑτέραν τινὰ φύσιν ἄπειρον), from which [nature] all the heavens and the κόσμοι in them come to be.”⁶⁶ Because the priority of τὸ ἄπειρον as the ἀρχή of all things cannot be based in experience, it is instead based in logical necessity, inasmuch as our experience could not be such as it is without such an ἀρχή. Consequently, τὸ ἄπειρον is both structurally and temporally prior to all things; it is first both cosmogonically and cosmologically. Whereas it is debatable whether Thales had a cosmogony, there is no question with Anaximander. Thus in the tradition ἀρχή explicitly means both “beginning” and “principle” in reference to the latter’s thought. In fact, oftentimes it means only “beginning,” with various authors referring to τὸ ἄπειρον as both the ἀρχή and στοιχείον of all things.⁶⁷ Here, however, a problem presents itself. Inasmuch as τὸ ἄπειρον is the “principle” or “element” of all things, it does not change, but its parts do. And yet, inasmuch as it is the “beginning” of all things, must it not change, if something other than it is to have come to be?

Looking to Anaximander’s cosmogony with this question in mind, we can begin to understand what he means by τὸ ἄπειρον and, specifically, why it proves so elusive to understand. None of the sources on Anaximander refers to the beginning of the cosmogonical process as

⁶⁴ Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 2.1.

⁶⁵ Aristotle, *Physics* 3.5.204b29 (< G.Axr.17).

⁶⁶ Simplicius, *Physics*, 24.17–18 (< G.Axr.9).

⁶⁷ Hippolytus, *Refutation of All Heresies*, 1.6.1–2 (G.Axr.10); Simplicius, *Physics*, 24.14–15, with 24.16–17: λέγει δ’ αὐτὴν μήτε ὕδωρ μήτε ἄλλο τι τῶν καλουμένων εἶναι στοιχείων (< G.Axr.9). Compare Schofield, “APXH,” 218.

a μεταβολή. The preferred term is “separating off,” ἀπόκρισις or ἀφαιρέσις.⁶⁸ But division or separation seems insufficient for making the indefinite definite. Aëtius criticizes Anaximander on precisely this point:

He speaks thus of why it is ἄπειρον, so that in no way does the coming-into-being supported by it cease. But this man errs by not saying what τὸ ἄπειρον is, whether it is air or water or earth or some other bodies. Thus he errs, because, on the one hand, he asserts it is matter, but, on the other, he abolishes the efficient cause. For τὸ ἄπειρον is nothing other than matter, but the matter cannot be actualized unless the efficient is presupposed.⁶⁹

To translate this out of Aristotelian terminology, something other than what is indefinite is necessary if something definite is to come into being.⁷⁰ Yet, according to Pseudo-Plutarch, Anaximander nevertheless maintained that “τὸ ἄπειρον has the entire cause (τὴν πᾶσαν αἰτίαν) of both the coming-into-being and [the] destruction of the all.”⁷¹ Continuing, he writes that Anaximander “says that that of the eternal (sc. τὸ ἄπειρον) which causes both hot and cold to come-into-being separated off at the coming-into-being of this κόσμος.”⁷² So, while Aëtius accuses τὸ ἄπειρον of being unable to initiate becoming,

⁶⁸ Aristotle, *Physics* 3.4.203b20 (< G.Axr.16): ἀφαιρείται; Pseudo-Plutarch, *Miscellanies*, 2 (G.Axr.19): ἀποκεκρίσεσθαι, ἀποκριθῆναι. Compare Hippolytus, *Refutation of All Heresies*, 1.6.4 (< G.Axr.20): ἀποκριθέντα. In Simplicius, *Physics*, 24.23–25 (< G.Axr.9), we read that the ἀπόκρισις occurs “because of the eternal motion.” Hippolytus says the generation of the heavens follows from this same motion (Hippolytus, *Refutation of All Heresies*, 1.6.2 [< G.Axr.10]). Graham, *Texts*, 19, suspects that the twice-mentioned eternal motion “may be an inference from vague evidence.” Graham is likely right, but the salient point is really that the evidence is vague. Whether we accept an eternal motion or not, the puzzle of how the indefinite becomes definite remains, for an eternal motion could just as conceivably produce no definition at all. Waterfield, *First Philosophers*, 5, notes the puzzle of the process of ἀπόκρισις and even suggests (parenthetically) its poetic character, since it occurs “in an act which looks like little more than an abstraction of mythical masturbatory genesis by a single male god, especially since the word ‘separate off’ can also mean ‘secrete’.” Compare Kahn, *Anaximander*, 86–87.

⁶⁹ Aëtius, P 1.3.3, S 1.10.12 (< G.Axr.18).

⁷⁰ McKirahan, *Philosophy before Socrates*, 37–38, underestimates how intractable this problem is.

⁷¹ Pseudo-Plutarch, *Miscellanies*, 2 (G.Axr.19).

⁷² Ibid.: φησὶ δὲ τὸ ἐκ τοῦ αἰδίου γόνιμον θερμοῦ τε καὶ ψυχροῦ κατὰ τὴν γένεσιν τοῦδε τοῦ κόσμου ἀποκριθῆναι.

Pseudo-Plutarch shows us that we can correct this difficulty only by reading the definiteness of opposites back into τὸ ἄπειρον. The intelligibility of τὸ ἄπειρον thus poses the following problem. Anaximander understands that if a definite substance like Thales' water is the ἀρχή of all things, it would have consumed all things. He thus chooses as his ἀρχή what is indefinite, τὸ ἄπειρον. But precisely because τὸ ἄπειρον is completely other than our experience, any description of the process of generation would render the indefinite definite. Thus τὸ ἄπειρον is entirely necessary as the ground of experience, but precisely because it is the ground of and not one thing among our experience, it is also necessarily mediated by our experience. Aristotle summarizes the problem of access to this ground best, when he argues that “there isn't any such sensible body (*sc.* τὸ ἄπειρον) alongside the so-called elements, for all things are from this and dissolve into this, so that it would be here alongside air, fire, earth, and water; but it in no way shows itself (φαίνεται).”⁷³ In speaking of τὸ ἄπειρον as that from which all things come to be and into which they perish, Aristotle recalls the most extended, if not the only, fragment of Anaximander's writing, in which he says that all things are generated from and perish back into the same thing, namely, τὸ ἄπειρον.⁷⁴ How, then, does one define the indefinite, what demonstrably *is*, as ἀρχή, but is for that reason experientially absent? The preceding suggests, and I propose, the following: τὸ ἄπειρον is what only shows itself as what is other than itself.⁷⁵ Or, in the words of the first thinker to thematize this problem directly, Heraclitus the obscure, “nature loves to hide herself.”⁷⁶

For his part, however, Anaximander does not seem to have commented directly on the above problem. His silence has left his thought ambiguous, and so has been the cause of some debate, even

⁷³ Aristotle, *Physics* 3.5.204b32–35.

⁷⁴ Simplicius, *Physics*, 24.18–19 (< G.Axr.9). There is some debate about whether these words in particular are verbatim Anaximander's. Regardless, since other thinkers have held the contrary view—that things do not come into being from and perish into the same thing—the thought at least seems genuinely Anaximander's.

⁷⁵ In the words of Hegel, *Lectures*, 187, “matter determined as infinitude means the motion of positing definite forms, and again abolishing the separation. True and infinite Being is to be shown in this and not in negative absence of limit.”

⁷⁶ Heraclitus, M8 (DK 123).

among his ancient interpreters. The language of the debate demonstrates the centrality and latency of this problem. Alexander of Aphrodisias claims that Anaximander “set as ἀρχή the nature between (τὴν μεταξὺ φύσιν) both air and fire or both air and water, for it is said in both ways.”⁷⁷ Alexander’s claim reminds us of Aristotle’s remark that Anaximander wished to avoid identifying the ἀρχή with anything that has a contrary. As Alexander understands it, τὸ ἄπειρον is between the contraries, which would give it an indefiniteness that is nonetheless related to the definiteness of experience, and so able to act as an intelligible principle of both a cosmology and cosmogony. And yet elsewhere Aristotle argues that the origin of all things cannot be “something between” (μέσον τι) contrary elements, since this is to qualify one contrary by a feature of the other and so to overlook the fact that one is the privation of the other.⁷⁸ Aristotle thus concludes that, should τὸ ἄπειρον be something determinate with an opposite, it could not reside alone (μονοῦσθαι). Still elsewhere, Aristotle says Anaximander doesn’t make this claim, but rather separates the contraries from what they are present in.⁷⁹ Anaximander’s silence has left us with a confused doxography and, consequently, a lively scholarly debate regarding Anaximander’s true thought. That this debate centers on the relation of definite contraries to an indefinite ground illustrates that the elusive manner in which τὸ ἄπειρον shows itself remains the puzzling issue at the core of these disagreements. And to have a doxography be so confused on such an essential question bears witness to the decisive fact, that what was so explicitly a concern for Anaximander’s ancient *and* modern successors was not an explicit concern for Anaximander himself—even those with access to his writings, or at least Theophrastus’s summaries thereof, are at odds with one another. We thus do well to ask what his explicit concern was. With

⁷⁷ Alexander of Aphrodisias, *Commentary on Aristotle’s Metaphysics*, 60.8–10 (G.Axr.12).

⁷⁸ Aristotle, *On Generation and Corruption*, 2.5.332a20–25 (< G.Axr.11). Graham, *Texts*, 67, points out that “Aristotle seems to vacillate between two interpretations of Anaximander’s boundless . . . assuming with Alexander that Anaximander is the one Aristotle has in mind in” the present fragment. This would not mean Aristotle is inconsistent, but perhaps only uncertain and so inclined to different possibilities under differing circumstances, as is also the opinion of Waterfield, *First Philosophers*, 5. Thus, as Graham, *Texts*, 67, notes, “Anaximander’s vagueness is judged a demerit” in Aëtius, P 1.3.3, S.10.12 (G.Axr.18).

⁷⁹ Aristotle, *Physics* 1.4.187a12–23 (< G.Axr.5 + 13).

respect to his cosmology, logical necessity compels Anaximander to assert that the principle is indefinite, τὸ ἄπειρον, but not so far as to explore the problem of how the indefinite element or principle of his cosmology relates to the definition characteristic of our experience. And yet Anaximander can avoid the question for only so long, for cosmogony forces him to give a temporal or genetic account of how τὸ ἄπειρον comes to possess the definition of experience. Looking more broadly, we can note that while Anaximander is sensitive to the form the ἀρχή must take if the heterogeneity of the κόσμος as we experience it is to *continue* to be, he isn't sensitive to the form it must take if that heterogeneity is to *come* to be. That is, despite his concern with cosmogony and so with γένεσις qua coming-into-being, Anaximander's account of his ἀρχή only makes sense of γένεσις qua becoming. Anaximander thus betrays a prejudice toward cosmology that allows him to correct Thales' error, but also leads him to ignore his own error, one most manifest in his cosmogony.

By identifying this fundamental problem in Anaximander's ἀρχή, we have ridden down his road to where Anaximander the scientist's investigations stop and Anaximander the artist's imagery begins. And so here we may gain access to the impulse that guides his thinking as a whole. Here it is helpful to begin from a feature of Anaximander's cosmology that earns him praise as a natural scientist. Whereas Thales had claimed the earth floated in water, Anaximander claims that it maintains an equal distance from everything and is supported by nothing.⁸⁰ Commentators see in this "profound" revision of Thales' view a judicious use of the principle of sufficient reason.⁸¹ While there may be grounds to doubt whether Anaximander here intends a revision of Thales' view, nevertheless this element of his cosmology does not stand alone, but is part of a general, cosmic balance and equilibrium that extends much wider than the earth's place in that κόσμος.⁸² Just as the

⁸⁰ Hippolytus, *Refutation of All Heresies*, 1.6.3 (< G.Axr.20).

⁸¹ Compare Graham, *Texts*, 68; Kahn, *Anaximander*, 76–81; McKirahan, *Philosophy before Socrates*, 40–41, commenting on Aristotle, *On the Heavens* 2.13.295b11–16 (< G.Axr.21); White, "Milesian Measures," 104. Against this view, see Schofield, "Ionians," 45–49. Compare Waterfield, *First Philosophers*, 7.

⁸² "For [Anaximander] it is equality and equilibrium which characterize the order of Nature." Kahn, *Anaximander*, 80. Vlastos, *Studies*, 74–76, draws a connection between the balance of opposites in Anaximander and the

earth's place is balanced, so too is the earth itself symmetrically balanced as a column with two faces opposite one another.⁸³ Around the earth travel the sun, moon, and stars in even circles at set distances.⁸⁴ And Anaximander the scientist's emphasis on balance and equilibrium provides the context for Anaximander the artist to put his poetic speech to work to paint a picture of this κόσμος.⁸⁵ To describe the circular travel of the heavenly bodies, Anaximander uses the image (παραπλήσιος, ὅμοιος) of a wagon wheel (ἀρμάτειος τροχός).⁸⁶ This image describes not only their motion, but also the way in which they light up, with the wheel's hollow fellow (ἀψίς κοίλη) being full of fire.⁸⁷ Here Anaximander shifts his image, for the fellow is not just the place of the fire, but also that through which the fire shows itself (ἐκφαίνω).⁸⁸ Anaximander also calls this showing an exhalation (ἐκπνοή) and so uses the image (ὄσπερ, οἶον) of the pipe of a pair of bellows

prevalence of symmetry in Homer and Hesiod. McKirahan, *Philosophy before Socrates*, 39, notices that Anaximander's cosmology has "a simple symmetric structure" (see 46: "a stable, ongoing system"), but is later skeptical, if Anaximander should indeed hold the world to perish (see 47). But if regeneration is guaranteed, as McKirahan offers, there would still be some stability, albeit one of guaranteed perishing into and generation out of τὸ ἄπειρον. For how this is a kind of stability, see the concluding section in the body of the text.

⁸³ Hippolytus, *Refutation of All Heresies*, 1.6.3 (< G.Axr.20).

⁸⁴ Hippolytus, *Refutation of All Heresies*, 1.6.4–5 (< G.Axr.20); Aëtius, P 21.1 (G.Axr.23); P 2.16.5, S 1.24.2e (G.Axr.28).

⁸⁵ At one point in his discussion, Kahn, *Anaximander*, 95, asks the all-important question, "Should this first attempt to fix the dimensions of the solar and lunar orbits, and, presumably, of the stellar rings as well, be considered as evidence of a mythic or a scientific point of view?" Arguing in favor of "a rational element," and so against deriving Anaximander's ratios from "the poet in Anaximander," Kahn concludes, "that the inspiration was essentially mathematical seems to me beyond reasonable doubt" (see 95–97). But to speak of Anaximander's motivation as "mathematical inspiration" seems not so much a solution to, as a restatement of the problem of the two Anaximanders. A claimed and unjustified, but still delightful story about the mathematical regularity of the world would be a bizarre story, but a story nonetheless. Plato has his Timaeus call his own version an εἰκὸς μῦθος (see *Timaeus* 68d2). I do not think, however, as Kahn appears to, that this would preclude Anaximander from being called a mathematical physicist (see 97).

⁸⁶ Aëtius, P 2.20.1, S 1.25.1c (G.Axr.22); P 2.25.1, S 2.26.1a (G.Axr.25); P 2.29.1, S 2.26.3 (G.Axr.27).

⁸⁷ Aëtius, P 2.20.1, S 1.25.1c (G.Axr.22); P 2.25.1, S 2.26.1a (G.Axr.25).

⁸⁸ Aëtius, P 2.20.1, S 1.25.1c (G.Axr.22); compare Aëtius, P 2.25.1, S 2.26.1a (G.Axr.25).

(πρηστῆρος ἀλός).⁸⁹ Anaximander’s use of imagistic or poetic speech also influences his cosmogony. In a punning image, Anaximander says that, after the initial, cosmogonic separating off, flame (φλόξ) grew around the air surrounding the earth just as bark (ὡς φλοιός) around trees.⁹⁰ Anaximander found this image attractive enough to use it for his zoogony and, in a somewhat altered form, his anthropogony.⁹¹ Anaximander’s affinity for images, similes, and puns led Theophrastus, according to Simplicius, to refer to his words as “quite poetic” (ποιητικωτέροις).⁹² The impulse that guides Anaximander throughout his natural science and poetic speech is an affinity for balance and regularity, such as we find in the heavenly bodies. Anaximander’s scientific investigations thus appear to stem from an attraction to the regularity of the κόσμος in our experience, specifically in our experience of the heavenly bodies. And as we have seen, this attraction inclines him to apply to his cosmogony the same sort of poetic speech found in his cosmology.

Consequently, despite his discovery of the structural and temporal priority of the indefinite over the definite, Anaximander appears unaware of the problem of access to the indefinite. And this should by now be no surprise, for, if τὸ ἄπειρον is what shows itself only as what is other than itself, it defies explication in terms of balance and regularity. Just as with the two Thaleses, then, the two Anaximanders do not quite jibe. But if we follow Anaximander the artist further, we see the connection between these thinkers’ dualities is still more substantive than this. Nowhere do we see Anaximander’s artistry more vividly than in his construction of a model of the κόσμος. Agathemerus tells us that he was the first who “dared to draw the inhabited world (οἰκουμένην) on a tablet.”⁹³ In his *Geographica*, Strabo says the tablet

⁸⁹ Aëtius, P 2.25.1, S 2.26.1a (G.Axr.25); Hippolytus, *Refutation of All Heresies*, 1.6.4 (< G.Axr.20). On the difficulty of translating πρηστῆρος ἀλός, see D. L. Couprie, “πρηστῆρος ἀλός Revisited,” *Apeiron* 34 (2001): 195–204. I am not committed to any one reading of this phrase, but only to the fact that it is an image. Graham, *Texts*, 68, accepts Couprie’s reading, while still calling Anaximander’s language in G.Axr.22–28 “another daring analogy.”

⁹⁰ Pseudo-Plutarch, *Miscellanies*, 2 (G.Axr.19).

⁹¹ Aëtius, P 5.19.4 (G.Axr.37). Compare Censorinus, 4.7 (G.Axr.38); Plutarch, *Symposium*, 730e (G.Axr.39).

⁹² Simplicius, *Physics*, 24.20–21 (< G.Axr.9).

⁹³ Agathemerus, 1.1 (G.Axr.6)

was geographical, i.e. a map.⁹⁴ Hecataeus is said to have revised it into “a thing to be wondered at” (θαυμασθῆναι τὸ πρᾶγμα).⁹⁵ And Diogenes Laertius’s description of Anaximander’s map tells us why it could become such a wonder: “he drew the surrounding of both earth and sea, but even fashioned⁹⁶ a sphere,” presumably of the surrounding heavens.⁹⁷ The sense of balance and equality in Anaximander’s map also pervades his account of change (μεταβολή) generally. This is evident in the sole surviving, extended fragment, where Anaximander describes the process of generation (γένεσις) and destruction (φθορά) as “necessarily” (κατὰ τὸ χρεῶν) one of “giving judgment and paying the penalty to one another for injustice in accordance with the order of time.”⁹⁸ Not only does this fragment show the pervasive influence of Anaximander’s desire for balance, it also shows a link between his thought and Thales’ appraisal of his wisdom. Thales claimed that water is the ἀρχή of all things out of a desire to unite the basis of his political and natural sciences. And Anaximander gleaned in the balance and regularity of the heavens and of the change of opposites the same balance and regularity in the back and forth of crime and punishment.⁹⁹ The collapse of the political and the natural in Thales’ practical

⁹⁴ Strabo, *Geographica*, 1.1.11 (G.Axr.7).

⁹⁵ Agathemerus, 1.1 (G.Axr.6); compare Strabo, *Geographica*, 1.1.11 (G.Axr.7).

⁹⁶ One manuscript has ἐποίησε where the others have κατεσκεύασε.

⁹⁷ Diogenes Laertius, *Lives and Opinions of the Eminent Philosophers*, 2.2. For an amazing attempt at reconstructing Anaximander’s model, see D. L. Couprie, “The Visualization of Anaximander’s Astronomy,” *Apeiron* 28 (1995): 159–81. Waterfield, *First Philosophers*, 3, notes “the grandeur and splendor of [the Milesians’] geometric visions of the universe.”

⁹⁸ Simplicius, *Physics*, 24.18–21 (< G.Axr.9): διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλοις τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν. Immediately following, Simplicius explicitly understands this as an account of μεταβολή.

⁹⁹ Heidegger, *Beginning*, 10–11, gives a persuasive argument against what he calls the “juridical-moral” interpretation of this fragment. While much of what Heidegger says of Anaximander is similar to my own view, nevertheless Anaximander’s expansion of juridical-moral terms to being as such cannot be viewed in isolation from his extension of other imagery—of pipes, wheels, and whistles. So we cannot ignore the tension between the Anaximander who delves into the Being of beings, as Heidegger shows us, and the Anaximander who speaks in images—between Anaximander the scientist and Anaximander the artist. (Against Heidegger’s example of ἄδικος ἵππος, see Aristotle, *Nicomachean Ethics* 1.1.) Also attuned to this problem or connection are McKirahan, *Philosophy before Socrates*, 64; Vlastos, *Studies*, 56–57, 73–83; Waterfield, *First Philosophers*, 5–6.

capabilities as both statesman and engineer persists in Anaximander's artistic natural science. It is of Thales' slide along the range of τὸ καλόν, from his governance of human beings to a governance of the κόσμος, that Anaximander paints his picture.

Anaximander's debt to Thales thus seems deeper than a shared interest in cosmology. With his map, his similes, and his puns, Anaximander paints a portrait of Thales' wisdom. Herodotus, better traveled than Anaximander and so a bit more down to earth with his geography, says of maps like this Milesian's:

I laugh when I see many who have drawn a map (περιοδους) of the earth until now, since not even one of them orders (ἐξηγησάμενον) things in a manner possessed of mind. They draw the ocean around the earth, which is circular, as though from a compass, while they make Asia equal to Europe.¹⁰⁰

We can further connect Herodotus's remark to a parallel point in Hesiod. After listing the Okeanids at length, Hesiod says it would be vexing to go through all of them, though the locals know their names; yet in the sequel he quickly accounts for the celestial bodies and the winds that guide human life.¹⁰¹ Around us we find ineffable contingency, above us formal consistency. For Hesiod, we look upward to the skies for guidance only because we are confronted with the unpredictability of the earth around us. Despite their regularity, the heavens give only partial guidance to Hesiod's audience of farmers and herders. In light of this partiality, Hesiod invokes the distinction between divine and human knowledge.¹⁰² Anaximander, however, projects the heaven's order down onto the world around him. As with Thales, Anaximander's claim to have unproblematic access to a unified ἀρχή of all things necessitates a denial of this Hesiodic distinction, so that—again, as with Thales—divine providence gives way to human.¹⁰³ We therefore have

¹⁰⁰ Herodotus, *Histories*, 4.36.2 (G.Axr.8). Kahn, *Anaximander*, 83, takes Hecataeus's map to be a correction of Anaximander's, with Herodotus making oblique reference to the superior map of Hecataeus. But because Herodotus refers to the use of a compass and the assumption of an equality of parts, his laughter seems to be directed generally against mathematical balance as representative of geographic reality. Thus Herodotus immediately goes into a description of Asia and Libya that emphasizes not just their difference in size, but their irregularity as well (see 4.37–42).

¹⁰¹ Hesiod, *Theogony*, 346–74.

¹⁰² Hesiod, *Works and Days*, 458–92.

¹⁰³ Waterfield, *First Philosophers*, 5–6, explores the possibility of Anaximander's views of divine providence.

the same choice with Anaximander as we did with Thales. Either we can attempt a more consistent theory, in this case by addressing the problem of access to the indefinite ground of the definition we experience, or we can restore Hesiod's distinction. As we will soon see, the only way to address that problem will be through just such a restoration. In this case, progress entails a return.

IV

Conclusion. The legacy of Milesian thought extends far beyond the above reflections. To include Anaximander's views on psychology and theology would further illustrate the extent of his relation to Thales. Likewise, much could be said about how Anaximenes uses wind to unify the ground and cause of the κόσμος in a way Anaximander did not, or about Hecataeus's map as a magnification of Anaximander's. And of course what the preceding might say about the trajectory from these early Milesians to Xenophanes and the great Parmenides would likely shed light on the quasi-theological critique of cosmology in what the latter's goddess reveals to him. But the aim of the present paper has been to investigate the origin and foundations of Milesian thought, so as to assess the contours philosophy took in its first steps on the road out of the prephilosophic, human κόσμος of political life and into its proper domain. And in the course of that investigation, we have seen a common problem emerge, that the high estimation of the power of human wisdom has come at the expense of the coherence of each thinker's ἀρχή.

The lack of coherence in Thales showed itself in the mixed results of his knowledge of τὸ κινητικόν. With this art, Thales claimed to be able to produce out of a disorder a κόσμος among men and things alike, though the vastness of his vision ironically obscured from him the things beneath his feet. But Thales' error could very well have been an accident of man and time. Here Anaximander's thought proves instructive. The aim of Thales' art was the production of a definite order out of an indefinite disorder. For Anaximander, the balance and equilibrium of the κόσμος comes from the indefinite principle he names τὸ ἄπειρον. Anaximander shows us, then, how the ἀρχή of all things makes such an art possible. But as Aristotle notes, τὸ ἄπειρον always

shows itself as other than what it itself is.¹⁰⁴ To attempt to grab hold of this indefinite ground in the way Thales and Anaximander would like is to misunderstand how that ground is of necessity elusive. For, again, the very nature of τὸ ἄπειρον is to become something definite, to cease to be what it is. Whether willingly or not, then, Anaximander shows us that we can master the element of our experience that appears disorderly only through access to what is beyond our experience, to what is unapparent. Access to the disorderly ground of this order thus means speaking about what is other than our experience in terms of our experience. It means speaking in images, speaking poetically.¹⁰⁵ Anaximander, in painting a picture of Thales' wisdom, shows the ground of his predecessor's stumble. Far from demythologizing the Hesiodic worldview, then, they have only swapped stories for similes. Speaking Platonically, Anaximander's sketch is an εἰκὸς μῦθος.¹⁰⁶

¹⁰⁴ Aristotle, *Physics* 3.5.204b32–35.

¹⁰⁵ Thus Schofield, "Ionians," 54, rightly understands τὸ ἄπειρον as "what necessarily lies outside our experience of space and time," though he does not see this view as a philosophical problem. Though this may not be his intention, Graham, *Texts*, 69, uses language that beautifully captures Anaximander's significance: "our overall understanding of Anaximander may depend on whether we see him as essentially drawing on biological analogies . . . , or on technological analogies (the chariot wheel, the columns drum), or on social-political analogies (the judgment of time). But indeed he uses all of these kinds of analogies to build his picture of the world, and his conception is more than the sum of its parts" (emphasis mine). Whether Anaximander knows it or not, something like the connection between image and concept is latently at play in his thought.

¹⁰⁶ Plato, *Timaeus* 68d2. Cornford, "Ionian Philosophy," 70, observes that "the philosopher . . . appears as the rationalizing successor of the poet-seer, relying on the outset on the traditional wisdom, confirmed by his own inward conviction. On the other hand, his rationalism was to bring him later into conflict with those two other figures, who had been taking their separate ways." Despite his rationalism, the philosopher still had to discover the possibility of what Plato's Eleatic stranger calls φανταστική, an art of spoken images (εἰδῶλα λεγόμενα) through which the false appears true, that is, an art of poetic speech that hides its poetic character (compare Plato, *Sophist* 234c2–236b3). Contrasting Anaximander's generally mathematical approach to describing the structure of the world with Hesiod's description of Tartaros, Kahn, *Anaximander*, 82, notes of the latter that "it would be hopeless to draw a diagram to accompany such a description. The poetic Tartarus is vividly and dramatically conceived. A diagram, however, requires not drama but a precise geometric arrangement." This pregnant insight explains why it's in his descriptions of motion that Anaximander is either unclear, as with the initial

For his part, Hesiod seems to have been all too aware of this problem, for he discloses it in his *Theogony* in poetic form through the juxtaposition of the Titanomachy and Typhonomachy. In the Titanomachy, Zeus frees Kronos's brothers, the hundred-handers, and requests their help battling Kronos, his father and their original prisoner.¹⁰⁷ Zeus's action thus appears to be an example of his justice, and so is followed by a description of the order Zeus imposes on the otherwise disorderly Tartaros.¹⁰⁸ But because Zeus did not need the aid of the Titans to defeat Kronos,¹⁰⁹ they instead seem to have been necessary only in order to give his defeat of Kronos the *appearance* of justice. Far from taking a just stand against Kronos's monstrosity, Zeus's defeat of Kronos is itself monstrous. Hesiod thus teaches us that the imposition of an order onto disorder, as an imposition, is a willful suppression of the will. The apparent order of Zeus's justice thus has its ground in an unapparent disorder of will against will. Hesiod discloses this ground in the Typhonomachy, where Zeus fights fire with fire, defeating his cacophonously disordered equal, Typhoeus.¹¹⁰ Hesiod's Zeus thus shows himself as other than he is, for his just order, apparently guided by mind,¹¹¹ has its ground in a will that, as mere will, is indifferent to justice: his flames cannot be differentiated from those of Typhoeus.¹¹² Hesiod thus demonstrates that because an order comes into being—either through an initial genesis or through its constant reaffirmation despite changes in time—all order is derivative of a prior disorder as the source from which it comes into being and back into which it perishes. That is, Hesiod, too, views the κόσμος as Thales and Anaximander will come to after him. What Thales saw as τὸ κινητικόν and Anaximander named τὸ ἄπειρον Hesiod, and Homer with him,

ἀπόκρισις in his cosmogony, or poetic, as with his punning descriptions of his cosmogony, zoogony, and anthropogony.

¹⁰⁷ Hesiod, *Theogony*, 617–63. The interpretation of Hesiod here advanced is borrowed from my longer study, found in Alex Priou, "Hesiod: Man, Law and Cosmos," *POLIS: The Journal for Ancient Greek Political Thought* 31 (2014): 233–60. I refer the reader there for a more nuanced account.

¹⁰⁸ Hesiod, *Theogony*, 720–819. When Tartaros comes into being, Hesiod refers to him in the plural and calls him murky (see *ibid.*, 119).

¹⁰⁹ See *ibid.*, 687.

¹¹⁰ *Ibid.*, 836–37.

¹¹¹ See Hesiod, *Works and Days*, 105, 267–69.

¹¹² See Hesiod, *Theogony*, 842–46.

called the βουλή of Zeus.¹¹³ Zeus's βουλή, in the sense of "will," takes an indefinite form which only shows itself as a definite, particular βουλή, in the sense of "plan," and so exhibits the same elusive duality as the indeterminate ground of the respective ἀρχαί of Thales and Anaximander.

Contrary to Thales and Anaximander, however, Hesiod understands this problem fundamentally to be the one of providence. Because Zeus's mind is comprehensive, his βουλή is beyond human comprehension: the specific form Zeus's just order takes is unpredictable from our perspective.¹¹⁴ Fundamental to Hesiod's thought, therefore, is the distinction between human and divine wisdom. Thales and Anaximander obliterate this distinction, so as to do away with the problem of access to the ground of things. But in the end, Thales' practical competence does not measure up to his ambitions, so that his engineering of physical things and his governance of human beings remain at a remove from one another: Thales the statesman and Thales the philosopher are not, in the end, one. And while Anaximander's critique of Thales may disclose the properly indeterminate ground of determinate things, he paves over that otherness through the poetic blurring of the indeterminate, inaccessible ground and its determinate expression: in Anaximander the scientist's blush we find Anaximander the artist. Thales and Anaximander replace Zeus's providence with their own. They do not so much demythologize Hesiod as they mythologize themselves. Such seems to be the consequence of not questioning, but attempting to perfect and complete the political community, from which the Milesian road extended and to which Thales and Anaximander speak no less than the Hesiodic. Anaximander's portrait of the balance and equilibrium Thales' wisdom produces contains a distant echo of Cleobolus's inscription on Midas's tomb, an echo of the claim to have discovered or established a permanence in the κόσμος. That the myths collapse only goes to show that one can ignore the problem of access to the ground of experience, to what shows itself only as what is other than itself, only at the price of becoming oneself problematic.

¹¹³ Compare Hesiod, *Catalogue of Women*, frag. 204.96–100 with frag. 1 (compare *Cypria*, frag. 1); Homer, *Iliad*, 1.1–7, 2.1–5, 8.469–83, 15.47–77.

¹¹⁴ Compare Hesiod, *Works and Days*, 458–92.

Of course, to what extent Thales and Anaximander were in reality aware of this problem is hard to assess, since the erosion of time may well have scrubbed their thought free of its original nuance and irony. Nevertheless, the first thinker whose writings' fragments and testimony evince a philosophic, rather than poetic, formulation of this problem is Heraclitus. For Heraclitus, the unity of all things is not some single determinate thing as with Thales, nor some basic indeterminacy to which we unproblematically have access as with Anaximander, but, as we have already touched upon, a sort of φύσις—a nature, growing, or self-showing—that delights in hiding itself.¹¹⁵ It is an elusive intention or thought (γνώμη) that both does and does not want to be called the name of Zeus.¹¹⁶ This echo of the Hesiodic distinction between Zeus's just order and his disorderly will resounds further in Heraclitus's identification of the unity of all things with fire. For despite the indeterminacy of Heraclitean fire, it is kindled and extinguished into and out of the determinate measures available to us through experience—a paradoxical combination of unity and multiplicity, disagreement and agreement, dissonance and consonance, disputation and conversation, and bow and lyre.¹¹⁷ Aware of the limits of human wisdom, Heraclitus speaks to the difficulty of putting into determinate words what is of necessity indeterminate; one stumbles into formulations that risk the twin sins of contradiction and imagery.¹¹⁸ Whether Heraclitus thinks this difficulty can be overcome—and if so, how—is of course beyond the purview of the present paper. What can be said, however, is that Heraclitus emerges for us as Hesiod's true heir, the first to confront the prephilosophic worldview on its own terms. Though he may not be the first philosopher, he nevertheless appears to be the first to formulate the problem of philosophy philosophically, rather than poetically. In this respect, he paints a truer portrait of Thales' wisdom than Anaximander did: our relation to the ground of things is not one of direct access, but of a mediated approach at once disputatious and conciliatory, an approach Heraclitus punningly names ἀγχιβασίη.¹¹⁹

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¹¹⁵ Heraclitus, M8 (DK 123).

¹¹⁶ Heraclitus, M85 (DK 41), M84 (DK 32).

¹¹⁷ Heraclitus, M51 (DK 30), M25 (DK 10), M111 (DK 122), M27 (DK 51).

¹¹⁸ Heraclitus, M1 (DK 1).

¹¹⁹ Heraclitus, M111 (DK 122).