Early Greek Philosophy and the Discovery of Nature

Justin Habash

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EARLY GREEK PHILOSOPHY AND THE DISCOVERY OF NATURE

A Dissertation
Submitted to the McAnulty College and Graduate School of Liberal Arts

Duquesne University
In partial fulfillment of the requirements for
the degree of Doctor of Philosophy

By
Justin Habash

December 2016
EARLY GREEK PHILOSOPHY AND THE DISCOVERY OF NATURE

By

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ABSTRACT

EARLY GREEK PHILOSOPHY AND THE DISCOVERY OF NATURE

By

Justin Habash

December 2016

Dissertation supervised by Ronald M. Polansky

Few conceptual discoveries rival the impact of the idea of nature on the development of ancient Greek philosophy. The famous φύσις-νόμος debates of the fifth-century B.C. pit nature against custom as the ultimate guide to human life. Plato’s timeless theory of justice is grounded on a conception of nature dictating what is best. Aristotle likewise develops his systematic understanding of the natural world according to the idea that nature is an inner principle of motion and rest that acts as a final cause. In each of these cases, nature is understood as teleological, i.e. oriented toward an end. But the idea of nature as a way to explain the existence of the cosmos and the identity, growth, and behavior of the entities within it emerges in Greek philosophers that precede Plato, the so-called Presocratics. How did the earliest philosophers conceive of the idea of the nature of things? And to what extent, if any, do the earliest conceptions of nature display purposive features?
This dissertation tells the story of the origins and development of the idea of purposive nature in early Greek philosophy. Over the course of six chapters, I develop accounts of substantially different conceptualizations of nature found in ten of the earliest Greek philosophers. Contrary to long-standing scholarly opinion, I argue that no single “Greek concept of nature” in fact exists among the Presocratics, but rather that the idea of nature emerges more dynamically, evolving through critical debate as different thinkers put forth competing theories about what nature is and what it implies. In each theory, however, the unique facets of these different conceptions of nature are marked by elements of purposiveness. Far from being anti-teleological, then, the Presocratic polysemous concept of nature serves as a vital first step in the development of early forms of purposiveness in nature into the more robust teleological conceptions found in Plato and Aristotle. As my account demonstrates, the idea of nature becomes more explicitly purposive over the course of the Presocratic period. Finally, this reading of the early Greek period paints a picture of the way the Presocratic engagement with nature leads to the various “corrupted” views of nature in the φύσις-νόμος debate among the Greek sophists, and ultimately to the suggestion that the Platonic and Aristotelian defense of the value of philosophy is grounded in a defense and development of the idea of purposive nature.
DEDICATION

For Saffar Arjmandi, who taught me what it means to persevere
*Rangers Lead the Way*

and

For Rachael, who teaches me every day what it means to love
*Uxori carissimae*
ACKNOWLEDGEMENT

There is no small bit of irony in the fact that authors spend near countless hours of intense labor drafting and editing several hundred pages of dissertations and yet only a paltry few pages, likely dashed off at the last minute, to thank those whose continual efforts and support generally not only dwarf the author’s efforts by comparison, but made the project possible in the first place. Although few may read these acknowledgements of all the care and effort that has made this study possible (though perhaps still more than will read the dissertation), I have endeavored not to commit this error. My apologies in advance if you were not expecting the dissertation to start precisely here.

I wrestled for quite awhile with the dubious distinction about to whom I ought to dedicate this work. Mostly this is because I think Joan Thompson, the department administrator, is as deserving as anyone of the highest thanks I can offer for all that she does for young academics and for me in particular. Joan has made so many dissertations at Duquesne possible by her careful attention to detail, and her ability to masterfully mix a caring approach with tough love when necessary. I was a direct beneficiary, even from several hundred miles away, as she would go out of her way to call me about an approaching registration deadline or policy change. Having spent a fair amount of time among academics of all stripes, I can say that philosophers are a particularly tough breed to deal with, especially where it concerns vital but mundane administrative details that fail to rise to the level of enduring metaphysical mysteries. Joan handles all of this brilliantly, and every student and faculty member that has passed through Duquesne’s Philosophy Department owes her a very deep debt of gratitude.
I owe great debts to my fellow graduate students in the Philosophy Department at Duquesne as well. Roughly a year out of the Army, and not long back from war, I wasn’t quite sure what to expect when I started graduate school in philosophy in the Fall of 2008. The experience was intense from the get go, but the people, faculty and students alike, were equal parts inspirational and supportive. I knew I had landed (somewhat by sheer luck, I think) in a really terrific department. My first attempts at presentations and papers were extremely awkward, but my peers demonstrated a tremendous amount of charity and encouragement in their responses. Although there were many who helped, some individuals really stand out. My particular cohort--Stephanie Adair, Chelsea Harry, Nalan Sarac, and Clancy Smith--all excellent philosophers, often had me scrambling to keep up and “prove my worth.” Two very dear friends have been role models for collegiality and insight: Becky Vartebedian and Kelsey Ward each played a significant role in how I approached the history of philosophy and teaching students. Kelsey’s encouragement and insight during our language studies was more than I could ask. And Becky was, perhaps unbeknownst to her, one of the first of my peers whose engagement with students I watched closely and tried in certain respects to mimic.

I cannot say enough about the philosophy faculty at Duquesne. Jim Swindal was encouraging from the moment we first spoke on the phone and continues to be so today. I learned a tremendous amount about so much of the history of philosophy from Drs. Bates, Bonin, Harrington, and Rodemeyer. And in many of Anaxagoras’ other worlds, or Leibniz’s possible worlds, my alter egos have written various dissertations on Descartes or Spinoza under Dr. Dan Selcer. His passionate approach to early modern philosophy hooked me early on, and I think I took whatever class he offered every semester I was at Duquesne. I continually hope that my passion for philosophy is as transparent to my students as Dan’s is to his.
I would also like to thank my colleagues at Ohio Dominican University and The Ohio State University for their encouragement and all that they do for students and faculty. Katie O’Keefe and her excellent philosophical mind had the misfortune of suffering through much of my rough ideas on early Greek philosophy. Her patience, insight, and love of learning make every environment she is a part of a better place. Happiness Mapira is an unparalleled advocate for students who manages to simultaneously hold their feet to the fire when needed. I am not sure how she does it, but I know that this dissertation would not have progressed as much as it did during my time at ODU without her ability to solve problems and allow me to think more about philosophy, and less about student issues with faculty. Karen Gray is one of the best leaders in higher education that I have come across. I am extremely fortunate to have had the privilege to learn from her. I hope many more junior leaders in academia get the chance to benefit from her experience and wisdom.

Of all the people that I have learned from at Duquesne and the many valuable friendships I have formed, none means more to me than my friendship with Chelsea Harry. She is, simply, a model teacher, scholar, and human being. And she makes it all seem so damn effortless. In all likelihood, I probably owe the fact that I passed my comprehensive exams entirely to the fact that I studied for them with her, but am more recently in her debt for reading and commenting on this dissertation. Like any excellent teacher, she always simultaneously pushes and encourages me, and for that I could not be more grateful. Her support, erudition, and patience with my naïve questions on Aristotle have been instrumental in finishing this dissertation.

It was perhaps not the wisest decision to choose a dissertation topic about which I knew very little, while being several hundred miles from my committee members. I survived such a decision mostly because of my colleague and mentor at Ohio Dominican, Dr. Michael
Dougherty. In the years I was struggling to cobble together very rough drafts of chapters, Mike provided a true model for how to approach scholarship, and more specifically, the craft of writing. He provided meticulous and thorough comments on every chapter of this dissertation. Through him I have come to realize just how invaluable great colleagues are, especially those who are willing to read and comment on your work. Although his efforts have improved nearly every aspect of this work, much of the writing was driven by one of his first pieces of advice: “Don’t write a boring dissertation.” It was an aside, but I took it to heart in the painstaking way I approached revision. I hope I have lived up to that advice.

When I started this dissertation, I knew virtually nothing of the Presocratics and I lived a long way from anyone who would have been willing to teach me about them. So, I owe a special debt of gratitude to the many brilliant scholars from whom I learned about early Greek philosophy through their published work. Although my ideas have been influenced by many who have worked in the field, a few deserve to be singled out given the enormous impact their thinking has had on mine. In my view, Patricia Curd is *sine pari* in the scholarship on early Greek philosophy. I say this not just because I happen to agree with her position on many of the disputes and issues in early Greek philosophy, but also because her prose is a model of clarity and her engagement with the literature is so remarkably thorough. She is, quite simply, the kind of scholar of the Presocratics that I aim to be. Daniel Graham and Charles Kahn have also played significant roles in the formation of my understanding of early Greek philosophy and how to write about it. I am grateful to these and many others whose work has been so helpful in inspiring a passion for early Greek thinkers and provided a model for how to engage in studying them.
I imagine that those of us who pursue a doctorate in philosophy all have that faculty member who first inspired and challenged us and whose model continues to do so (almost 20 years later, in my case). In so many ways, I would not be who I am without the guidance of Dr. Timothy Sean Quinn. In a philosophy department at Xavier University that is filled with extraordinary teachers, he is unequivocally the best. His grasp of the history of philosophy and the ability to integrate and relate the ideas of various thinkers is something I will spend many years trying to emulate. The same is said for his ability to hold the attention of his students and make them feel as though they are in a direct dialogue with the greatest minds in history. I am deeply grateful for all of his guidance and wisdom over the years, and for the role he played in this project as well.

Prior to attending my first class with Dr. Ron Polansky in the Fall of 2008, I had never remotely considered the possibility of writing a dissertation in ancient Greek philosophy. So, on some level, he is mostly to blame for this. I received excellent advice from a former student of his to take whatever Dr. Polansky offered in graduate school. It is some of the best advice I have ever received and I followed it ever semester at Duquesne. He teaches his students how to think about and write philosophy, often through his absolute brutal honesty in comments on papers and chapters. I will be forever grateful for everything that he has done to shape me as a scholar and a person.

My deepest thanks is reserved for my family that has been a part of my intellectual and personal development for many years. To my parents, who have always been brilliant examples of passionate professionals making the world a better place, I hope to be even half as inspiring to my children as you are to me. And to my aunt for letting me live with her during my first year in Pittsburgh and supplying me with a steady diet of antagonism about philosophy and Little
Debbie Swiss Cake Rolls until I couldn't stand the sight of them: you are my favorite sophist. Finally, to my dearest wife, Rachael, who is the best partner I can imagine: thanks for coming on this journey with me.
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Introduction: Origins of the Philosophical Discovery of Nature

It is always foolish to assume that whatever is interesting in Greek philosophy is Platonic or later.
– Martha Nussbaum

To write the history of thought is sometimes to write the history of a series of misinterpretations.
– Pierre Hadot

The origin and development of the idea of nature in Greek philosophy is one of those stories best told by starting nearer the end than the beginning. In the middle of the 5th century B.C., the most interesting philosophical debate in ancient Greece centered around a deceptively simple question: should custom or nature guide how one should live? More broadly the Greeks asked whether justice in political communities should be modeled on nature or are laws best understood as a necessary counterbalance to the destructive aspects of human nature? The dispute is a contentious one, if Plato is to be believed, framed in part by the sharp contrast between sophists and philosophers. But the answers to these questions extended well beyond a simple dichotomy. Some believed, and argued passionately, that the old ways were superior, that law or custom was “lord of all” and provided the most well-established path to the best life be it for the individual or the community. No doubt this view was more easily held by those who had traveled widely and witnessed the pervasive influence of convention across cultures, despite vast differences in particular laws and customs. Such a view was in fact, even at that time, a very old one in holding that all things, not merely human beings, operated in “customary” ways. Of course, among those who believed in the supreme power of custom, most were keen to understand their customs as invariably superior to those beliefs and practices of other cultures, while some maintained a more relative understanding: to each his own, as we might say. But there were also those who contended that the way of nature was superior because it transcended particularities of time and place, providing universal guidance for how all men ought to live. But
this camp was also divided over precisely what was meant by “nature” and what it implied regarding how humans should live and be governed. Some of these thinkers argued that custom or law was imposed as a way to regulate or mitigate the nature of the strong who might “justly” seek to take more than their fair share. Others held that customs and laws should be engineered in such a way as to enhance what was naturally superior, rather than restrict it in order to level the proverbial playing field. In short, though the debate seems on the surface to center on the conflict between nature and custom, a closer reading of the specific ideas and arguments of these Greek thinkers suggests that it is the particular features of this new idea of nature that is still unsettled and yet makes all the difference. The idea of custom, it seems, is relatively straightforward; the idea of nature is not.

Where did this idea of nature come from? What does it mean to “have a nature” and in what ways does nature really establish or suggest norms? The Greek thinkers engaged in this debate were not the first to discover or to wrestle with this idea. While the idea of nature is an old and familiar one to the modern student of the history of philosophy, the first attempts at conceiving of the entities in the cosmos in terms of natures represented a seismic epistemological shift. In many ways, modern readers are misled by the way the beginning of philosophy is too often described as the movement from superstition and supernatural explanations to the use of reason. Such a simplistic account leads to mischaracterizations of the break between the archaic age of Homer and Hesiod and the “rational” age of the earliest Greek philosophers that infects the rest of the story of the beginning of philosophy. After all, plenty of the rational exists in the works of Homer and Hesiod, and plenty of the mythical survives in Plato’s dialogues. Though perhaps still too simplistic, a more accurate narrative understands the founding philosophical period not as a shift from the mythical to the rational, but rather as the move from the
supernatural to a natural framework for making sense of all things. Such a paradigm shift is
driven by fundamental questions. What would it mean to be able to give an account of all things
through natural explanation? What would it mean to conceive of a cosmos in which things
happened in fixed, reliable patterns that were accessible to all, not just those “touched by the
gods”? The answers to such questions require an idea of nature.

But the idea of nature as an attempt to say what things are and where they come from is
never truly independent of the human longing to understand why things are this way. In the
mythic age, the gods and their actions provide the ultimate answer to this question. With the
try to uncover an underlying, recognizable, natural structure or pattern in the cosmos, the
first Greek physiologoi also had to supply answers to this question of why, this question of
purposiveness. Even still, although these students of nature sought new understandings and
explanations for natural phenomena, they were nevertheless still rooted in a tradition that
embraced and celebrated supernatural explanations. As a result, many of their theories are thus
complex and mysterious mixtures of both natural and divine elements. Of course, the same
might be said for the subsequent philosophy of Plato, who also seeks to incorporate myth and
divine notions into the emerging practice of philosophical dialogue. In some ways then, it is the
idea of nature in the Presocratic philosophers as a gradual development that serves as a bridge
between the views of the Archaic Greeks and the philosophy of classical Greece. Broadly
speaking, this dissertation explores the earliest conceptions of nature and purpose in Greek
philosophy, and the connection between these ideas. I begin here with a brief examination of the
Archaic roots of the notion of nature since the story of φύσις begins with the single use of the
word in Homer’s Odyssey.

1 See Luc Brisson, How Philosophers Saved Myths: Allegorical Interpretation and Classical Mythology, trans.
The first recorded use of the term most often associated with “arguably the most important concept in Greek philosophy” is in reference to a flower. The deceptively modest beginnings of φύσις parallel the hidden power of nature in the story. Narrowly escaping a tribe of cannibalistic giants, Odysseus’ ship and exhausted crew arrives on Aeaea, the home of the enchantress Circe. Adept in the use of evil drugs (κακὰ φάρμακ’), Circe deceives a portion of Odysseus’ crew and then transforms them into swine. Upon hearing of their plight, Odysseus sets out alone on a journey for Circe’s house, only to be stopped by the god Hermes in the middle of the woods. Warning Odysseus that if he continues upon this path he should meet the same fate as his men, Hermes offers Odysseus a “potent herb” that will “ward off from your head the evil day” (Odyssey x.287-288). Describing in detail “the deadly wiles of Circe,” Hermes lays out a plan for how Odysseus may overcome her. Since the plan hinges on the potent herb counteracting Circe’s own drugs, Hermes does more than simply give the antidote to Odysseus. Instead, the god handed over the herb by first “pulling it out of the ground,” after which, as Odysseus recounts, he “showed me its nature” (ἐκ γαίης ἐρύσας, καί μοι φύσιν αὐτοῦ ἔδειξε, 303). The nature of the flower is limited to a description of its parts: “at the root it was black, but its flower was like milk”; its divine name: “Moly, the gods call it”; and a comment about how it is acquired: “it is hard for mortal men to dig; but the gods can do anything.” With this Hermes departs for Olympus, leaving Odysseus to his task.

What precisely should be understood as the φύσις of the Moly flower remains unclear, yet “what is important is that it has a nature and the gods’ power arises from the knowledge of its

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nature and of all other things.” As an idea, the φύσις of things originates from the gods; Odysseus could not have made this discovery on his own. When extended beyond the flower, however, the metaphor of unearthing the roots as the discovery of the nature of something illustrates the possibility that man can achieve this kind of knowledge. Such knowledge for man, if possible, is hard-won only through toil and contrasted with the ease by which the gods acquire it simply by way of who they are. In this case, knowledge of the φύσις of flower is given to Odysseus by way of a demonstration from a god. Thus the story holds out not just the possibility of human knowledge of the φύσις of things by the hard work of investigation, but the further qualification that the nature of things can be communicated in an understandable way.

The origin of φύσις in Homer thus extends a tantalizing invitation to mankind: the idea of φύσις as secret, divine knowledge that can be both discovered and shared. Taken up by the earliest Greek philosophers, the discovery of the nature of things becomes the dominant intellectual pursuit of the age.

NATURE AND PURPOSE IN THE PRESOCRATICS

This dissertation presents a series of interrelated studies of Presocratic philosophers that tell the story of the origin and development of the idea of purposive nature in early Greek philosophy. In what follows I attempt to navigate a difficult path. The journey through Presocratic philosophy is fraught with significant gaps in our historical and textual knowledge as

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5 On several counts Benardete’s interpretation of the Homeric account of φύσις exceeds the limits of reasonable interpretation. The knowledge Odysseus gains from Hermes is not knowledge of φύσις generally speaking, but only the φύσις of the Moly flower. In doing so, the idea that things have a φύσις and that men may discover it emerges, but to infer from this that what Odysseus learns, and what ultimately saves him from Circe, is “the knowledge that the mind of man belongs together with his build” is an imaginative reading that supposes far more in the text than can reasonably be found, *The Bow and the Lyre*, p. 86. What saves Odysseus is instead his fore-knowledge of Circe’s methods and the precise plan to counteract them, all of which have been given to him by the divine messenger.
well as long-standing controversies of all sorts that threaten to bog down a broader historical inquiry such as this. In aiming to tell the story of nature and purpose among the Presocratics, I therefore treat such controversies or familiar points of dispute only insofar as I believe they impact the story. Similarly, my aim has been to let the early Greek philosophers speak for themselves as much as possible, and so I emphasize those fragments that capture their own words while minimizing my reliance on second-hand reports of their views, which suffer from greater concerns of reliability. The account that results challenges a number of standard narratives, both of the Presocratic period as a whole but also in some cases of the views of individual philosophers.

The earliest recorded engagement with the idea of nature after Homer takes place in a small city on the western coast of modern day Turkey. The first chapter deals with the philosophical origins of the concept of nature in what is known as the Milesian school with Thales, Anaximander, and Anaximenes. Both ancient and modern attempts to frame the Milesians as holding the same idea of nature are flawed, however. Instead, I argue that beyond simply offering different material principles of the natural world, the theories of the Milesians illustrate significantly different grasps of what the nature of things actually entails. In short, Thales aligns the nature of things primarily with their material source, while Anaximander initiates the idea of nature as process through his idea of the apeiron as the cosmic arbiter, Time. Anaximenes enacts a synthesis of the two ideas by describing air as the material origin of all things with an immanent process of condensation/rarefaction. Even from the first philosophical attempts to explain all things in terms of the idea of nature, there is little or no consensus about what this specifically entails. And yet each theory bears different elements of purposiveness.
In the second chapter, I turn to a thinker long held to be anything but a philosopher. Xenophanes of Colophon, whose life spent as an itinerant poet produced ideas on topics ranging from the material composition of natural things to critical social commentary, is the first thinker that clearly uses the idea of nature repeatedly to classify various entities in the world. Although he offers some speculation on the nature of all physical entities, the most important distinction Xenophanes makes is the one between divine and mortal natures. Xenophanes uses the idea of nature as *what something does* to reason to particular, and shocking, attributes of the divine that differ markedly from traditional understanding. In so doing he also better defines the limits of mortal nature with respect to knowledge. Thus with Xenophanes the idea of nature extends beyond explaining the origin of the cosmos and the existence of natural phenomena, as he develops the first “theory of everything.”

But we can only infer the idea of nature from the context of Xenophanes’ many fragments and it is only with Heraclitus of Ephesus that the term φύσις becomes explicitly connected with other philosophical concepts. The expansion of the philosophical import of φύσις in the writings of Heraclitus is the subject of Chapter 3. I argue that the importance of a dynamic concept of φύσις in Heraclitus’ work has not been sufficiently appreciated. More specifically, I make the case that φύσις is a riddle for Heraclitus that demands a new method. This riddle is a paradoxical *harmonia*, or “fitting-together,” of opposites that serves as the pattern which underlies all things. But the impact of φύσις extends beyond simply understanding what things are. For Heraclitus, knowledge of φύσις unlocks our access to the λόγος, according to which all things are steered or guided. Conflict is justice, Heraclitus tells us, and it is only through this process of conflict and reconciliation through *harmonia* that all things unfold.
Chapter 4 deals with the way early Greek natural philosophy is forever altered by the encounter with Parmenides. Although many have read Parmenides as dismissing the idea of nature by condemning φύσις to “mere opinion,” I argue in favor of a predicational reading of Parmenides that understands the Eleatic to be concerned primarily with outlining the metaphysical and epistemological qualifications for the “nature” of anything real. Rather than extricating the concept of nature from its more “dynamic” qualities, Parmenides in effect bifurcates nature into those qualities that constitute true “being” on the one hand, and the “becoming” or growth aspect, on the other. In both cases, however, nature as an idea is functionally and repeatedly defined by Parmenides using the concept of limits (πείρατα). The idea of limits for Parmenides is tied throughout the poem to the notion of paths as a way to understand the connection between reality and the human pursuit of knowledge. More than a heuristic, however, paths are the natural means, established by the divine, through which all things are steered, and it is in this sense in which the purposiveness in nature manifests itself for Parmenides.

In Parmenides’ wake, the early Greek pluralists struggle to articulate a concept of nature that simultaneously accounts for the supposed plurality of things in the human experience in the natural world and Parmenides’ metaphysical and epistemological criteria for the “nature” of any real thing. The fifth chapter deals with three pluralist thinkers and the different concepts of nature that emerge in their theories. Empedocles bifurcates the idea of nature into the physical structure of roots and the immaterial forces of Love and Strife that shape all things. Anaxagoras understands all things to be composed of all things shaped, as it were, by a cosmic Mind. Finally, Philolaus understands the structural aspect of reality to be comprised of “limiters and unlimiteds” that are “fitted-together” by force of harmonia. In each case, the idea of nature is
bifurcated along Parmenidean lines, but the attributes of both the “being” or physical structures of nature, and the “becoming” or motive forces responsible for shaping these structures are taken in different directions by the three thinkers. Yet in every case the idea of nature has specifically purposive features.

The final chapter of the dissertation deals with a pluralist thinker of an altogether different sort. Democritus of Abdera is credited with expanding Leucippus’ theory of atomism into a credible account of the natural world. Satisfying the Parmenidean metaphysical criteria for “the real,” but without restricting the cosmos to an absolute monism, Democritean atomism suggests a mechanical world that operates on strict necessity. The φύσις of anything is reducible to its atomic composition and the idea of nature is purified of its divine and purposive qualities. The difficulty with this account of Democritus’ is that it persists in the Peripatetic tradition rather than his own words, and it is strongly contradicted by Democritus’ varied use of φύσις in his ethical fragments. In this chapter, I examine the two distinct concepts of nature that emerge in connection with Democritus’ ideas. I argue that he deliberately describes the “reality” of atoms and void in different terms in his fragments related to epistemology than the φύσις of things as found in his ethical fragments. In so doing, Democritus reserves φύσις for a purposive idea closely connected to how humans ought to live.

In the conclusion I turn to the conflict between nature and custom that reverberates so forcefully throughout intellectual circles in fifth-century Greece. For the characteristic thinkers of the age, the sophists, nature has become a prescriptive force that poses clear norms for how many should live. Yet even among the sophists, the idea of nature means any number of things. The foundation for such broad interpretive possibilities was laid by the failure of early Greek nature philosophy to generate a determinate idea of nature agreed upon across the spectrum of
thinkers. Extended to moral and political questions, and without an inherent *telos*, the amorphous idea of nature is used in service to a variety of human ends. This study concludes with an examination of the various ways the idea of nature is interpreted among the Greek sophists, and some suggestions for how we can read the philosophy of Plato and Aristotle as an attempt to defend an idea of purposive nature and philosophy more broadly. But the story of nature in early Greek philosophy begins in a small city of Miletus.
Chapter 1: The Milesian Physiologoi and Unity in Nature

The philosopher is the continuation of the drive through which we continually interact with nature by means of anthropomorphic illusions.
—Nietzsche

Aristotle’s famous dictum that “all men by nature desire to know” opens his account of early Greek philosophy, explaining the motivation for the earliest attempt at philosophical theorizing (Metaphysics 980a22). A closer look at the views and lives of these earliest philosophers, however, reveals a broader set of motivations. In part the desire to develop new ways of thinking about the nature of the world stemmed from the inadequacy of traditional explanations found in Homer and Hesiod. An account of the cosmos based upon the whims of capricious gods was unsatisfactory or at best only a partial story for the origin and structure of the true reality of things. Curiously enough, however, in the fragments and testimonia of the very earliest Milesian φύσικοι there is no reference to mythic explanations at all. One might attribute this absence to a lack of proper preservation of their written work or it may indicate a complete disregard for the traditional views. It is not a stretch to assume that these thinkers thought they could provide far better explanations of the origin and structure of the cosmos than those offered by their predecessors or that they understood their own ideas to be so radically different that they shared almost nothing with traditional views and thus saw no need to reference mythic explanations.

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The pursuit of better ways to explain the world around them could be attributed to some combination of a range of possible motivations. First, the earliest φύσικοι may have pursued better explanations simply for the sake of accuracy; that is, they truly aimed at knowledge for knowledge’s sake. Perhaps they were dissatisfied with the capacity of established explanations to account for the existence of the cosmos or causes of particular events in it. Or, perhaps, as Aristotle indicates, they were simply following their own nature in desiring to know more about “nature” in general. Second, these thinkers also might have preferred the use of concepts in the formation of explanations because these could be applied to a broader set of phenomena and thus turn knowledge of nature into practical knowledge that aided navigation, husbandry, and other essential human endeavors. This possibility appears to be confirmed in the stories of the lives of the earliest philosophers who were interested in applying their knowledge across a range of activities from the construction of cities to the drawing of maps. A third possibility may be that these thinkers aimed at the replacement of traditional beliefs that they viewed as harmful in certain ways to civic life. Explanation through concepts may have bridged particular divides or mended sectarian differences within local culture by providing one view that all or most could agree upon.

While their individual motivations may have varied, all of the earliest nature philosophers eschewed stories about gods or heroes in favor of conceptual explanations in order to give an account of the world and events in it. In its most robust form this approach would have meant the creation of such concepts, or at the very least the construction of the capacity of a particular concept to explain natural phenomena. The earliest Presocratics in particular are innovators on

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8 See Joseph Owens, *A History of Ancient Western Philosophy* (New York: Appleton-Century-Crofts, 1959). Owens contradicts Aristotle’s description of philosophy’s beginning in wonder when he claims instead that “the motives of the earliest Greek thinkers seem to have been sufficiently utilitarian in character,” p. 4.
an unprecedented scale; not only did they create and refine concepts and theories, but the very manner of their critical discussion was innovative. Spirited debate and contentious dispute replace dogmatic memorization and dramatic retelling of particular myths. Instead of accepting the origins of the cosmos and the corresponding structure based on the apparent testimony of the Muses, these thinkers pushed one another to offer new ideas and better explanations for the things they experienced in the world around them. The pursuit of wisdom about nature begins with passionate arguments where competing theories and concepts are advanced, attacked, and defended in peer groups of like-minded thinkers who wanted better knowledge as well. The implications of this facet of the origins of philosophy have to some extent been lost amidst the forest of scholarship and perhaps more specifically the debate around whether or not their activities constitute philosophy. The tendency to suppose, even in a “school” like the Milesians, that this spirit of innovation only extends to the specific principles of each thinker prevents a more complete appreciation of the earliest philosophical endeavors. That is to say, perhaps the most fascinating earliest philosophical innovation comes about with respect to the very idea of the concept of nature itself.

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9 For perspectives on the foundations of critical philosophy in the Milesian school see Karl Popper, *The Myth of the Framework* (London: Routledge, 1994) pp. 40-43, and Dmitri Panchenko, “Thales and the Origin of Theoretical Reasoning,” *Configurations*, 1.3 (1993): 387-414. Popper suggests that “the critical tradition was founded by the adoption of the method of criticizing a received story or explanation and then proceeding to a new, improved, imaginative story which in turn is submitted to criticism,” p. 42. Popper’s claim is that the Ionians are unique in that they celebrated criticism; it became the hallmark of the Ionian tradition when Thales “encouraged Anaximander, his follower, to see whether he could produce a better explanation of the apparent stability of the earth,” p. 43. Panchenko asks why this criticism was not carried out within the “mythological interpretation of nature” and argues that Thales establishes the possibility of debate regarding natural principles and, as a result, the possibility of gradual progress of knowledge, pp. 395-396. For a different take on the essential ingredient of the early Greek *physiologoi* see Charles Kahn, “The Achievement of Early Greek Philosophy,” in *Early Greek Philosophy: The Presocratics and the Emergence of Reason*, ed. Joe McCoy (Washington D.C., Catholic University Press, 2013), pp. 1-17. Kahn claims that “the fundamental innovation [of the earliest philosophers] is the concept of nature itself, the notion of *physi*,” p. 2. His account of the origins of philosophy rightly emphasizes its creative quality and the concept of nature as the specific locus of that creativity, but Kahn presumes a shared view on the facets of this concept.
This chapter explores the innovation at the heart of the earliest Greek philosophical conceptions of nature in order to answer two principal questions. How does each thinker understand and use the concept of nature (φύσις) in his theory? And, to what extent is there a notion of purposiveness in each understanding? In what follows I approach the respective theories of the Milesian φύσικοι; Thales, Anaximander, and Anaximenes in turn. Despite a variety of interpretations of their individual theories, the general assumption has been that they share a particular conception of nature, though competing theories exist as to precisely what this conception might be. I begin with a brief discussion of the two dominant interpretations of the Milesian conceptual framework for nature, one ancient, one modern, before suggesting the fundamental problem with both views. Turning to an examination of the specific theories of the Milesians, and beginning with Thales, I explore the implications of his view that water is the φύσις of everything, and argue that his conception of φύσις as origin also speaks to the aim of philosophical inquiry by replacing “a series of births with a circle of transformations.”

His philosophical successor, Anaximander, builds on Thales’ description of φύσις as the origin or source of all things by offering the enigmatic ἄπειρον and yet emphasizing the notion of nature as process. I argue that Anaximander’s conception of φύσις as process initiates the teleological worldview in Greek philosophy of nature in two fundamental ways. First, he provides a notion of nature as a process that guides or steers all things through arbitration between cosmic, conflicting opposites. Second, this natural process of reciprocity justice comes with a built-in and ever-elusive end: equilibrium. The last thinker covered in this chapter is Anaximenes, who is sometimes viewed as having taken a step backward from Anaximander’s more powerful

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intellectual advances. I argue, however, that Anaximenes orchestrates a masterful synthesis of the view of φύσις as material origin with the view of it as perpetual process by positing a determinate material source, air, and a specific physical process, condensation/rarefaction. In doing so, he unites what he takes to be the best features of both earlier theories and establishes a more concrete notion of nature by providing a link between rational concept and empirical process. For Anaximenes, the process of condensation/rarefaction is not separate from the material constituent, but rather the inherent power of air itself. Finally, I conclude this chapter with a discussion concerning the notion of unity in the earliest φύσικοι that fundamentally characterizes the way they synthesize the concepts of nature and purpose.

THE MILESIAN SCHOOL OF NATURE PHILOSOPHY

The Milesian “school” begins around 585 B.C. during the prime of Thales and ends with Anaximenes whose floruit occurred roughly 50 years later. These men are the first-known thinkers to offer naturalistic accounts of the cosmos though precisely which figure first instantiates this sort of theorizing is contested. While Aristotle and much of the subsequent tradition viewed Thales as the founder of early Greek nature philosophy, some modern scholars have argued that Anaximander is the true point of origin for philosophy in the West. Regardless of which thinker initiates nature or scientific philosophy, however, the common perception is that the earliest φύσικοι understood nature from the same basic framework. Yet despite this idea that they share a framework for understanding the cosmos, and by extension the very same concept of φύσις, the specific nature and the implications of this shared framework have been the

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subject of varied interpretations. The classic understanding is inherited from Aristotle and
presents the earliest Presocratic thinkers as material monists. The modern approach, where it has
deviated from Aristotle’s influence, understands the earliest φύσικοι as “generating substance
theorists.” In what follows, I construct a brief synopsis of each view, before illustrating the
problem with both views that necessitates considering these thinkers in a new way.

MATERIAL MONISM AND GENERATING SUBSTANCE THEORY

Aristotle characterizes the first nature philosophers by their shared assumption that the
principle of nature is “that of which all things that are consist, and from which they first come to
be, and into which they are finally resolved” (ἐξ οὗ γὰρ ἔστιν ἅπαντα τὰ ὄντα καὶ ἐξ οὗ γίγνεται
πρῶτος καὶ εἰς ὅ φθείρεται τελευταῖον, Metaphysics 983b8-9). The standard view of this
principle as material monism suggests that “the world arose out of a primal unity, and that this
one substance was still the permanent base of all its being, though now appearing in different
forms and manifestations.”

Attributing this brand of monism to most of the first philosophers, Aristotle claims that such a concept of nature implies that “they do not think anything either
comes to be or perishes, inasmuch as this nature is always preserved” (καὶ διὰ τοῦτο οὔτε
γίγνεσθαι οὔθὲν οἴονται οὔτε ἀπόλλυσθαι, ὡς τῆς τοιαύτης φύσεως ἄεὶ σωζομένης, Metaphysics
983b12-14). Despite the fact that the earliest nature philosophers grasp the concept of nature as
material, debate arises around the question of “the number and nature of this principle.” The
earliest nature philosophy then, according to Aristotle, is consumed by a debate over which and
how many elements, or basic material constituents, are the primary source and substance of the
universe and everything in it. Aristotle helpfully catalogues those who think there is only one

13 Guthrie, HGP, vol. 1, p. 4.
14 I have used Daniel Graham’s translation here as it is more faithful to Aristotle’s use of physis in this instance,
TEGP, p. 29.
material constituent persisting at the heart of things for us: Thales believes this to be water; Anaximenes and Diogenes contend it is air; and Heraclitus and Hippasus posit fire as the material nature of all things (Metaphysics 984a5-6). But for Aristotle the materialism of the first nature philosophers is the infancy of metaphysical reasoning about nature because it is insufficient to explain the change we see in the world. Therefore, nature philosophy necessarily progresses from this point through the attempt to explain what causes generation and destruction to follow from this single element, whatever it may be. The general view of material monism embraces the idea of early Greek consensus around the concept of nature and holds that this single material is the source or principle of all things. Aristotle’s account maintains a similarity in how this unfolds across different thinkers. They offer only competing theories grounded in the same materialist view but are unable to explain real change because they hold that the nature of everything is always a single material constituent, even when things appear otherwise. Modern interpreters, however, have read far more sophisticated theories into the ideas of the earliest Presocratic thinkers, and the tendency has been to form a supposed consensus around the ἀρχή as a principle that continuously rules or governs entities within the cosmos.

Daniel Graham presents a different account of the Milesian cosmologists’ basic assumptions as he argues against the standard Aristotelian interpretation that collects all of the early Ionians under the rubric of material monists. Graham asserts instead that the earliest φύσικοι are “generating substance theorists.” Unlike the explanatory limitations that Aristotle levies against the materialists, the Generating Substance Theory (GST) explains how things

15 In Physics 187a12ff, Aristotle homogenizes the monists even further by suggesting that they “make the underlying body one--either one of the three or something else which is denser than fire and rarer than air--then generate everything else from this, and obtain multiplicity by condensation and rarefaction.” He attributes here the same process (condensation and rarefaction) to all those he takes to be monists thereby suggesting that the only unique element of each theory is the individual material out of which the cosmos is constructed.
16 See Graham, Explaining the Cosmos, p. 22.
evolved or developed from a single substance. In effect, Graham construes the ability of the earliest nature thinkers to explain change in a radically different way from Aristotle. Graham’s theory goes even further when he contends that the GST is “governing the construction of theories in Ionian science or philosophy.”¹⁷ In other words, it is the paradigm for understanding not only the earliest Presocratic philosophers but the entire history of the Ionian tradition. In the first part of his theory which covers the earliest thinkers, Graham does not contend that the Milesians offer an explanation of everything as a single material constituent. Instead, as Patricia Curd observes, Graham suggests that they embrace the view that everything comes from a single “stuff” which “then generates other substances from itself and has no explanatory priority over the other substances at work in the cosmos.”¹⁸ The emphasis in the Generating Substance Theory is not on the single material as a source or origin (though the substance is that), but rather as a principle for the production of other substances. Graham’s theory thus renders the Milesians as far more complex thinkers than Aristotle understands them to be but in changing their fundamental shared assumptions to those in his GST he still holds that they share the same conceptual view of the world and nature. Graham’s theory also exceeds Aristotle’s in both its inclusiveness and its boldness; it gives an honored place for Anaximander in a way that Aristotle’s theory does not and connects the ideas of a greater number of thinkers within the broader tradition.

Each theory illustrates a different explanatory framework underscoring the study of nature by the earliest Greek φύσικοι. Both interpretations, however, share a fundamental problem that inhibits our ability to appreciate each early Greek thinker in his own right and, by

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¹⁷ Ibid., p. 85.
extension, the founding period of the philosophy of nature. Both Aristotle’s material monism and Graham’s Generating Substance Theory link the earliest philosophers through the basic assumptions they supposedly share. Each thinker is understood through a reference to a central framework; their respective ideas are first placed in the context of these shared assumptions. But how much of this alleged unity is because of our fundamental desire to fit them into a unified paradigm? In a period of innovation where traditional modes of explanation are wholly ignored or radically altered, why should these men necessarily think of the world through precisely the same lens? The perceived similarity makes more sense if we consider the degree to which categorizing and schematizing explanatory frameworks restrict the appreciation of the earlier theorists. In other words, Aristotle thinks of philosophy in terms of schools of thought, and he thinks of theories as precursors to his own theory of causality. Graham’s ambitious theory is potentially even more limiting in this regard as it aims at categorizing even broader swaths of early Greek philosophy under the rubric of the “Generating Substance Theory.”

The application of theoretical frameworks to the earliest nature philosophers also masks the depth of innovation in both concepts and theories. Aristotle does afford us a glimpse of the practice of early Greek philosophy, or at the very least the practice as he understands it, when he characterizes the existing methodological framework in the earliest philosophers of nature as discussions about ἀρχή, the “source” or “beginning” of things. On one view the origin is precisely what these earliest physicists were debating, namely the proper sources or beginnings of the universe and everything in it. This approach fits nicely with the view that the efforts of the φύσικοι are an extension of the efforts of their mythically oriented predecessors to understand

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19 Graham raises philological questions about Aristotle’s attribution of this practice to the Milesians, noting that “we have no fragments with this term [ἀρχή] being used substantively until Diogenes of Apollonia and Philolaus, and even there it is not clear how technical the term is,” TEGP, p. 39.
“the way the present world arose from a primordial Something.” But ἀρχή can also be understood as a principle that in some way governs or rules and both understandings of the term are intertwined in the earliest views of nature. The source or origin plays a crucial role for the earliest philosophers because, at least in part, an explanation of where something comes from is a significant part of correctly identifying its nature. At the same time, it is the ἀρχή as principle that governs the constitution of something, holding it together, and continuously making it what it is.

Although Aristotle presumes some common conceptions among his predecessors, he illustrates the diversity in conceptual understandings of ἀρχή at the beginning of the philosophical lexicon in *Metaphysics* iv (1012b34ff). Modern and ancient scholarship again diverge with respect to the proper understanding of ἀρχή in the theories of the Milesians. The Aristotelian tradition understands Thales and Anaximander as grasping at the ἀρχή as principle, while modern scholarship “takes it to be much more likely” that both Milesian thinkers understand it as “the origin of things.” But why presume an inherent consensus rather than highly engaged critical debate about the very concepts used to explain nature? Where else would the multiple meanings of ἀρχή have arisen prior to Aristotle’s time, if not from the very thinkers who were mobilizing the concept in crafting different theories? Not only is it distinctly possible that the earliest nature philosophers understand ἀρχή differently by emphasizing different facets,

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but we can trace these differences to the way they result in markedly different theories of nature (φύσις). At the origin of the discovery of φύσις lies a fundamental debate not only on what φύσις is (i.e. water, ἄπειρον, or air), but also what φύσις means. Thales understands ἀρχή as source or origin as the central facet of φύσις; Anaximander the “process thinker” acknowledges a source but emphasizes the regulative process of nature, while Anaximenes synthesizes both views by prescribing a definite source material imbued with the power of a physical process which is responsible for the “nature” of anything and everything. Despite such fundamental differences, however, in each thinker we discover traces of a teleological pattern of thought that undergirds his respective view. Even as this pattern emerges along different lines for each thinker based on different views of nature, it nevertheless illustrates the common Milesian assumption of the unity of the cosmos. Rather than the theories of Aristotle or Graham, this framework of purposiveness in nature and the corresponding assumption and exploration of unity explained rationally that harmonizes the Milesians into the first “school” of thought in the philosophy of nature.

THALES OF MILETUS

More than any other early Greek philosopher, Thales’ accomplishments speak for themselves. He is one of only four Greeks included in all accounts of the Seven Sages and the only philosopher. Celebrated in early Greek society for contributions in astronomy, nautical navigation, and the application of philosophical speculation to business pursuits, Thales is also considered a powerful political advisor who aids in the construction of cities and constitutions. Despite all of this, the ancient sage is, on some accounts, ridiculed for being an absent-minded philosopher more interested in the activity of the heavens than the practical concerns required for living on earth. As a philosopher of nature Thales has also been understood in contradictory ways. On the one hand, he has been portrayed as uninspiring, uninteresting, and of fairly little
importance on the view that his ideas and achievements have been greatly exaggerated throughout history. In contrast with this view, his recent defenders have argued that Thales is best regarded as a radical thinker who forever alters human history by founding theoretical thinking generally, philosophy and science more particularly. Since Thales’ seems to have written nothing down, we are left with little recourse but to derive his views from the testimonia about him rather than from his own words.

Aristotle tells us in *Metaphysics* i that Thales understands the ἀρχή to be water by explicitly connecting the concept of ἀρχή with φύσις. Citing Thales as the “founder of this type of nature philosophy,” Aristotle suggests that the monists deny the possibility that “anything either comes to be or perishes,” contending rather that “this nature (φύσις) is always preserved… For a certain nature (φύσις) always exists, either one or more than one from which everything else comes to be while this is preserved” (ὡς τῆς τοιαύτης φύσεως ἀεὶ σωζομένης…ἀεὶ γὰρ εἶναι τινα φύσιν ἢ μίαν ἢ πλείους μιᾶς ἢ ἢ ἰδίως ἢ ἱδιόσως σωζομένης ἐκείνης, *Metaphysics* 983b13; 17-18). Of these thinkers, Thales is said to hold the view that the φύσις of anything and everything, is water. What is not immediately clear, however, is whether this connection between ἀρχή and φύσις is forged by Thales himself or inferred by Aristotle as he outlines the view of his

22 See D.R. Dicks, “Thales,” *Classical Quarterly* 9 (1959): 294-309. Dicks takes great pains to reduce the proper view of Thales to include only that “he was a man of outstanding intelligence” who “speculated on the origin and composition of the universe,” and finally, that we should “regard it as highly probable that Thales interested himself in mathematics and astronomy and possessed for his time a more than average knowledge of both,” p. 306.
24 See O’Grady, *Thales*, for a recent argument that Thales did in fact produce written work. For a stronger and better substantiated argument against this conclusion, see Dicks’ account in “Thales.” Dicks points out that evidence for Thales’ contributions is limited to three sources prior to 320 B.C.: Herodotus, Plato, and Aristotle. Subsequent sources often made comments based upon reports which were “two, three, four, five or more stages removed from the original,” p. 299. Most scholars who weigh in on this debate conclude that it is best to assume that Thales did not produce written work, and O’Grady’s recent argument presents no real reason to abandon this view.
25 Graham, *TEGP*, p. 29. In this passage, Graham’s translation is more faithful than Barnes’ with respect to the idea of translating φύσις as nature.
predecessor. Aristotle helpfully supplies what he takes to be likely reasons Thales may have reached this conclusion: (1) “the nutriment of all things is moist”; (2) “heat itself is generated by the moist and kept alive by it”; (3) “the seeds of all things have a moist nature and that water is the origin of the nature of moist things” (λαβὼν ἴσως τὴν ὑπόληψιν ταύτην ἐκ τοῦ πάντωνόραν τὴν τροφὴν ὑγρὰν οὕσαν καὶ αὐτὸ τὸ θερμὸν ἐκ τούτου γιγνόμενον καὶ τούτῳ ζῶν (τὸ δ᾽ ἐξ ὑ ἔ ῥ γίγνεται, τοῦτ’ ἐστὶν ἀρχὴ πάντων) διὰ τὸ δὴ θεοῦ τὴν ὑπόληψιν λαβὼν ταύτην καὶ διὰ τὸ πάντων τὰ σπέρματα τὴν φύσιν ὑγρὰν ἔχειν, τὸ δ᾽ ὕδωρ ἄρχην τῆς φύσεως εἶναι τοῖς ὑγροῖς. Metaphysics 983b 20-27). These reasons are, at best, highly speculative, of course. While Aristotle suggests that Thales derives his theories from observable phenomena in the natural world, some scholars object to the tendency to inflate the empirical character of the Milesian approach. For instance, Seligman argues, “if they referred to observed ‘facts’, then it was in support of doctrines already held independently of them, and not as a basis for inference.”

Immediately following his presentation of the best empirical evidence for Thales’ view, Aristotle draws a parallel to an ancient view with the suggestion that Thales is not the first thinker to hold the view that water is the source of all things. Aristotle implies an affinity between the views of physiologoi and mythologoi with an explicit reference to Homer. Recalling the passage in the Iliad where Oceanus is named as the source “from whom all are sprung,” Aristotle marks this view as one of the oldest and most revered cosmogonical theories. The affinity runs beyond water, however, and the more important parallel is the idea that for the

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Greeks it is “the source of generation for which men feel awe.” Rather than a complete break from traditional modes of understanding, Thales continues the Homeric emphasis on primordial source as water, but instead of identifying the origin, and the encompassing generative powers, with a specific deity, he frames the source as a natural ἀρχή. In doing so, he reimagines the Greek model of generation. Thales’ move, which equates the notions of ἀρχή and φύσις with water implicitly if not explicitly, is thus both old and new; it relies on a traditional emphasis of nature, or “what is,” as closely aligned with its origin, and even the affinity with the elemental liquid as found in Homer. But where Homer’s source is personified as Oceanus, Thales strikes a thoroughly naturalistic note by removing particular identity and broadening the origin to the widest possible scope. The nature of anything is the same as the nature of everything for Thales principally because everything has a common, natural origin. Not surprisingly, the evidence Aristotle offers for Thales’ conclusion hinges on the observation that the wet, or moist, plays a dominant role in biological things. Perhaps projecting his own fascination with the biology of living creatures onto Thales, Aristotle’s examples center on the facet of biological life concerned with growth. Nutriment and the production and maintenance of heat are vital functions for any living thing which aims to grow. Aristotle’s final example is more fitting, however, as seeds provide a natural model for conceiving of the generation of all things, even the universe, from a common origin. Likewise, water seems to be an observable source of growth for living things. Much of the world would have been quite obviously made up of water from the sea to rain which comes from clouds to plants having dew on them in the morning. Aristotle’s line of reasoning is certainly plausible but sounds far more like Aristotle the biologist than Thales the astronomer.

Another way of reasoning to Thales’ conclusion is to suggest instead that meteorological phenomena induced him to his view.\textsuperscript{28}

Thales’ view that water is a precondition for growth and for life is certainly plausible, but does everything seem alive? Why presume that water is the ἀρχή for things which display no obvious signs of life? A famous passage in Aristotle’s *On The Soul* may give us a glimpse at Thales’ possible answer to this question, as Aristotle suggests that there are those who “think that the soul pervades the whole universe, whence perhaps came Thales’s view that everything is full of gods” (καὶ ἐν τῷ ὅλῳ δὲ τίνες αὐτήν μεμίχθαι φασίν, ὅθεν ἵσως καὶ Θαλῆς ὕψηθη πάντα πλήρη θεῶν εἶναι, *On The Soul* 411 a7-8). While Aristotle seems uncertain about the origin of Thales’ view, he seems fairly sure that Thales does indeed hold the view that “everything is full of gods.” Each thing is somehow pregnant with divinity, and we can speculate, in connection with his ideas on φύσις, that Thales moves to connect natural explanation with a mythical or theologically-based account for action or change in the world. Rather than Oceanus as a single, original source from which all things have sprung, all things contain the mark of the divine ἀρχή through their possession of a watery nature. Thales connects the observation of motion throughout the cosmos with the belief that soul is the source of motion, as Aristotle reports: “It appears from what is recounted of him that Thales too understood the soul to be a source of motion, since he said the lodestone has a soul because it moves iron” (ἔοικε δὲ καὶ Θαλῆς ἐξ ὧν ἀπομνημονεύουσι κινητικόν τι τὴν ψυχήν ὑπολαβεῖν, εἶπερ τὴν λίθον ἔφη ψυχὴν ἔχειν, ὅτι τὸν σίδηρον κινεῖ, *On The Soul* 405a19-21). But there is a short distance from the connection of an inner principle, such as the soul or an inherent nature, with particular external motion. As Ronald Polansky notes, “We may perhaps surmise that for Thales the ensouled magnet is also

\textsuperscript{28} Burnet, *EGP*, pp. 48-49.
somehow cognizant of what it moves since it only moves certain things.” Such cognizance suggests the combination of the notion of source with the notion of ends in Thales’ view. Importing discernment to a broader class of things than just those that are obviously living, the selection of ends in nature is suggested in a primitive way. The idea of water as the φύσις of everything, understood through a Greek tradition which embraces the divinity of origins, suggests a world imbued with a purposive discernment down to the most minute natural being.

Thales’ infusion of all natural things with the purposive power of divinity through water as the φύσις of everything is an extension of the Homeric view of nature. At first blush, the Homeric view seems to be more of a purposive forerunner to the teleological view that dominates the subsequent philosophical tradition in the respect of the process of the cosmic river generating. Thales redirects this notion of cosmic genesis into all things--not only do all things originally come from water as Oceanus, they are made of water, and thus have this same purposive, creative nature themselves. In theorizing this way, Thales shifts such purposiveness from the macroscopic level of divine beings to a microscopic level of inherent nature. Aristotle has already pointed us toward the idea that the material monism of the first philosophers of nature has a concept of τέλος built into it through the idea of destruction as fulfillment of the growth process. On this view, a complete understanding of the source brings with it a grasp of the end of things. Thus naming the source is akin to discovering the ends of nature such that all processes are a movement toward the end as a return to the source. This identification holds true for Thales in an epistemological sense as well since in the discovery of an enduring ἀρχή as origin, ἀρχή is thus the τέλος of philosophical inquiry into nature, and Thales’ primary

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achievement as a philosopher of nature is that he has “replaced the series of births with a circle of transformations.”

Supplanting the project of Homer and Hesiod, Thales posits the φύσις of things as a self-perpetuating source which accounts for itself always, and is not born or created, but transforms into different entities. The pursuit of the origin of all things which leads to the discovery of nature is thus fundamentally purposive because it produces a knowledge of nature as continuously transforming itself. The discovery of a natural explanation for the source of all things would necessarily induce one to ask: how then do things come to be from this source? Thales provides no clear answer to this question, but this is precisely where Anaximander focuses his own account of φύσις and ἀρχή, embracing origin but placing far more emphasis on the idea of nature as process.

ANAXIMANDER

While Thales precedes Anaximander in the history of western natural philosophy, the latter is generally considered to be the originator of both the Περὶ φύσεως tradition and scientific philosophy. The bulk of the modern literature on the Milesians focuses on Anaximander’s thought because the scope of Anaximander’s project was vast, as he purportedly attempted to move from a cosmogony to a descriptive account of the world at present, including a map. Anaximander is also the first nature philosopher from whom we have concrete evidence of written work, based upon a single surviving fragment from his work in prose, later titled On Nature. While the map along with much of Anaximander’s work is lost to us, what has become the inaugural fragment in early Greek philosophy survives. Simplicius preserves the fragment in his commentary on Aristotle’s Physics, although a fierce and interminable debate exists

32 Kahn, Anaximander and the Origins of Greek Cosmology, p. 3.
The surrounding context, however, proves helpful for the present study:

τῶν δὲ καὶ κινούμενον καὶ ἄπειρον λεγόντων ᾿Αναξίμανδρος μὲν Πραξιαδοῦ Μιλήσιος Θαλοῦ γενόμενος διάδοχος καὶ μαθητής ἄρχην τε καὶ στοιχεῖον εἴρηκε τῶν ὄντων τὸ ἄπειρον, πρῶτος τούτο τούνομα κομίσας τῆς ἀρχῆς. λέγει δ᾿ αὐτὴν μήτε ὕδωρ μήτε ἄλλο τι τῶν καλουμένων εἶναι στοιχεῖον, ἀλλ’ ἐτέραν τινὰ φύσιν ἄπειρον, ἐξ ᾧ ἄπαντας γίνεσθαι τοὺς οὐρανοὺς καὶ τοὺς ἐν αὐτοῖς κόσμους·

ἐξ ᾧ δὲ ἡ γένεσις ἐστὶ τοῖς οὐσί, καὶ τὴν φθοράν εἰς ταῦτα γίνεσθαι κατὰ τὸ χρεών· διδόναι γὰρ αὐτὰ δίκην καὶ τίσιν ἀλλήλως τῆς ἀδικίας κατὰ τὴν τοῦ χρόνου τάξιν, ποιητικωτέροις οὕτως ὀνόμασιν αὐτὰ λέγων.

Of those who say the source is one and in motion and boundless, Anaximander, the son of Praxiades of Miletus, the successor and student of Thales, said the source and element of existing things was the boundless (ἄπειρον), being the first one to apply this term to the source (ἀρχή). And he says it is neither water nor any other of the so-called elements, but some other boundless nature (φύσιν ἄπειρον), from which come to be all the heavens and the world-orders in them:

From what things existing objects come to be, into them too does their destruction take place, according to what must be: for they give recompense and pay restitution to each other for their injustice according to the ordering of time, expressing it in these rather poetic terms (B1).

The central concept in the passage is the enigmatic notion of the boundless, which has fascinated philosophers for thousands of years. In that part of the fragment most often taken to be a direct quotation, however, Anaximander never mentions, much less elaborates on the nature of the ἄπειρον, in effect relegating significant portions of the debate surrounding the precise idea of “the boundless” to controversy over second-hand sources. In the larger passage included above, Simplicius frames this single Anaximandrian fragment in his commentary on Aristotle’s *Physics*

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by explicitly connecting the ideas of boundless and nature by taking ἄπειρον to modify φύσις. So, rather than making “the boundless” a distinct source entity, or “thing,” rivaling Thales’ water, Anaximander’s notion of φύσις is itself described as indefinite or boundless. Nature as boundless not only serves as a rejection of the material specificity of Thales’ theory but also signifies the possibility that φύσις, at its earliest conceptual stages, is conceived in significantly different ways. Insofar as it is connected to ἄπειρον, the essential idea of nature for Anaximander is a lack of limit, material or otherwise.

At first glance Anaximander’s suggestion that φύσιν ἄπειρον is the source or origin for the cosmos and all things in it may seem to follow Thales’ basic conception of nature rather closely. On this view both Anaximander and Thales would have the same functional notion of φύσις, only different with respect to the particular constitution of the source. It is true that Anaximander understands the φύσιν ἄπειρον as the source of all generation as Plutarch explicates by offering what he takes to be Anaximander’s account of the beginning in time of the universe: “[Anaximander] says that that part of the everlasting which is generative of hot and cold separated off at the coming to be of the world-order and from this a sort of sphere of flame grew around the air about the earth like bark around a tree” (φησὶ δὲ τὸ ἐκ τοῦ ἀιδίου γόνιμον θερμοῦ τε καὶ ψυχροῦ κατὰ τὴν γένεσιν τοῦ ἀποκριθῆναι καὶ τινὰ ἐκ τούτου φλογὸς σφαῖραν περί φυῆναι τῶι περὶ τὴν γῆν ἀέρι ώς τῶι δένδρωι φλοιόν, A10). The idea of “φύσις as origin” becomes remarkably more complex if it is both boundless and possesses specific powers of generation. In the case of Thales, Aristotle infers a connection between his predecessor’s ideas and seeds, a connection often extended to Anaximander based on this passage from Plutarch. Yet a seed implies a physical structure and thus, at the very least, physical limits. Conceptually speaking, however, a seed is the source of something in such a
way as to contain the entire blueprint for what the thing will become. The ἄπειρον insofar as it is both a source and boundless serves as a seed, without the limitations of a seed. It is, in effect, “a kind of matrix from which seeds are born,” thus serving as a source for all things by prescribing how they will unfold.  

One way to conceive of this notion of a boundless “matrix” is as an intricate process which both gives rise to and governs the cosmos. Similar to his fellow Milesians, Anaximander envisions the ἄρχη as divine by transposing two key facets of divinity onto the boundless. It is said to both “contain all things and steer all things” and be “deathless and imperishable.” Both ideas can be applied to this matrix through the notion of nature as a never-ending process which both contains and steers all things. Aëtius supplies Anaximander’s reasoning behind his conception of the ἄρχη as boundless nature: “Thus he tells why it is boundless: in order that the coming to be which occurs may never cease” (λέγει γοῦν διότι ἄπειρον ἐστιν, ἵνα μηδὲν ἐλλείπῃ ἡ γένεσις ἡ ύφισταμένη, A14). We might suppose, as many others have, that the impetus behind Anaximander’s theory is a desire to correct an error he detected in Thales’ main idea. After all, if everything is really water, how do we explain the existence of fire, let alone where it came from? But Anaximander is far more interested in understanding the world in terms of “coming to be” rather than in “explaining the constitution of things.” His entire project of a cosmogony aims not only to elucidate the source from which all things come, but to trace the process of development. The story of nature for Anaximander, is the story of becoming, the story of

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35 Graham, TEGP, p. 68.
36 Richard D. McKirahan expresses doubts that Aristotle has in mind Anaximander when he gives these attributes but provides no persuasive evidence to depart from the traditional attribution in Philosophy Before Socrates: An Introduction with Texts and Commentary, 2nd ed. (Indianapolis: Hackett Publishing Company, 2010), p. 36, (hereafter PBS).
process, the story of how we got here from there. In such an account, the emphasis is less on
origin and far more about what guides the development.

For all the fascination and debate about the proper interpretation of the ἄπειρον, it is
Anaximander’s invocation of a natural process of cosmic justice that ushers in the teleological
view of the early Greek philosophers of nature. While scholars debate how much of the only
fragment we possess from Anaximander is paraphrased as opposed to direct quotation, the
message is clear enough: justice is a cosmic principle that applies equally to the fundamental
constituents of the cosmos as to mankind in political communities. Anaximander assumes a
basic plurality of opposites which naturally conflict with one another, such as hot and cold.37 By
their very nature, these opposites commit injustice against one another by encroaching upon one
another, “crimes” for which they then invariably “give recompense and pay restitution to each
other.” The universe unfolds for Anaximander from necessity or “according to what must be.”
Both justice and injustice, then, are inevitable; woven into the very fabric of the cosmos as a
universal, cyclical process.

If the ἄπειρον is itself this process of cosmic arbitration, then it serves as an original
source of generation but one which plays a more specific, continual role in the unfolding of the
universe. All things are subject to this process and steered by it, which is consistent with the idea
that the boundless nature “contains all things and steers all things,” as Anaximander says. The
notion of a “steered” (κυβερνᾶν) cosmos appears in Greek thought both earlier and later than
Anaximander. Under the Homeric conception, all things are steered by Zeus, a view Heraclitus
employs when he suggests that the “Thunderbolt steers all things” (τὰ δὲ πάντα οἰκαίζει

37 See A10 and Physics 187a12-23
Reality for the Greeks is then in a way fundamentally purposive in that it is steered and guided, but it is Anaximander who initiates the conception of a universe guided and steered not by supernatural beings but by a natural process with the force of law. In providing a new way of thinking about the source of guidance, Anaximander seems to assert that entities must commit injustices against one another by their very nature, but that cosmic balance is inevitably restored through a process of reciprocity. Adding the further stipulation that this cosmic process of justice occurs with a fixed regularity “according to the ordering of time,” Anaximander in effect supplies the way in which the course is constantly corrected. The steering occurs both through the conflict of opposites and the inevitable retributive reaction. Another reading of the ἄπειρον, provided by Kurt Pritzl, as fundamentally teleological is the suggestion that it is in fact time itself that is the “ἄπειρον as the divine, surrounding, mastering, force of the whole determining, according to law-like necessity, the fate or ends of all with-in the world.”

Operating as the force which governs the regulative process inherent in all natural things, on this view time is the indefinite, boundless natural process that “rules” both the unfolding of the cosmos and all things in it as a principle. While a final evaluation of the precise nature of the ἄπειρον remains elusive, the inevitable conclusion is that Anaximander’s “conception of the universe, as a bounded whole steered and governed by an all-encompassing, teleologically ordered arche, is the conception of the universe that persists as philosophy develops and matures.”

But a teleological framework requires more than a notion of being steered in particular ways; it also requires being directed toward a particular end. For Anaximander, the cosmic

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38 Heraclitus also uses the notion of a steered cosmos when he says, “The wise is one thing--knowing the plan which steers all things through all things” (B41).
40 Ibid.
back-and-forth process is in effect “a self-regulative equilibrium.” Natural justice is both a process of arbitration of conflicting opposites and an inherent end as the ever-present yet elusive goal of equilibrium. The notion of equilibrium as a basic feature of the cosmos is not a new discovery with Anaximander. Pervading Greek thought even for Homer and Hesiod, the notion of balance or equality in the cosmos was a commonplace. Yet the idea that this is regulated by a law-like process which governs from necessity (not whim or fancy), is perhaps Anaximander’s greatest contribution to philosophy insofar as it marks nature with its own purposiveness rather than a supernaturally imposed sense of the end. Anaximander mobilizes the concept of equilibrium as the fundamental principle of nature perhaps most famously in his discussion about an earth being equipoised. In resolving a question that fascinated his fellow Milesians, and perhaps Xenophanes, Anaximander maintains that what holds the earth in place is not a material support, such as the earth floating on water or air as the others claim, but the notion of equilibrium or symmetry. The earth has no need to move in one direction rather than another, thus it remains equipoised. While the ἄπειρον as a “matrix from which seeds are born” may have been responsible for the origin of the cosmos, it is as a process that aims perpetually at equilibrium that it ensures the continuation of the cosmos.

By connecting the idea of nature as a process with the notion of cosmic justice, Anaximander links nature with purposiveness. The aim of justice is not to eradicate transgressions, as this would be impossible. Rather, justice restores a balance that has been transgressed, thus always aiming at equilibrium as a kind of telos. This idea of justice, regardless of its source, helps Anaximander articulate the idea that nature itself has equilibrium built into the process of generation as a natural telos. As that which governs the regulative

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42 See Kahn, Anaximander and the Origins of Greek Cosmology, pp. 76-81.
process inherent in all natural things, however, it is time that is the indefinite, boundless principle that “rules” both the unfolding of the cosmos and all things in it. As the first *physiologos* to articulate the idea of nature as a fundamentally purposive *process*, Anaximander sets in motion the philosophy of nature among the early Greeks as an effort not just to say what things are made of or where they have come from, but *how* they come to be what they are.

**ANAXIMENES**

The general consensus among present-day scholars is that Anaximander’s intellectual accomplishments tower over those of the other Milesian *physiologoi* in no small part thanks to the possibilities contained in the concept of the ἄπειρον. Yet his philosophical successor, Anaximenes, perhaps deserves a greater share of the praise for his own intellectual accomplishments. In his prime around 546 B.C., and leaving only a single work (of which only one sentence survives), Anaximenes eschews the political metaphor contained in Anaximander’s theory, instead offering a psychological paradigm as the model for the cosmos: “As our soul, being air, holds us together, so do breath and air surround the whole universe” (*οἶον ἡ ψυχή,* φησίν, ἡ ἡμετερα ἀὴρ οὖσα συγκρατεῖ ἡμᾶς, καὶ ὅλον τὸν κόσμον πνεῦμα καὶ ἀὴρ περιέχει, B2). In a way similar to Thales’ probable rationale, Anaximenes uses the concept of life to support his theory. The universe and man operate by the same principle, according to Anaximenes, but this principle is not a regulatory law-like process of recompense that seeks equilibrium, but rather a material principle that surrounds and unifies.

Theophrastus provides us with a more complete account of Anaximenes’ central beliefs, as reported by Simplicius in his commentary on Aristotle’s *Physics*:

`Αναξιμένης...ἐταίρος γεγονός ᾿Αναξιμάνδρου, μίαν μὲν καὶ αὐτὸς τὴν ὑποκειμένον φύσιν καὶ ᾿Αναξιμάνδρος ὡσπερ ἐκείνος, οὐκ ἀόριστον δὲ ὡσπερ ἐκείνος, ἀλλὰ ὄρισμένην, ἀρᾷ λέγων αὐτήν· διαφέρειν δὲ μανότητι καὶ πυκνότητι κατὰ τὰς οὐσίας, καὶ ἀραιοῦμενον μὲν πῦρ γίνεσθαι, πυκνοῦμενον δὲ ἄνεμον, εἶτα

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Anaximenes...like Anaximander, declares that the underlying nature is one and unlimited but not indeterminate, as Anaximander held, but definite, saying that it is air. It differs in rarity and density according to the substance <it becomes>. Becoming finer it comes to be fire; becoming condensed it comes to be wind, then cloud, and when still further condensed it becomes water, then earth, then stones, and the rest come to be from these. He too makes motion eternal and says that change also comes to be through it (A5).

Anaximenes builds on the theories of his predecessors Thales and Anaximander by incorporating distinct elements from each thinker’s ideas. From Thales he pulls the notion of a “determinate” material constituent which comprises the fundamental reality of any and every individual thing in the natural world. Agreeing with Anaximander, however, that the φύσις of things is specifically generative, always involving “coming to be,” Anaximenes supplies a precise process, condensation and rarefaction, by which things come to be what they are. By combining the fundamentally constitutive elements of his philosophical predecessor’s theories, Anaximenes generates a concept of “underlying nature” which more precisely explains the physical composition of things and processes of change in the natural world. The determinate material and the generative process are not separate for Anaximenes; instead, he understands air “to have in itself this power of movement, that is, the power of rarefying and condensing.”

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43 Translation from McKirahan, PBS, p. 48.
44 While the suggestion that Anaximenes’ theory is a definitive step forward from Anaximander’s is certainly debatable, it is the idea that Anaximenes’ methodological innovation comes about through assembling a new theory from parts of those of his predecessor’s theories that is far more essential for properly understanding the development of the concept of nature in early Greek philosophy. Anaximenes’ ability to build on the ideas of his predecessors to establish a firmer concept of nature as having a definite material origin and an articulated process, specifically that the material origin and the definite process are one and the same, establishes a fundamental facet of philosophical inquiry—better knowledge and stronger explanations can be constructed out of a history of ideas.
45 Kathleen Freeman, The Pre-Socratic Philosophers: A Companion to Diels, Fragmenta der Vorsokratiker, (Cambridge, MA: Harvard University Press, 1966), p. 66. McKirahan also points this out when he says that “Anaximenes did not identify separation and condensation as separate causes from air,” PBS, p. 52. See Metaphysics 984a5-6, 985a 29-31.
The concept of nature understood this way (that is, as a concept of being) does not differentiate and classify but unifies in several key ways. First, all things are functionally the same thing, air; they just happen to be in different current states. Much like Thales’ water, Anaximenes’ air is, on some level, the only thing that “actually is.” Second, by explicitly labeling an identifiable natural process as the singular law of the system, Anaximenes prescribes the specific process by which all things operate. In this way, he might be accounted the first true empirical philosopher of nature. Unlike Anaximander, for whom the process is a cosmic process that regulates the behavior of opposites contained within the universe, Anaximenes understands the power for condensing and rarefaction to be immanent in the nature of things themselves. Air is both “condensing and rarifying” and “condensed and rarefied,” and as nature is both process and source material. As both material and means, air produces everything in the cosmos, including, as it turns out, the gods themselves. Air, as the underlying nature of everything, is more fundamental than the gods.

While Anaximander understands nature as a process that aims at and produces equilibrium by regulating opposites, Anaximenes asserts a specific, observable, physical process of condensation and rarefaction. One problem with Anaximander’s notion of justice derived from the perception of opposites like hot and cold giving way to one another, is that it fails to account for a whole host of seemingly unrelated phenomena in the natural world that do not neatly fit into the notion of “opposites.” Anaximenes uses his idea of nature to unlock a far more intelligible world by increasing the “range of related phenomena” and giving an empirical process that can, at least in some instances, be directly observed.46 Anaximenes is much closer to our version of a scientist in that he expends “effort to arrange the observed data in an

46 McKirahan, PBS, p. 50
intelligible scheme, based on the cause and effect relationship between them.” Where Anaximander grasps at the nature of things through the lens of polarity, Anaximenes views the natural world as a spectrum in which natural entities are related through what they possess in common rather than through their fundamental opposition to one another.

Broadly speaking, the conception of φύσις as both material constituent and inherent process explains both the production and unification of the cosmos. But does it explain the end? Air as nature is both the material and the force holding everything together as well as differentiating this unity into a plurality of distinct entities. Returning to his psychological paradigm, it becomes clear that for Anaximenes the soul “holds us together” by serving as the principle of identity and unification in the same way air unifies the cosmos. Anaximenes thus explains the unification of everything through the twofold structure of air as both material source and power of condensation/rarefaction. His theory explains unity both of the individual thing, what is holding it together, and the cosmos--unified as one thing which operates in a singular way. In this way, Anaximenes’ view anticipates the Aristotelian definition of nature as an inner principle of change quite clearly. Contained in everything and possessing the capacity to shape itself, air is the inner principle underlying change in all entities. If Anaximenes were to supply a telos then, it would be in the form of an end that guides the way this shaping occurs. More explicitly than Thales, Anaximenes uses notions of life to understand and explain the operation of the cosmos. The implication may be that the operation of air is guided by the end of the continuation of life and the inherent unity of all things into a whole, but this is, at best, a very tentative conjecture.  

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47 Freeman, *The Pre-Socratic Philosophers*, p. 65.
48 Graham, *Explaining the Cosmos*, thinks that Anaximenes may suggest a “teleological account of the world” in B2 (“As our soul, being air, holds us together, so do breath and air surround the whole universe”), but that Plato
Fractured at its very origins then, the discovery of nature is not as monolithic and uniform as it has often been understood. The first physiologoi, even if they do grasp the nature of things in terms of ἀρχή, understand and use the conceptual features of “nature” quite differently. Thales’ gravitates toward using traditional explanatory frameworks in new ways when he articulates a common source for all things that is not supernatural but material in nature. While Anaximander continues Thales’ line of thinking after a fashion, he explicitly broadens the idea of nature to include that which governs not only origin but process of development. Transcending the limits of material composition, the idea of nature in effect becomes process through Anaximander’s theory of a cosmic process of arbitration that governs all things. Anaximenes understands the material and process to be one and the same nature, air, which operates as the inner principle of all entities, shaping themselves through the dual process of condensation and rarefaction. What then unites such disparate thinkers into a single “school” of philosophy?

Beyond common location, the Milesians share a general orientation toward nature itself. Concerned with what can be said of the natural world, they exchange ideas and offer solutions to complex questions, thereby forming themselves into a school by common interest and endeavor. Despite fundamental disagreement on foundational concepts like ἀρχή and φύσις, that is, those notions by which they frame the natural world, the Milesian physiologoi also share a series of general assumptions. They each hold that the idea of nature is both a worthy subject of inquiry and a way to better understand the cosmos. These three men also share a common spirit of innovation and imagination both in the answers they provide to big questions and their willingness to experiment with existing conceptual frameworks. The first steps on the path to the

possibly neglects to appreciate the “suitable application...of the teleological and providential character the Milesian ascribes to air,” p. 48.
discovery of nature illustrate that the idea of nature is not simply something that man pursues and investigates, but a way in which he orients himself to answering particular questions. The fundamental shift in orientation is the understanding that nature is both the question and the answer and the dogged pursuit of it in both capacities is an endeavor worth undertaking.

In their earliest forms then, these theories of nature are all primarily intended to explain the underlying unity of things. Such a unity is not unique to the Milesian physiologoi, but they aim to supply novel and fairly sophisticated explanations for it. By virtue of its broad, if implicit, application to all things, the idea of nature is what unifies all things for the Milesians both when it is understood as “the first things” and the “essential character of a thing.” Thales’ notion of unity stems from his belief that everything is ultimately composed of the same thing and this natural inter-connectedness between vastly different kinds of things demands an account. Anaximander finds the unity of the universe through subjugation of all things to a cosmic process of recompense that aims at equilibrium. While the opposites are fundamentally differentiated and competing, all things are regulated by the process of nature. This is to say that, for Anaximander, understanding the world through the process of recompense, and thus cosmic equilibrium, not only better explains particular facets of the cosmos but illustrates that the process itself is the true underlying unity of all reality. For Anaximenes, nature is both the material constituent and a determinate process. Anaximenes claims that what makes something what it is, and this goes for everything that is, is the degree to which it is condensed or rarefied air. Unity in his view is immanent to the entities in the world, not an externally imposed cosmic process ruled by time, but an inner, regulative principle that shapes the entity through condensation and rarefaction. In their exploration of various ways to understand and explain the underlying unity, the Milesian physiologoi lay the foundations for the more advanced discussions
and arguments around ideas of unity and plurality in the cosmos which play out in subsequent early Greek philosophy.

The earliest *physiologoi* also share the common assumption of the divinity of nature. Some suggest that the “core” of the Milesian revolution in thought is a reformed theology. On this view, the Milesians are reimagining the nature of the gods through naturalizing them into a single entity at the heart of all that exists. While this theory can be taken to extremes, leading scholars to tilt at far more sophisticated divine windmills than are actually present in the fragments and testimonia, the general view of a strong connection between theological and philosophical concepts at the very origins of philosophy is founded on reliable evidence that the Milesians conceive of nature as divine in certain respects. In suggesting that “everything is full of gods,” Thales extends the divine attributes of immortality and unlimited power throughout the natural realm to both animate and inanimate things. The implication, as Kirk and Raven point out, is that “the world as a whole manifests a power of change and motion” which must be “because of its permanence...extent and variation, be regarded as divine.” Anaximander expands this notion of divinity through the idea that the boundless controls and steers the world. In stark contrast with Homeric and Hesiodic divinity, which understands the regulation of events in the world through the “personal, arbitrary interventions” of the gods, Anaximander’s boundless controls the world through “enforced regularities” and “lawlike cycles,” thus transforming the notion of divinity into something akin to “natural order.” The relationship of divinity to Anaximenes’ air is more difficult to sort out. According to Cicero and Aëtius,

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49 See Edward Hussey, *The Presocratics* (New York: Charles Scribner’s Sons, 1972), p. 29. Gregory Vlastos offers a more moderate position in observing that for the Milesians the “primary object is to understand nature, not to reform religion,” yet acknowledging that there are “important exceptions” to this rule; see his “Theology and Philosophy in Early Greek Thought,” *Philosophical Quarterly* (1952): 97-123, at 98.

50 Kirk and Raven, p. 95.

Anaximenes believed that air itself was God, but Augustine contends instead that the Milesian embraced a polytheistic theory but “did not, however, believe air was created by them, but that they were formed out of air” (A10). In both cases, Anaximenes’ notion of divinity continues the Milesian emphasis on infusing nature with the idea of unlimited power. In its earliest philosophical conceptions, the idea of nature is thus necessarily interconnected with the constitutive elements of the concept of divinity.

Finally, the Milesian theories of nature are marked, to greater and lesser extents, with notions of purposiveness that serve as foundational for succeeding philosophical traditions. Bound up in the explanations offered by the Milesians are not just attempts at articulating what there is or how things came to be this way, but implications for why they are this way. A pantheistic Thales articulates a view of nature as a perpetual source which engages in a cycle of transformations. The perpetuation of the cycle, that is, the power of the source, is best encapsulated in the idea of water. Such a source is purposive not because it acts for particular ends, but by being the end itself, both of knowledge and existence. The source as the nature of things is at once the origin, the process, and the telos. Understood this way, Thales’ theory is elegant and yet deceptively simple, and offers Anaximander the opportunity to expand by providing a more explicit theory of the cycle of transformations. It is not the source, but the cycle or process of encroachment and recompense aimed at the specific end of equilibrium that explains why the world is such as it is at any given point in time. Anaximenes shifts this idea of process into a power of shaping that acts as an inner principle of nature, transforming the concept of φύσις into an explanatory principle that simultaneously has the capacity to shape itself and “hold itself together.” While he may not supply a precise end for natural processes, it is not
inconceivable that Anaximenes believed that the purpose of the activity of nature was the continuation of the existence of the cosmos itself.

Despite the attributes of unity, divinity, and purposiveness in the Milesian theories of nature, we should not fall into the trap of assuming that they share a single framework for thinking about nature. Rather, as I have argued here, the Milesians lay the foundation for deeper explorations of nature, and its purposive features, in remarkably different ways. By articulating different ways to understand ἀρχή, the Milesians offer a multi-faceted concept of nature that, in its original formulations, is primarily intended to explain the existence of unity in the cosmos. The fascination with unity that runs throughout all of ancient Greek philosophy finds its humble beginnings among these thinkers. Through their efforts to carve out the features of this idea of nature, the Milesians lay important theoretical foundations for their most immediate philosophical successor, Xenophanes, who conceives of the relationship between φύσις and unity on a whole new scale.
Chapter 2: Xenophanes’ Theory of Everything

To explain all nature is too difficult a task for any one man or even for any one age. 'Tis much better to do a little with certainty, and leave the rest for others that come after you, than to explain all things.

—Isaac Newton

History has wavered considerably on the inclusion of Xenophanes in the philosophical canon. Oftentimes, he has been considered only a poet or theologian, unless one follows Aristotle who seems not to want to grant him even that much. Calling him a “little boorish” (μικρὸν ἀγροικότεροι) and considering his ideas barely worth mentioning let alone meriting engagement, Aristotle dismisses Xenophanes as less rigorous than his other early Greek counterparts.52 Much of the history of philosophy would follow Aristotle’s lead in this view and though the Stagirite’s objection to Xenophanes’ ideas was neither the first nor the most extreme, it has certainly reverberated throughout history the longest and with the most force.53 And yet the more recent trend among scholars of early Greek philosophy has aimed at ever-increasing inclusiveness and the expansion of the canon of philosophers. As a result, Xenophanes has found recent defenders who have sought not only to substantiate but elevate his place in the early Greek philosophical pantheon. Even if one grants the existence of philosophical content in his fragments, however, Xenophanes seems far less concerned with natural philosophy than with epistemological and theological questions. What relevance does he have then for the present study of the concept of purposive nature in early Greek philosophy? His defenders, most notably James Lesher, have read Xenophanes as a systematic thinker who intends a broader integration

52 See *Metaphysics* 986b18-27 where Aristotle justifies ignoring Xenophanes in metaphysical inquiry.
53 Heraclitus is Xenophanes’ first recorded detractor when he says, “Much learning does not teach understanding. For it would have taught Hesiod and Pythagoras, and also Xenophanes and Hecataeus” (πολυμαθίη νόον οὐ διδάσκει. Ἡσίοδον γὰρ ἂν ἐδιδακε καὶ Πυθαγόρην, αὐτίς τε Χενοφάνεα τε καὶ Ἑκαταῖον, B40). Cherniss offers a similar present-day summation of Xenophanes’ philosophical talents when he suggests that Xenophanes is only included in the history of philosophy “by mistake,” *The Characteristics and Effects of Presocratic Philosophy*, p. 18. Hermann Fränkel concedes that Xenophanes’ “doctrine of God and his critique of knowledge” may be philosophical but that “in all other respects, this remarkable man appears expressly unphilosophical,” “Xenophanes Empiricism and his Critique of Knowledge” in *The Pre-Socratics: A Collection of Critical Essays*, ed. Alexander Mourelatos (Garden City, New York: Anchor Books, 1974), p. 118.
of the various threads of his thought than has previously been accepted. While his defenders correctly aim to connect Xenophanes’ ideas, they take the wrong approach to Xenophanean unity when they argue for a “system.” A system presumes parts fulfilling designated functions, and perhaps even one “part” driving another. In such commentaries on Xenophanes, his thoughts on the gods drive his ideas on natural things and knowledge. That is, discussions of these latter concepts are only ever in service to his theological agenda. I will argue in this chapter, however, that his defenders have not gone far enough; using the concept of nature, we can give a better account of actual unity in his ideas and discover what Xenophanes ultimately sought to offer: a theory of everything.

A little over two generations after the Milesians, Xenophanes emerges as a new kind of nature philosopher among his contemporaries. By offering more specific insight into the challenges and questions surrounding man in both the natural and supernatural realms, Xenophanes explicitly extends the purview of the concept of nature beyond the origin and development of the cosmos. Though he does not use the term φύσις in the fragments which have survived to us, we can derive key facets of his concept of φύσις from phu-cognates found in

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54 See James Lesher “A Systematic Xenophanes?” in Early Greek Philosophy: The Presocratics and the Emergence of Reason, (Washington D.C., Catholic University Press, 2013), in which he suggests the possibility of systematizing Xenophanes’ work, albeit cautiously.

55 Ascribing such theories of everything to Presocratic thinkers is a recent trend among commentators. Patricia Curd suggests that Anaxagoras “proposed a theory of everything” although she does not define what she means by this phrase beyond suggesting that, “his aim seems to have been to explain as completely as possible the world in which human beings live…thus he seeks to investigate our universe from top to bottom,” “Anaxagoras and the Theory of Everything” in Oxford Handbook of Presocratic Philosophy, Curd and Graham, eds. (New York: Oxford University Press, 2008) p. 230. But this could plausibly be said about virtually all of the early Greek philosophers of nature following the Milesians. In fact, Daniel Graham contends that Heraclitus is “the first philosopher in the full sense” since he attempts to provide “a coherent theory of everything,” TEGP p. 136. My argument is that Xenophanes is the first to attempt a philosophical theory of everything. In his introductory work for new students of the Presocratics, Giannis Stamatellos translates a key passage on Xenophanes from Aristotle to suggest that Xenophanes was the first “who looked up at the sky and had a theory of everything.” Stamatellos gives no account as to why he deviates from the established translation of this fragment to translate τὸ ἐν τοῖς φησι τὸν θεόν as “theory of everything” nor does he endeavor to substantiate the suggestion. See Introduction to Presocratics: A Thematic Approach to Early Greek Philosophy, (Chichester: Wiley-Blackwell, 2012), p. 11. Beyond this instance, I cannot find any other attempts to ascribe such a theory to Xenophanes, let alone argue for such a connection.
several of his fragments. Connecting these facets with his application of the prescriptive qualifier “all things” (πάντα) to wide-ranging subjects and implicit philosophical questions illustrates the emergence of intertwined universal and individual features of his concept of nature which simultaneously classifies and unifies things in the world. The most important and revolutionary application of the idea of nature which emerges from Xenophanes’ fragments is directed at the discovery of the true “nature” of the divine. By tracing Xenophanes’ simultaneous deconstruction of traditional anthropomorphic views of the gods together with his positive construction of a single, unmoving God, we can see how Xenophanes employs his own concept of nature to reconceive divine nature both in itself and as it relates to the idea of a mortal nature.

Understanding Xenophanes as a more inclusive kind of nature philosopher allows us to begin to piece together the seemingly disparate strands of his ideas on the gods, knowledge, human values, and the natural world. These strands, I argue, can be connected into a single, unified theory of everything. This chapter offers a new perspective on the emerging concept of nature (and its connection with purpose) in early Greek philosophy. Xenophanes, I argue, uses the idea of nature to attack conventional beliefs and their sources in order to supplant tradition with a new way to understand the world. Augmenting the idea of nature as “outward characteristics,” Xenophanes uses the notion of capacity, or what something can do, to expand the Hellenic conception of φύσις and apply it to a broader number of philosophical questions. In his hands, this idea of nature helps to establish a “likely story” that enables better understanding of both natural phenomena and the nature of divine beings. Such wisdom, on his view, has important political ramifications, as he contends that those who possess his sort of expertise are far more valuable to the city than Olympic victors. By applying this sort of inquiry, mankind is
able to better reflect the true nature of the divine by guiding and governing according to intelligent principles, rather than the capricious whims of the Homeric gods.

**XENOPHANES’ CONCEPT OF PHYSIS**

Relative to the Milesians, an enormous amount of extant material survives from Xenophanes. Yet despite this surfeit of fragments, the term φύσις is conspicuous in its absence. The lack of the term in the precious few fragments from the Milesians is not generally considered problematic given that Aristotle and the subsequent tradition categorizes them as nature thinkers. He affords no such place to Xenophanes, and given the absence of the actual term, Xenophanes’ concern with the concept of nature seems plausibly doubtful at first glance. As a result, he has often been excluded from discussions of philosophy of nature among the Presocratics. James Lesher, who has written the definitive modern commentary on Xenophanes’ work, presents an alternative understanding, however, when he suggests that “although the noun φύσις appears nowhere in the fragments of Xenophanes, the φύσις of things—both of individuals and of πάντα—is the subject of many of his accounts.”

A passing suggestion in a footnote, Lesher’s claim nevertheless provides a plausible foundation for raising an important question: how much can the concept of nature be restricted to the appearance of the term φύσις?

While the associated term need not necessarily be present in order for the thinker to use a particular philosophical concept, it does provide a useful signpost for the modern interpreter of early Greek texts. Xenophanes provides such signposts when he uses words derived from the verb φύω in several fragments. Words derived from the Greek verb φύω inherently contain the notion of growth. The single use of the noun φύσις in Homer concerns a flower reflecting an

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56 James Lesher, *Xenophanes of Colophon: Fragments*, (Toronto: University of Toronto Press, 1992), p. 140. All translations of Xenophanes’ fragments come from this edition, unless otherwise noted.

57 The concept of nature will become more intimately connected with *einai* in later early Greek thinkers, as I argue in my discussion of Parmenides’ views in Chapter 4.
affiliation with the notion of plant growth, but Xenophanes’ extends the use of the term φύονται to a wider class of things, when he says, “All things which come into being and grow are earth and water” (γῆ καὶ ὕδωρ πάντες εὐσθε ὅσα γίνοντες ἄνειρεντε, B29). This qualifier shapes the subject “all things” (πάντα), by redefining it into a smaller group of things which perform this function of growth. In other words, Xenophanes means “all natural things are earth and water.” Natural things are defined on a fundamental level by their most basic functions, by what they do: they both come into being and grow. The emphasis in this fragment is not, as has often been assumed, on the specific materials mentioned, as though Xenophanes aims to enter the materialist debate by positing two ἀρχαί in place of one offered by the various Milesian physiologoi. It is on redefining what it means to be natural. In doing so, this sentiment augments the distinction Xenophanes wants to make between the natural world and the divine realm that takes shape even in the fragments concerned with explanations of physical phenomena. Natural things have an origin and a process of growth, whereas the divine does not, but instead is eternal and unchanging. In fact, a significant element of Xenophanes’ purification of the concept of the divine centers on just this sort of distinction: showing that the gods are not born and do not die (see B14).

58 Despite Xenophanes’ criticisms of Homer, this fragment shows an affinity with the Homeric view espoused in the Iliad: “may you all turn into water and earth” (ἀλλ᾽ ὑμεῖς μὲν πάντες ὕδωρ καὶ γαῖα γένοισθε, VII.99).

59 Based on the ancient texts which have survived to us, this is a new way of thinking about nature or natural things. The uses of φυσις and φυὴ in Pindar and Aeschylus almost exclusively “refer to the outward, visible characteristics of the object or person under consideration— to its ‘appearance’,” John Walter Beardslee The Use of Physis in Fifth-Century Greek Literature (Chicago, IL, University of Chicago Press, 1918), p. 8.

60 Xenophanes may suggest the idea of dual source in another fragment when he says “For we all come into being from earth and water” (πάντες γὰρ γαῖνες τε καὶ ὕδατος ἐκγένομεσθα, B33), but there he modifies the subject to be more specific to humans and drops the notion of growth so it is not clear that he is speaking about all natural things.

61 As Lesher suggests, “[earth and water] account for all things existing within the natural world, but the nature of the divine is another question,” Xenophanes of Colophon: Fragments, p. 134. It is not uncommon for commentators to attribute to Xenophanes an intent to divide the mortal and divine realms in those fragments which deal with the knowledge or the nature of the gods. What many fail to fully appreciate, as Lesher does here albeit in passing, is that the fragments dealing with natural phenomena accomplish this as well. Such consistency points toward a cohesive theory rather than isolated observations on various phenomena or philosophical questions.
Natural things for Xenophanes are thus defined in a way which fits with the Milesian physiologoi--by their material constituents as a source, at least provisionally. As a result Xenophanes has been interpreted as a material dualist who offers this competing theory in the midst of the monistic conceptions of the Milesians.62 Yet Xenophanes has also sometimes been considered a material monist, when he says: “for all things are from the earth and to the earth all things come in the end” (ἐκ γαίης γὰρ πάντα καὶ εἰς γῆν πάντα τελευτᾶι, B27), but Aristotle repeatedly suggests that no physiologoi held the view that earth was the ἀρχή.63 Xenophanes likely has in mind what is clearly observable in plant and animal life: these natural things possess both solid, earthy components and fluid, watery components. We know from some of his other fragments that Xenophanes was interested in various kinds of natural things which would have readily displayed both qualities—frogs and cherry trees, respectively (B39 and B40). Extending our view to the testimonia, we find that Xenophanes is also the first to use the evidence of fossils to pose theories of broad scale evolution of periods of time on Earth (A33). Given his wide-ranging, and seemingly contradictory ideas concerning nature, what concept of φύσις can be reliably generated from his fragments?

While Xenophanes uses phu-cognates to indicate the essence of natural things as those which grow, he also begins to use them to distinguish between things in the world, which comes

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62 Diogenes Laertius tells us that Xenophanes was quite familiar with the theories of Thales: “According to some accounts [Thales] seems to have been the first to study astronomy and to foretell solar eclipses and the solstices. So Eudemus says in his history of astronomy; for which reason both Xenophanes and Herodotus admire him,” Lives of Philosophers, 1.23. Lesher maintains in fairly standard form that Xenophanes is a “two-archai” dualist, Xenophanes of Colophon: Fragments, p. 133. While it is certainly possible that Xenophanes offered his ideas in response to the monistic theories of his philosophical predecessors, we should not so immediately assume that his primary way of doing so was simply to multiply material sources. While we cannot definitively answer the question, we can make the case Xenophanes considers this, at best, an auxiliary question in the pursuit of knowledge of the reality of things given the breadth of subjects covered in his other fragments.

63 See Metaphysics 989a5, Physics 187a12, and On the Heavens 303b9.
to be a far more prevalent use of the term.\textsuperscript{64} The most telling example comes in the form of Xenophanes’ remarks on the nature of the rainbow. Here he uses a phu-cognate to distinguish between conventional or popular explanation and natural or empirical explanation: “And she whom they call Iris, this too is by nature (πέφυκε) a cloud, purple, red, and greenish-yellow to behold” (ἡν τ’ Ἶριν καλέουσι, νέφος καὶ τοῦτο πέφυκε, πορφύρεον καὶ φοινίκεον καὶ χλωρὸν ἰδέσθαι, B32). In this fragment, the concept of nature is one which defines the principal properties of a thing or delimits its character in relation to other things in the world. This is the first instance in the philosophical history of the West whereby nature is used as a way to identify something by explicitly differentiating it from what it is not. The concept of nature (φύσις) as water or air for monists like Thales and Anaximenes does not aid in distinguishing and classifying, rather it unifies by understanding everything to functionally possess the same nature. Even if we look back to Homer and the φύσις of the Moly flower in the Odyssey, we find a term that is only vaguely connected to the notions of differentiation and classification which are so vital for the investigation of the world around us and the production of knowledge.

Xenophanes shifts away from a traditional way of identifying something by juxtaposing what the phenomena has been called (Iris) from what it is by nature (a cloud) in effect “correcting” the deification of natural phenomena by means of the very idea of nature.\textsuperscript{65} Nature,

\textsuperscript{64} Beardslee contends that φύσις had two primary meanings in the earliest uses: “origin” and “character or qualities” of a person or thing. He argues that the latter is the dominant usage throughout Greek literature and maintains that by Aristotle’s time, the term “retained little connection with the meaning of the verb φύω,” The Use of Physis in Fifth-Century Greek Literature, p. 2.

\textsuperscript{65} Commentators do not agree on the best way to situate this fragment within the constellation of Xenophanes’ ideas. Some suggest that Xenophanes’ aim is not to provide an established explanation of natural phenomena but simply aimed at producing a kind of “popularizing” effect for the new Ionian science. For views which fall generally into this line of thinking see W.K.C. Guthrie, (HGP, 1, 393n), Werner Jaeger, Paideia: The Ideals of Greek Culture Trans. G. Hight, (New York, Oxford: 1945), p. 170, and Karl Reinhardt, Parmenides und die Geschichte der griechischen Philosophie (Bonn, Friedrich Cohen: 1916), pp. 146-150. With respect to the idea that this fragment specifically concerns the nature of rainbows, Alexander Mourelatos argues that “there is no reason to see in this statement [B32] any sort of speculative hypothesis or theory on the nature of the rainbow,” “The Real, Appearances and Human Error in Early Greek Philosophy,” The Review of Metaphysics, 19:2 (1965), pp. 346-365, at 350. Instead, Mourelatos suggests that Xenophanes is a “hard-headed empiricist” who boldly proclaims to his listeners:
it turns out, offers a much better description of the rainbow as a multi-colored cloud, than the conventional tendency to explain or identify rainbows as manifestations of the divine Iris. Attaching the name of a goddess to this natural phenomenon supplies a much richer context for grasping the meaning of the phenomena in question by connecting the present experience with mythological lore and associated historical events, meteorological or otherwise. Such a way of understanding the world, however, requires both an awareness of that context and history as well as the implications. In other words, the individual is dependent upon authority or conventional sources for such knowledge, incapable of independently discovering anything substantive regarding the phenomena per se. Use of the natural description, on the other hand, allows the individual to recognize and distinguish this particular thing from others: the rainbow alone is a multi-colored cloud. This fragment is thus the first explicit attempt to draw a sharp distinction between the concepts of φύσις (nature) and νόμος (custom) in early Greek thought. It allows us to recognize and distinguish the rainbow from other natural phenomena we might observe, and ultimately to classify by means of knowledge of the nature of the thing itself. Even from the first philosophical uses of the idea of nature as a means of classification, it is conceived against conventional views, helping to in effect delimit the boundaries of nature. Nature is less clear to us than the artificial constructions of conventional identifiers, but the idea of nature nevertheless arises out of the insufficiency of convention to explain those first things.

“take a good look...what you see is no more than a cloud,” p. 350. Lesher disagrees, suggesting that Xenophanes’ intent is “to call attention to the specific nature of rainbows and to suggest, in a polite way, how we ought to go about gaining a correct understanding of rainbows and other natural wonders,” Xenophanes of Colophon: Fragments, p. 142. The view that Xenophanes’ is here attacking divination as a source of knowledge is treated later in this chapter.

66 Kirk and Raven suggest the connection with regard to some of Xenophanes’ more famous fragments about the gods, Pre-Socratic Philosophers, p. 169.

67 Leo Strauss claims that “‘nature’ is a term of distinction” and that “prior to the discovery of nature, the characteristic behavior of any thing or any class of things was conceived of as its custom or its way,” Natural Right and History (Chicago: University of Chicago Press, 1953), p. 82. On this view, philosophy and the discovery of nature only arise in response to the “doubt of authority” of custom, p. 84. This begins implicitly with the
NATURE \textit{(PHYSIS)} AND ‘ALL THINGS’ \textit{(PANTA)}

Xenophanes may well be the originator of grandiose claims in philosophical discourse if we consider his frequent use of the term for “all things” \textit{(πάντα)}. Six of his fragments refer descriptively to “all things,” with the specific subjects of these fragments ranging from epistemological possibilities for mankind to essential theology to traditional topics of \textit{physiologoi} like the \textit{ἀρχαί}. Such varied use across an array of subjects is precisely what makes \textit{πάντα} such an important philosophical link. The term connects Xenophanes’ disparate ideas by applying specific epistemological and natural concepts to “all things,” thus serving as the foundation of a broader theory of everything. Xenophanes aims to answer one of the broadest possible questions: what can we say is true of all that exists? Inquiring into this question affords the opportunity to understand the universal component of the concept of nature and the way this is intertwined with the idea of nature as a means of classification.

Xenophanes’ poetic predecessors understood \textit{φύσις} to refer to the outward characteristics of individual things. At its most basic level, however, the idea of nature not only classifies, as the fragment concerning the rainbow demonstrates (B32), it also unifies existence since \textit{all things} possess a nature. The concept of nature is thus binding: once admitted, it is impossible to escape. While something may defy or even enhance its nature, or in the modern sense “master nature,” this implies the simple, inescapable power of nature in suggesting that it is something that must, at certain times, be defied or mastered. Nothing can be \textit{without} a nature. And, of course, among the Milesians, nothing is: water or air serve as the “underlying stuff [that] constitutes the real and basic nature of all that makes up the cosmos.”\footnote{Patricia Curd, \textit{A Presocratics Reader} (Indianapolis: Hackett Press, 1996), p. 9.}

For the Milesian cosmo-
physiologoi the idea of a common nature of “all things” is entirely descriptive, as is the idea of individual nature of things in Xenophanes’ poetic contemporaries Pindar and Aeschylus. So, the idea of nature may provide a better way to approach big questions, such as what is everything made of or how did the cosmos come to be, but it fails to contribute more specifically to the production of knowledge.

Xenophanes’ theory provides a way to conceive of both a common nature and an individual nature. Nature is shared in that everything has a nature but also uniquely possessed by individual things as a principle of differentiation, i.e. the nature of a tree and a flower are different. The concept of nature simultaneously allows for an individuated multiplicity of things that could have their own nature while at the same time a commonality through the shared possession of a nature in general. The fragments containing πάντα illustrate the origin of this dual conception of nature in Xenophanes’ work.

In certain cases he uses the term to clearly refer to all human beings, as when he says “Since from the beginning all have learned according to Homer” (ἐξ ἀρχῆς καθ’ Ὅμηρον ἐπεὶ μεμαθήκασι πάντες, B10). His speculation as to the nature of human beings is not limited to epistemological experience, however, as he also claims that “We all come into being from earth and water” (πάντες γὰρ γαίης τε καὶ ὕδατος ἐκγενόμεσθα, B33). In other cases Xenophanes expands the use to the broadest possible classification, when he says: “for all things (πάντα) are from the earth and to the earth all things (πάντα) come in the end” (ἐκ γαίης γὰρ πάντα καὶ εἰς γῆν πάντα τελευτᾷ, B27). The expansion of the idea of nature here not only draws parallels between humans and non-living entities with respect to ἀρχαί, but also with respect to trajectory or end. Despite significant differences in the individual natures of things, and the paths they may take according to these natures, all come to the same place in the end (τελευτᾷ).
Xenophanes applies the concept of nature to various classes of things within the natural world through accounts of commonalities for “all things,” allowing for both individuation and unification. It also extends, arguably for the first time, beyond the “outward character” or appearance of things as it is used by his predecessors, to a more robust concept that includes powers, abilities, or even possibilities. By far his most interesting and innovative use of the concept of nature to generate knowledge, however, is the attempt to purify the idea of divinity of its polluted sources, namely the experience of men.

DIVINE NATURE VS. MORTAL NATURE

Xenophanes’ most fascinating and lasting contribution to philosophy is generally taken to be the simultaneous attempt to deconstruct the mythical view of the divine while offering the first recorded philosophical conception of a single deity governing the universe. His attacks on the traditional Greek religious orthodoxy take the form of sharp criticisms of the anthropomorphic conceptions of the gods found in Homer and Hesiod. Occasionally his constructive ideas on the divine have been chalked up to a simple antithesis of the view he is rejecting, making them seem much less impressive. More recently, Herbert Granger has argued that Xenophanes’ conception of divinity is in fact a logical extension of the Homeric conception.

In several key fragments, the origin of religious beliefs can be directly linked to

69 Kirk and Raven argue that Xenophanes derives particular divine attributes “by taking the very antithesis of the characteristics of a Homeric god” or, more generally, that he “arrived at the concept of one god by reaction from Homeric anthropomorphic polytheism,” *Presocratic Philosophers*, pp. 170-171.

70 See Herbert Granger, “Xenophanes’ Positive Theology and his Criticism of Greek Popular Religion” *Ancient Philosophy* 33 (2013): 235 - 271. Granger argues, contra Lesher and Jaeger, that the “properties of divinity in Xenophanes’ theology...may plausibly be appreciated as having their antecedents, although with some deviations, in traditional theology,” p. 236. On this view, Xenophanes is not a radical reformer, but only “rectifies inconsistencies that mar the traditional conception of divinity,” p. 235. Granger’s claims are well-argued but they assume that Xenophanes uses the concept of nature to outline specific divine properties without actually recognizing that this is an entirely new way of approaching divinity. Some of the qualities of the divine that Xenophanes hits on may be extensions of Homeric conceptions but the way in which he produces, or arrives at, these aspects of the divine is radically different from his predecessors. What he has gained from the Milesians is a new approach to customary conceptions of “all things,” including the divine; the implication of this new approach for knowledge generated through the concept of nature justifies the classification of “radical reformer.”
the early Greek method of sharing knowledge about the gods through the poetry of bards like Homer and Hesiod. These poems were not only a body of religious beliefs, but were also the predominant method of moral and historical instruction. Attacking particular beliefs about the gods would have also constituted an attack on the methodology of the early Greek poets as capable of imparting real knowledge. Xenophanes forcefully attacks the conventional views and simultaneously models the proper way to think about divinity. Extending the concept of nature even to the gods, Xenophanes widens the break with customary sources of knowledge while simultaneously establishing the foundation of his theory of everything.

Alluding somewhat cryptically (due, presumably, to the ravages of history on those documents which have survived) to Homer’s influence, Xenophanes points out Homer’s powerful influence with respect to cultural education when he says, “Since from the beginning all have learned according to Homer…” (B10). Given his critical approach to Homer, at least in the fragments we possess, this fragment quite plausibly initiates a series of attacks on Homer as a flawed source of knowledge about at least the gods, if not the larger sphere of cultural education.\(^71\) Read in this way, B10 implies a critique of the way in which the Greeks learned; that is to say, this fragment can be read as a direct criticism of Homeric methods in addition to the content.\(^72\) Homer’s authority on the nature of the gods and his level of cultural influence is highly problematic for Xenophanes because it is more revelation than explanation. The problem is not so much that the Greeks repeated the stories, but that this was the way they obtained

\(^{71}\) Lesher, *Xenophanes of Colophon: Fragments,* suggests we should interpret this fragment as a complaint on the “extent of Homer’s influence” and “status as authority on the behavior, epithets, and other attributes of the gods,” p. 82. Glenn Most argues that Plato’s attack in the dialogue *Ion* on the supposed polymathy of poets is a continuation of that view established by Xenophanes and Heraclitus which sought to challenge the traditional notion that Homer and Hesiod were “divine sages who knew everything and could serve as the source of all human knowledge.” “The Poetics of Early Greek Philosophy” in *The Cambridge Companion to Early Greek Philosophy* (Cambridge: Cambridge University Press, 1999), pp. 336-337, at 336.

\(^{72}\) Kirk and Raven suggest Xenophanes’ thoughtfulness leads him “to react against the archetype of poets and the mainstay of contemporary education, Homer,” *Presocratic Philosophers,* p. 167.
knowledge of the gods and thus both basic and complex structures of reality. As a poet himself, Xenophanes clearly understands that beliefs are inextricably linked with how an individual or a culture arrives at those beliefs and he is not shy about offering the value of his own expertise. In one of the more complete fragments, Xenophanes draws the distinction between appearance and reality with respect to the honors afforded to highly skilled athletes:

But if by swiftness of foot one were to gain a victory or in the pentathlon, there by Pisa’s stream in Olympus in the sacred grove of Zeus, or by wrestling, or again the painful art of boxing, or the fearsome sport they call pankration, he would appear more glorious to his townsmen and win the front-row seat of honor at games. And there would be good from the city’s public stores and a keepsake gift for him. (B2, 1-9)

Pointing to the breadth of cultural celebration over physical prowess in events that test speed, skill, and courage through belabored repetition, Xenophanes connects such prowess with glory and honor. Despite the rewards of honor and gifts such athletic victors receive from the populace, these endeavors only create the appearance of earned glory. Drawing a direct comparison, Xenophanes goes on to measure the true worth of these various kinds of athletic skill against his own expertise:

εἴτε καὶ ἱπποσίσιν, ταῦτα κε πάντα λάχοι, οὐκ εἶν ἄξιος ὡσπερ ἐγὼ· ῥώμης γὰρ ἀμείνων ἀνδρῶν ἡ ἴππων ἡμετέρη σοφιή· ἀλλὰ εἰκῇ μᾶλα ταῦτα νομίζεται· οὔδε δίκαιον προκρίνειν ῥώμην τῆς ἀγαθῆς σοφίης.
And even if he were to win with horses he would get all these, not being as worthy of them as I. For our expertise is better than the strength of men and horses. But this practice makes no sense nor is it right to prefer strength to this good expertise. (B2, 10-14)

Not so subtly pointing out that his fellow citizens rather ironically celebrate those who win such contests through the prowess of other animals, Xenophanes directly ridicules the custom (νομίζεται) of elevating such flimsy practices at the expense of more worthwhile endeavors. His attack cuts both ways as he simultaneously undermines both an “unreflective way of behavior” and a “way of thinking.” Xenophanes supplies his rationale for the superiority of his expertise to athletic feats of strength when he finishes by saying:

οὔτε γὰρ εἰ πύκτης ἀγαθός λαοῖσι μετείη,
oúte gar ei púktēs ágathós laoiśi meteí,
oút’ ei pentathelēín, óute palaismosúnın,
oúde mén ei tachυtētī poıōw, tò pēr ēstī prótimon
róμiș òss’ ándrōn érg’ ēn ágyōni pέλεi,
toúνεκεν ēn ὅ ὅ μᾶλλον ēn eínoumía pόlîs eîn’
Σμύκρον δ’ ēn ti póleı χάρμα γένοιτ’ ēpī tō, 
eī tıs āthelēuōn nikō Píssai par’ óchtaζ,
ōù γάρ πιαίνει ταῦτα μυχός πόλιος.

For neither if there were a good boxer among the people nor if there were a pentathlete or wrestler nor again if there were someone swift afoot-which is most honoured of all men’s deeds of strength-would for this reason a city be better governed. Small joy would a city have from this-if someone were to be victorious in competing for a prize on Pisa’s banks--for these do not enrich a city’s treasure room. (B2, 15-22)

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73 Lesher contends that it is more plausible that the target of Xenophanes’ criticisms is the former rather than the latter, Xenophanes of Colophon: Fragments, p. 56. But in the immediately following passage in the fragment, Xenophanes distinguishes his expertise from the skill of athletes in terms of value to the city, suggesting that it is in fact a “way of thinking” which is flawed. Namely, athletic endeavors turn out to be less worthy not because they are disproportionately valued only in Greek culture, but because they produce less value for the city itself. They are intrinsically worth less. There is no reason not to suppose that Xenophanes’ aim is to attack both the “unreflective” way in which his countrymen determine what to honor and the specific cultural practice, or “way of thinking” which elevates athletic prowess above acquiring knowledge with more value to the governance of the city.
Challenging the way his society generally values knowledge, Xenophanes’ criticism of Homeric values extends beyond particular conceptions of the divine. Notions of virility so lauded in the Homeric epic are undermined here in favor of something more intellectual. Honors, Xenophanes implies, should be tied to actual benefits one produces for his fellow citizens, not the isolated achievements of individuals that produce little more than arbitrary glory. Xenophanes does not say what sort of wisdom (σοφίη) he and those like him possess but he is steadfast in the belief that this knowledge benefits the city. In direct contrast, the city receives neither “joy” nor increased wealth from victory in athletic competition. Indeed, Xenophanes argues that good governance of a city does not stem from any sort of “deeds of strength” or athletic prowess. Without specifying how, he suggests that it is the knowledge possessed by those like himself that would allow for the city to be “better governed.”

Xenophanes has in mind a kind of ideal city as “well-ordered” specifically, perhaps, by reorganizing and updating the customs of the city (μᾶλλον ἐν εὐνομίῃ πόλις). But if tradition is not to be the guide to developing better beliefs to govern the city, where can such a guide be found?

Xenophanes’ assault on custom extends beyond mild political critique, however, principally because in aiming to replace an existing order with a new one, he must first destroy the old one. Given that it is “all” (πάντες) who have learned according to Homer, and “from the beginning” (ὅσ' ἀρχῆς), this effort is no light undertaking. Such firmly entrenched bias necessitates especially poignant criticism aimed at the heart of conventional belief structure. Only too happy to comply, Xenophanes famously highlights the Hellenic tendency to

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74 Frankel contends that σοφίη does not mean “the observant and interpretive wisdom of the philosopher” at this point in Greek history but only instead “that cleverness of the unprejudiced, practical man that assists the state,” “Xenophanes Empiricism and his Critique of Knowledge,” p. 118, n1.
75 Lesher, *Xenophanes of Colophon: Fragments*, p. 56.
anthropomorphize the divine and directly challenges the tradition as he says “Homer and Hesiod have attributed to the gods all sorts of things which are matters of reproach and censure among men: theft, adultery, and mutual deceit” (πάντα θεοῖς ἀνέθηκαν Ὅμηρός θ᾽ Ἡσίοδός τε, ὅσσα παρ’ ἄνθρωποις ὀνείδεα καὶ ψόγος ἐστίν. κλέπτειν μοιχεύειν τε καὶ ἀλλήλους ἀπατεῦειν, B11).

Rather than grasp the nature of the divine through the essential characteristics of a god, men have fashioned divine beings into caricatures of the very worst human flaws and crimes. Xenophanes strengthens his critique and aligns it more closely with the ideas in those fragments commonly associated with nature, when he says: “But mortals suppose that gods are born, wear their own clothes, and have a voice and a body” (ἀλλ᾽ οἱ Βροτοὶ δοκέουσι γεννᾶσθαι θεοὺς τὴν σφετέρην ἔσθητα ἔχειν φωνήν τε δέμας τε, B14). The gods, he implicitly suggests, are nothing like things which are born and embodied. In his “physio-logical” fragments, we recall, he establishes that what is born and grows is made of earth and water. He draws on that same concept in his “theological” fragments to illustrate the flaw in traditional thinking that attributes such capacities to the divine. Xenophanes’ criticisms are clearly aimed at the Homeric conception of gods which depicts some of them as born, but these barbs might also be directed at the Milesian science which sometimes divinized nature as material source constituents. In doing so he not only undermines the particular views they hold, but the way in which they arrived at these views. The false attributions of these qualities to divine beings come about because men do not understand, or even attempt to understand, what it means to be divine. The general implication from these fragments taken together is that the nature of the divine does not resemble mortal

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76 Burnet claims that the Milesian theories of nature were “thoroughly secular” and any use of the term “god” or the divine “had no religious significance,” *EGP*, p. 80. Jaeger defends the opposite view, arguing for thoroughly intentional religious implications in the Milesian theories. See Chapter II of his *The Theology of Early Greek Philosophers*, pp. 18-37.
nature in its origin, composition (voice and body), or conduct.\textsuperscript{77} The Homeric tradition fails to discover or provide knowledge of the highest and most important things, principally because it considers the “nature” of things using outward appearance or characteristics.

Xenophanes expands his criticism of the harmful effects of custom with his particularly wry sense of humor in two other fragments:

\begin{quote}
\begin{verbatim}
ei <δέ> τοι <ἵπποι> ἔχον χέρας ἢ βόες ἢ λέοντες
ἡ γράψαι χείρεσσι καὶ ἔργα τελεῖν ἀπερ ἄνδρες,
ἵπποι μὲν θ᾽ ἵπποισι, βόες δὲ τε βουσὶν ὁμοίας
καὶ <κε> θεῶν ἰδέας ἐγραφὸν καὶ σώματ᾿ ἐποίουν
tοιαύθ᾿ οἰόνπερ καῦτοι δέμας εἶχον ἐκαστοῖ.  
\end{verbatim}
\end{quote}

But if horses or oxen or lions had hands
Or could draw with their hands and accomplish such works as men
Horses would draw the figures of the gods as similar to horses and
the oxen as similar to the oxen,
And they would make the bodies
Of the sort which each of them had. (B15)

\begin{quote}
\begin{verbatim}
Αἰθίοπες τε <θεοὺς σφετέρους> σιμοὺς μέλανάς τε
Θρῆκες τε γλαυκοὺς καὶ πυρρούς <φασι πελέσθαι>·
\end{verbatim}
\end{quote}

Ethiopians say that their gods are snub-nosed and black;
Thracians that theirs are blue-eyed and red-haired. (B16)

Pointing to very different elements of the anthropomorphism that infects the views of the divine held by his contemporaries, Xenophanes indicates how deeply-entrenched such an attitude is for his contemporaries. In the latter fragment, he suggests that this tendency is standard for mankind but relative to culture; in other words, all men form their beliefs of the divine in the same way, but the specific attributes they project onto the divine are relative to their experience of themselves. Xenophanes’ invocation of other cultures seems, at first glance, to countermand his suggestion regarding the pervasiveness of Homer’s influence. After all, we may suppose he only meant that “all Greeks” have learned according to Homer. A more plausible explanation,

\textsuperscript{77} See Jaeger, \textit{The Theology of Early Greek Philosophers}, pp. 49-50.
however, given his apparent penchant for broad proclamations, is that he is generalizing on a broader level, suggesting that all men learn from poets like Homer, that is, according to those who use inherited myths to understand what they cannot explain. Such an explanation fits with the notion that the primary target is the edifice of tradition and custom as a source of knowledge, not Homer in particular. A more curious implication is found in B15 as Xenophanes suggests that the tendency to anthropomorphize is only limited to mankind insofar as humans have hands which are necessary for the creation of images. Men form images through drawing or sculpture as a way to understand the divine by creating a physical representation. As a result we use what we know of embodied things to project images of ourselves onto divinity. Thus it is inherent in human nature to project images of ourselves onto divinity (B15) and manually craft these images (B16). In short, we understand things which we can make, construct, or fashion ourselves. If animals would do such things if they possessed hands, however, then the implication is that men are not much different from beasts. The difference is not in how men formulate their beliefs (this turns out to be largely the same process), but only in how they reinforce those beliefs through the production of images.

Taken together, these fragments point toward another important conclusion: maker’s knowledge cannot be applied to the realm of the divine. Instead, his theological fragments raise the implicit question: what would it mean to be a god? It is, at the very least, the orientation to these kinds of questions, and the expertise derived from pursuing such lines of inquiry that Xenophanes has in mind in B2 when he claims he benefits the city more than its athletes. Xenophanes’ god does not demand sacrifice, so perhaps the treasure he has in mind is simply what the city would save from abandoning such silly practices. It is not his ability to ride a horse well, but his judgment and insight that set him apart and truly benefits the city.
Xenophanes separates himself from those he criticizes by escaping the limits of an empirically derived notion of the divine through a deceptively simple question: “What must God be like”? Avoiding the limits of custom as a way to understand the divine, namely, what originates from man and is described like man, he uses the idea of nature as essential characteristics to sketch his own outline of the divine. Only certain qualities befit the divine.

The essential “theological” fragments can be strung together in the following way to form a cogent picture of the whole of Xenophanes’ thought on the nature of the divine:

“One god is greatest among gods and men, not at all like mortals in body or in thought” (B23) and as such “whole he sees, whole he thinks, and whole he hears” (B24), “but completely without toil he shakes all things by the thought of his mind” (B25), and “always he abides in the same place, not moving at all, nor is it seemly for him to travel to different places at different times” (B26).

Considerable debate among commentators arises from the fact that Xenophanes seems to include some notion of lesser gods in his concept of the divine when he says “One god is greatest among gods and men.”\(^7\) More poignantly, Xenophanes widens the breach between mortals and the

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\(^7\) The Greek for each of these fragments: Εἷς θεὸς ἐν τε θεοῖσι καὶ ἀνθρώποισι μέγιστος, οὔτι δέμας θνητοῖσιν ὁμοίωσ ὁύτε νόημα. (B23); οὐλος ὁρή, οὐλος δε νοει οὐλος δε τ’ ἀκούει (B24); ἀλλ’ ἀπάνευθε πόνοιο νόου φρενί πάντα κραδαίνει (B25); αἰεὶ δ’ ἐν ταὐτῷ μίμνει κυνοφόμος οὐδεν, οὐδὲ μετέρχεσθαί μιν ἐπιπρέπει ἄλλοτε ἄλλῃ (B26). While there is no evidence that Xenophanes laced the ideas in these fragments together in this particular order, any attempt to interpret the ideas of the earliest Presocratic philosophers necessarily imposes a framework and a largely arbitrary order upon them. This particular order has the advantage that it arranges Xenophanes’ ideas on the divine from the broadest, most general description to more specific facets of divine nature.

\(^7\) Those who take Xenophanes to offer a monotheistic theory have accounted for this strange reference to other gods in a variety of ways. Hermann Fränkel, *Early Greek Philosophy and Poetry* (Oxford: Clarendon Press, 1975), pp. 330-331 n10 suggests the phrase refers to the “gods of popular superstition,” but the more common reading is that the expression “among gods and men” is merely a linguistic turn of phrase that should not be taken literally. See, for example, Guthrie, *HGP*, p. 375 n2 and Hussey, *The Presocratics*, who claims that this is only “a way of speaking: it does not imply the existence of other gods;” p. 13. Some commentators rely on B23 to attribute polytheistic views to Xenophanes, among them, Lesher, *Xenophanes of Colophon: Fragments*, pp. 98-99 and Werner Jaeger, *The Theology of Early Greek Philosophers*, (Oxford: Clarendon Press, 1947), pp. 43-44. More recently, Granger continues this line of thinking as he argues that there is “no justification” for understanding Xenophanes as a monotheist given that monotheism would be “outstandingly revolutionary” and that “if Xenophanes were such a radical innovator he should not be expected to muddle his challenging declaration” with banal phrases like ‘among gods and men’, “Xenophanes Positive Theology and his Criticism of Greek Popular Religion,” p. 237.
divine, claiming the divine is “not at all like mortals in body or thought.” This broad statement points us toward the defining attributes specified in subsequent fragments. The divine capacity for perception is unlimited; the divine does not have “parts” responsible for different activities but performs all operations with the entirety of its being. Thus, “whole he sees, whole he thinks, whole he hears.” Unlike Zeus and the other gods, who have to go to all the trouble of traveling, throwing lightning bolts, and siring offspring with mortals to intervene in the affairs of humans, the one god for Xenophanes is entirely free from such menial labor, directing “all things” (πάντα) without needing to move or physically intervene (B25 and B26). Approaching the divine through its necessary, conceptual features, he concludes that the divine in effect must be complete, unmoving, and eternal. Further, it is omnipotent in that it has the ability to “shake all things by the thought of his mind” (B25). Beyond radically altering the conventional conception of the divine, Xenophanes here reimagines the very idea of how one approaches the nature of things. No longer is the “nature” of something, the most important thing in this case, conceived of only in terms of its physical descriptors or outward appearance, as it is in Homer, Pindar, and Aeschylus, or material constitution as in some of the Milesian thinkers, but rather through abstract conceptual features which, in effect, define what the thing can do.  

Although these fragments are explicitly about the nature of the divine, all of these ideas implicitly refer to the nature of men in the way they emphasize the distinction between mortals and gods. Xenophanes tells us that mortals only “suppose that gods are born” (ἀλλ᾿ οἱ βροτοὶ δοκέουσι γεννᾶσθαι θεούς), and from this lack of knowledge, project other facets of mortal nature onto the gods by inferring that they “have the clothing, voice, and body of mortals” (τὴν σφετέρην δ᾿ ἐσθῆτα ἔχειν φωνήν τε δέμας τε, B14). Mortals are constrained by their nature to

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rely on both their body and suppositions, but such is not the case for the one god who is “not at all like mortals in body or in thought” (B23). Xenophanes’ choice of οἱ βροτοὶ in many fragments, particularly given that he freely uses ἄνηρ where it suits him (B34), is evidence of linguistic effort that reflects an intentional philosophical distinction.81 The divine who thinks with his entire being (B25) and is powerful enough to “shake all things by the thought of his mind” (B26), has no need of supposition or opinion. In each of these fragments we find nature which delimits boundaries, in this case the boundary between mortal and divine, but we also find impressions of epistemological concerns.82 One of the conventional ways to distinguish between men and gods, or mortal and divine natures, are the respective capacities for knowledge. By using the concept of nature to generate his view of the divine, rather than the genetic explanations favored in conventional poetic discourse, Xenophanes not only draws a sharp line between mortals and gods, he raises essential questions concerning the possibility and power of knowledge in the Greek world.

KNOWLEDGE, PURPOSE, AND A THEORY OF EVERYTHING

Although most famous for his theological views, Xenophanes provides the first philosophical engagement with questions surrounding the possibility of human knowledge.83 Yet while most have limited the scope of Xenophanes’ epistemological musing to the debate over the possibility of knowledge, we can read key fragments as defining the nature of humanity

81 Lesher, “Xenophanes’ Skepticism” Phronesis 23 (1978), 1-21, at p. 3.
82 Emese Mogyoródi concludes that Xenophanes “must have reasoned somehow that human representations of the divine were incompatible with its true nature because they impose on it some sort of limitation (relativity, particularity) inescapable for our mortal being but contradicting the nature of the divine,” “Xenophanes as a Philosopher: Theology and Theodicy” in Qu’est-ce que la philosophie présocratique? (Villeneuve d’Ascq: Presses Universitaires du Septentrion, 2002), pp. 253-286, at p. 263.
83 McKirahan calls Xenophanes the “father of epistemology,” noting that he has also been labeled as the “father of skepticism,” PBS, p. 67. In his commentary on the “master fragment” B34, Lesher provides a thorough discussion of the possible views with respect to Xenophanes on knowledge, cataloging and discussing those who understand the Presocratic thinker as (1) Sceptic, (2) Empiricist (3) Rationalist, (4) Fallibilist, (5) Critical Philosophy, and (6) Natural Epistemologist. See Xenophanes of Colophon: Fragments, pp. 161-169.
through its unique epistemological attributes. One such attribute is the pursuit of knowledge as a defining activity of human life. Xenophanes strengthens one of the key differences between mortal and divine natures when he says, “Indeed not from the beginning did gods intimate all things to mortals but as they search in time they discover better” (οὔτοι ἀπ' ἄρχης πάντα θεοὶ θνητοῖσ' ύπέδειξαν, ἀλλὰ χρόνῳ ζητοῦντες ἐφευρήσκουσιν ἄμεινον, B18). Gods, so the Greeks held, possess all knowledge by their very nature as divine beings. On this traditional view, mankind is at the mercy of the gods to reveal vital secrets of the universe, as the stories Hesiod tells of Prometheus demonstrate (Theogony 510-616; Works and Days 42-105). Xenophanes echoes the immediate possession of knowledge by divine beings, on the one hand, but in the very same breath subverts the traditional relationship of mortal dependency on the divine with respect to knowledge. The gods may possess knowledge but they do not “intimate all things to mortals”; there is, it turns out, no transmission of knowledge between the divine and mortals. As Hermann Fränkel suggests about Xenophanes, “he made the chasm between the here and the beyond unbridgeable.”

In aiming at a correction of the traditional model of divinity, Xenophanes’ critique famously extends to the acquisition of knowledge by divination (μαντιχή). Cicero notes that Xenophanes’ repudiation of divination was exceedingly rare among philosophers in the ancient world (A52). But the critique is thorough and, as Lesher takes pains to illustrate, intimately connected to other areas of Xenophanes’ thought. Xenophanes attacks the traditional accounts of the signs themselves, as in the rainbow and St. Elmo’s Fire (B32 and A39). He purifies the

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84 Fränkel, “Xenophanes Empiricism and his Critique of Knowledge,” p. 130.
nature of the divine as something utterly unlike mortals, implying in other fragments (B14-16, B23-26) the lack of divine communication with mortals he suggests outright in B18. Likewise, in the testimonia concerned with meteorological phenomena, the emphasis on natural explanations can be read as a way to purify celestial bodies from the pernicious influence of seers who interpret celestial bodies, eclipses, or comets as signs from the gods (A32, A41, A43, A44). The attack on the idea of divination and seers undermines their claim to knowledge, and subsequent political power derived from such exclusive insight, but it seemingly leaves mankind without a way to interpret the cosmos and his existence.

Mortals fare better on Xenophanes’ view, however. Despite a lack of knowledge of all things “from the beginning” (ἀπ’ ἄρχῆς), mortals nevertheless possess the ability to make discoveries for themselves. Able to pursue understanding independent of the gods, divine revelation ceases to be the means by which humans acquire wisdom, but what replaces it? Xenophanes provides the answer by demonstrating how one acquires knowledge using the concept of nature (φύσις), or “what is fitting,” to produce knowledge of the gods, mankind, and environmental phenomena. The nature of something can be grasped at times by observation (as in the nature of a rainbow) and at other times by means of proper thought (as in the nature of the divine). In the end for Xenophanes it is through the study and reflection on the idea of nature (φύσις) that mankind is able to generate epistemological discoveries. The diverse topics and

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86 Lesher notes that Fragment 18 has often been read as “perhaps the very first expression...of a ‘faith in human progress’,” *Xenophanes of Colophon: Fragments*, p. 150. He goes on, however, to suggest that other fragments complicate this picture of Xenophanes’ supposed “faith in social and intellectual progress,” citing B1-3, as well as those fragments critical of “the reliance of the populus on misguided poets and self-styled religious experts” (B7, 10, 11, 12 and A7), p. 151. One plausible alternative to the standard view is that Xenophanes aims to “restrict [Fragment B18’s] intended scope to matters of scientific thinking or inquiry,” p. 152. Lesher refines this further to the claim that Xenophanes believes his own method of discovery is superior to others, specifically rejecting the idea of “divine communication...especially through the medium of signals or cryptic signs,” p. 153. Xenophanes’ method, according to Lesher, understands the “significance of the marvels of nature” as “physical realities to be described and understood in terms of observable properties and familiar natural forces,” p. 154. Nature, in other words, can be understood by men on its own terms and without divine assistance.
specific ideas demonstrate that it is in the very nature of individual human beings to learn, grow, and thus better themselves over time; in short, this capacity to learn is a significant part of the defining aspect of human nature. In a similar fashion, Xenophanes’ fragment suggests that mankind began in an infantile state and improves over the course of the history of the human race with advancements in knowledge. Not only do we make progress in our collective knowledge over time, we also become better at learning the more we engage in inquiry.

Reading his views through the concept of nature provides a way to connect Xenophanes’ epistemological conclusions with those concerning natural things and the gods. It also properly stresses the limitations of mortal nature with respect to the acquisition of knowledge. Speaking more directly of knowledge in the famous “master fragment,” Xenophanes says:

καὶ τὸ μὲν οὖν σαφὲς οὔτις ἀνὴρ ἴδεν οὐδὲ τις ἔσται εἰδὼς ἀμφὶ θεῶν τε καὶ ἅσσα λέγω περὶ πάντων· εἰ γὰρ καὶ τὰ μάλιστα τύχοι τετελεσμένοι εἶπών, αὐτὸς δὲμοσοίς σοφ ὁδε· δόκος δὲ ἐπὶ πᾶσι τέτυκται.

And of course the clear and certain truth no man has seen
Nor will there be anyone who knows about the gods and what I say about all things.
For even if, in the best case, one happened to speak just of what has been brought to pass,
Still he himself would not know. But opinion is allotted to all. (B34)

On the surface, this fragment continues the contrast in the poetry of tradition between mortal and divine beings with respect to knowledge. Xenophanes’ first line is both restrictive and unrestricted: men have no access but the province of truth (τὸ σαφὲς) covers all possible realms

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87 Lesher raises doubts as to whether Xenophanes describes the collective here, suggesting that ζητοῦντες refers not to the progress of “mankind as a whole,” but only “individual seekers,” Xenophanes of Colophon: Fragments, p. 150. Note, however, a certain affinity with one of Heraclitus’ fragments: “Man is stamped as infantile by divinity, just as the child is by man” (B79). See Hermann Fränkel “A Thought Pattern in Heraclitus” in The Pre-Socratics: A Collection of Critical Essays, ed. Alexander Mourelatos (Garden City, New York: Anchor Books, 1974), pp. 214-228, for a detailed discussion of this fragment as illustrating a key insight and implications for other fragments pertaining to Heraclitus’ epistemological views. Xenophanes may have “seeking” as a fundamental part of human nature, thus the fragment applies broadly to men in general.
of knowledge. Switching to the future possibilities, however, Xenophanes refines the scope of knowledge to concern “the gods and what I say about all things” in a way that is meant to distinguish such subjects from τὸ σαφές or else is entirely redundant. The implication seems to be that the ideas he puts forth about the divine are, at best, true opinions which are very close to knowledge.\(^\text{88}\) The real problem, however, is verifying the opinion—humans cannot confirm the truth of what they say, even when they happen to “guess” correctly in their opinions. Much like Sophocles later suggests when he criticizes the idea of knowledge by signs: there exists no “distinguishing truth” or “sure test” (χρίσις ἀληθής) that guarantees a prophet has attained knowledge (\textit{Oedipus Tyrannus}, 499-512). In linking knowledge of the gods with his ideas on “all things” (πάντα), however, Xenophanes offers the best mankind can hope for: a \textit{theory} of everything.

Xenophanes’ theory of everything is not one which lays claim to absolute certainty, perhaps beginning with these lines by \textit{undermining} the possibility of such as might be found in Hesiod’s \textit{Theogony}.\(^\text{89}\) A philosophical “theory of everything” necessarily goes beyond natural phenomena found in physics, and for the early Greeks, who held the general assumption that both man and cosmos were governed by the same processes, such a theory would necessarily connect ideas on the physical constitution of things, the nature of mortals and the divine, and the possibility of knowledge. Xenophanes’ concept of nature unifies these different facets of the world and human experience into a single theory. But it is still just a theory, one that can never

\(^{88}\) But Xenophanes has been pointing us to two paths to “knowledge” in all of his fragments, contrary to those who view him as a dyed-in-the-wool empiricist. One path to understanding is through “what is fitting,” as the fragments on the divine show us. The other route is through a kind of empiricism that uses perceptual knowledge to classify the world. Xenophanes was often thought in antiquity to be the father of Eleaticism, and it may be the case that the two routes to some version of knowledge found here prefigure the “paths” in Parmenides’? Perhaps Parmenides’ poem is a response or correction of his teacher’s error.

\(^{89}\) Sarah Broadie suggests that the “earliest ‘theories of everything’ were mythological panoramas,” offering Hesiod’s \textit{Theogony} as the exemplar, see “Rational Theology” in \textit{The Cambridge Companion to Early Greek Philosophy}, ed. A.A. Long (Cambridge: Cambridge University Press, 1999), 205-224, at 205.
lay claim to being “certain truth.” Perhaps in a way that prefigures the philosophical-cosmogonical account in Plato’s *Timaeus*, Xenophanes offers his theory of everything as, at best, merely a “likely story” (τὸν εἰκότα μūθον). This fits with another fragment where Xenophanes cryptically suggests that his contemporaries “let these be accepted, certainly, as like the realities” (ταῦτα δεδοξάσθω μὲν ἐοικότα τοῖς ἐτύμοις, B35). Though the fragmentary nature of the evidence prohibits us from being certain as to the referent of “these,” the affinity with notions of “accepted” opinion and “seeming” are clear. Aided by the application of the concept of nature, such a theory may be what Xenophanes has in mind by suggesting that men “discover better” (ἔφευρίσκουσιν ἁμεινον). Yet how, specifically, might the strands of Xenophanes’ thought be connected into this theory of everything? And, if his ideas cannot be verified, what makes this theory better than the alternatives?

In one of his fragments generally taken to be about the physical world, Xenophanes tells us that, “The upper limit of the earth is seen here at our feet, pushing up against the air, but that below goes on without limit” (γαίνς μὲν τόδε πεῖρας ἄνω παρὰ ποσσὶν ὁπᾶται ἠέρι προσπλάζον, τὸ κάτω δ’ ἐς ἀπειρον ἱκνεῖται, B28, my emphasis). Frequently interpreted as his answer to the question of what may be supporting the earth, the phrase “here at our feet” marks man as the boundary between earth and air. Aristotle famously tells us of Xenophanes that “he contemplates the whole heaven and said the One is God” (εἰς τὸν ὅλον οὐρανὸν ἀποβλέψας τὸ ἔν

90 For references to the cosmology in the *Timaeus* as eikôs muthos see 29d, 59c, 68d; for references as eikôs logos see 30b, 48d, 53d, 55d, 56a, 57d, 90e. The frequency with which Plato reminds his reader of the “likelihood” of this story must be intentional. Aristotle himself suggests pedagogical purpose behind the cosmological muthos, see On the Heavens 279b32–280a1. For more recent interpretations, see Sarah Broadie, Nature and Divinity in Plato’s *Timaeus* (Cambridge: Cambridge University Press, 2012, pp. 243-277, and Myles Burnyeat “Eikôs muthos” in Plato’s Myths, Catalin Partenie ed., (Cambridge: Cambridge University Press, 2009, pp. 167-186. For a more detailed recent account of the idea of likeness in Xenophanes fragments, see Chapter 1 “Xenophanes fallibilism” of Jenny Bryan’s Lkeness and Likelihood in the Presocratics and Plato. (Cambridge: Cambridge University Press, 2012).

91 For a brief discussions of δεδοξάσθω and ἐοικότα see Lesher, *Xenophanes of Colophon: Fragments*, p. 170.
εἶναι φησὶ τὸν θεόν, Metaphysics 986b24-25). Not surprisingly, this has led to pantheistic interpretations of Xenophanes’ ideas on the divine.92 This seems strange, however, since it is through the specific contemplation of the heavens that leads Xenophanes to his conclusion. We might expect that if God is everything, or in everything, then one need not look to a single place like the heavens to find divinity. Of course, this also seems at odds with the suggestion in B26 that the divine is in a fixed place. Reminding us of our limitations as natural beings that are never able to entirely escape our roots, Xenophanes suggests “For from earth are all things and into earth do all things die” (ἐκ γαίης γὰρ πάντα καὶ εἰς γῆν πάντα τελευτᾶται, B27).93 This contrasts clearly with the divine: “One God,” he tells us, “not at all like mortals in body nor in thought.”

Rather than construe the heavens as the playground of the gods and the place beneath the earth as the repository for souls and the torturous afterlife, Xenophanes locates man between a unified divine being who knows and directs the universe through thought alone. Beyond describing what capacity specifically defines natural things when he says, “all things which come into being and grow are earth and water,” Xenophanes is distinguishing between the mortal and divine by locating natural things in a middle realm. Only things that are a kind of mixture of at least two elements have the possibility for change and becoming. But Xenophanes need not mean only physical growth. Growth in this case may mean that we can seek knowledge and develop expertise, and in doing so grow or become more than we have been. Air and water are clear, while earth is opaque, and mortals are in between, since “we all come into being from

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92 McKirahan sums up Xenophanes’ position on the relationship “between god and the world” by saying that “the world for all its diversity and change possesses an underlying unity. All its movements are controlled by the unitary divinity that pervades it,” PBS, p. 63.

93 In Therapy for Greek Diseases Theodoret supplies us with this line from Xenophanes but suggests that Xenophanes’ “forgot” his theory of the totality as an everlasting, motionless, ungenerated whole as a way to explain the contradiction with the notion of growth and development advanced in B27 (A36).
earth and water” (B33). Thus, we can connect his ideas on the physical world with his ideas on knowledge. For Xenophanes, the divine has absolute knowledge of things because of its location and because of its nature. His description of the god includes place, “always he abides in the same place, not moving at all;” knowledge, “whole he sees, whole he thinks, and whole he hears;” and capacity “completely without toil he shakes all things by the thought of his mind”. The earth “here at our feet” positions man between the absolute enlightenment and power of the heavens and the infinite depths of ignorance and limitation represented by the earth which stretches forever downward. This middle area is also the realm of opinion, and as such an epistemological middle as well, as Xenophanes reminds us repeatedly that “opinion is allotted to all,” and that mortals “suppose” particular facets of the gods.

For all the attacks on the Homeric conception of the gods and the cosmos, Xenophanes shares the widely-held belief in antiquity that the cosmos is guided or directed in some fashion. The source of such governance is what differentiates Xenophanes’ ideas from his predecessors, as McKirahan suggests when he says, “More explicitly than in the Milesians, intelligence, not the whims of the Olympians, governs the world.”

From a customary perspective, what separates the Olympians from mortals is that the gods have certain knowledge of the purpose of all things. When Apollo asks Chiron for knowledge of Cyrene in one of Pindar’s Pythian odes, the centaur answers with a complimentary reminder of the omniscience of the gods:

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κούρας δ’ ὁπόθεν γενεὰν
ἐξερωτᾶς, ὦ ἄνα; κύριον ὅς πάντων τέλος
οἶσθα καὶ πάσας κελεύθους;
ὅσσα τε χθών ἦρινὰ φύλλ᾽ ἀναπέμπει, χώποσαι
ἐν θαλάσσα καὶ ποταμοῖς ψάμαθοι
κύμασιν ῥέταις τ᾽ ἀνέμων κλονέονται, χῷ τι μέλλει, χῷπόθεν ἔσσεται, εὖ καθορᾶς.
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Dost thou ask, O king, of the maiden’s birth? Thou who knowest the end supreme of all things, and all the ways that lead thereto, the number of the leaves that the earth putteth forth in the spring, the number of the sands that, in the sea and the rivers, are driven before the waves and the rushing winds and that which is to be, and whence it is to come,—all this thou clearly seest.95

The gods know the “appointed end” of all things in the realm of nature, making Apollo’s inquiry rather silly. On the other hand, human beings, according to Xenophanes, are only able to “speak just of what has been brought to pass” (τετελεσμένον), that is, literally what has been “brought to a telos,” by means of opinion (δόκος). Mortals, by their very nature, are limited to supposition in ways that often lead them astray, which Xenophanes artfully points out when he says, “But mortals suppose that gods are born, wear their own clothes, and have a voice and a body. So, even though men may “discover better in time,” they will never reach the level of knowledge held by the gods who can know the telos of things.

We might raise two questions here. Does Xenophanes think such certain knowledge that necessarily includes knowledge of the ends of things exists at all? And what evidence do we have that telos is an aspect of the divine nature from Xenophanes’ perspective? It is clear that Xenophanes thinks God directs things by means of intelligence rather than by caprice, being above such petty concerns (B11, B14, B23). This guidance takes the form of activity without effort, as Xenophanes tells us, “but completely without toil he shakes all things by the thought of his mind” (B25). Yet only in light of the “whole” can the telos of particular things be grasped; any limited view can never be certain that completion has been achieved. Xenophanes’ god is not fractured like the divinity of tradition, but principally also able to perceive the entirety of things and how they fit together because he is a unity: “whole he sees, whole he thinks, whole he

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hears…” (B24). Unlike the Homeric gods, Xenophanes’ god cannot be deceived; no part of
reality is obscured from him at any time. So telos exists as an aspect of the divine, but even
Xenophanes “theory of everything,” has limitations. Despite perhaps accurately distinguishing
between the gods and mortals, and the provinces of knowledge, opinion, and ignorance,
Xenophanes is still unable to demonstrate an unassailable theory of everything or “certain truth”
since no human can speak plausibly about the end or fulfillment of things. Perhaps some
theories or opinions hit much closer to true knowledge or the reality of “all things” than others
by virtue of their ability to explain diverse phenomena. The implication is that a cosmic telos
exists but is beyond the scope of man’s knowledge.

His theory, however, has some distinct advantages over the traditional accounts of the
nature of things. What sort of “discoveries” does Xenophanes have in mind? It is not likely that
he just means scientific discoveries, but also political or ethical progress that necessarily
improves the quality of civic life. If intelligence guides the cosmos, the guidance of a city can be
understood as a microcosm of the guidance of the cosmos. Instead of drawing the parallel of the
operation of the cosmos from a political analogy, as Anaximander perhaps does, Xenophanes
draws the idea of a directed-cosmos down onto human life, laying the foundation for Heraclitus’
greater emphasis on philosophical investigation into the connection between the operation of the
cosmos and how men choose to live. We can guide our lives and our cities by wisdom, as the
divine guides the cosmos. In this way, the world is not only directed or ruled by intelligence but
that intelligence itself is the end at which all things aim. Choosing to live and govern our
communal lives by means of σοφίη is, for Xenophanes, a divine act. Such wisdom comes about
by seeing things for what they are through the application of the philosophical concept of nature
and is the basis of his identity and the foundation of any claim of respect from his peers.
Positioning this wisdom against athletic prowess as the most prized thing in Greek culture, he argues, in a way that must have been as profoundly unpopular in his day as it would be in ours, that his wisdom is infinitely more valuable than these trivial endeavors. Xenophanes thinks his wisdom is so valuable because it re-imagines how the Greeks understand the world and themselves, not just explaining how things came to be as they are in the present. The Greek tradition has stories about the gods to explain everything from the origin of all things to particular historical events. If Xenophanes is to supplant this tradition with something that both better explains natural phenomena and provides greater civic value, it must answer perennial questions in a way that is both engaging, as a poet ought to concern himself with this, and consistent in its application. It has to be a complete theory, a “theory of everything,” that uses emerging philosophical concepts as the means of accomplishing such a feat. Instead of “the begetting of gods by gods,” Xenophanes uses the concept of nature as the “single basic mechanism” by which he can create a complete picture of the universe.  

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96 Edward Hussey, suggesting a parallel between Hesiod’s Theogony and Presocratic thought, maintains that Hesiod “attempts to create a complete, unified, and reasonable picture of the workings and history of the universe” by “employ[ing] a single basic mechanism,” The Presocratics, pp. 12-13. Hussey thus agrees with Broadie’s view in “Rational Theology,” that Hesiod’s work is an early “theory of everything.”
Chapter 3: Heraclitus and the Riddle of Nature

It is in solving a riddle that we may leave it behind, and if the unsolved riddle remains with us, oppressing us with its unresolved and conflicting elements, is not nature, the self-revealing self-concealer, the unresolved and unresolvable riddle?

–Bob Rethy

As the most enigmatic of all early Greek philosophers, Heraclitus of Ephesus presents a much more intricate interpretive challenge than either the Milesians or Xenophanes. Unlike the Milesians, a remarkable amount of source material from Heraclitus survives the passage of time, including the specific use of the noun φύσις, which never appears in the surviving work of Xenophanes. As a thinker who often prizes subtle insight at the expense of clarity, even delighting in contradiction and paradox, however, Heraclitus’ philosophical approach presents a staggering number of perplexities that have bedeviled scholars since antiquity. Embracing elements of the basic assumption of unity found in the theories of nature offered by the Milesians and Xenophanes, Heraclitus nevertheless charts his own philosophical course by expanding unity to simultaneously account for differentiation and unification both in the cosmos and within the individual entity. While some of his ideas are undeniably revolutionary, his method meets sharp criticism in antiquity. Aristotle remarks that Heraclitus’ approach to truth lacks real clarity, even violating the principle of non-contradiction, while Lucretius’ evaluation of the Ephesian sage is far less kind, suggesting that only “dimwits” would be taken in by Heraclitus’ method since they alone “admire and love all things...hidden under twisted words.”

Not surprisingly, little agreement arises as to the “true” Heraclitus, even among his earliest commentators, Plato and Aristotle, who seem to have had access to Heraclitus’ book. Though Heraclitus’ interests

97 See Metaphysics 1012a24-b2 and Rhetoric 1407b11-18; Lucretius De Rerum Natura I.635-44.
98 Though the existence of Heraclitus’ book has occasionally been disputed, most notably by Diels, most scholars accept that Heraclitus did in fact produce a written work. See KRS for a brief discussion of the topic, pp. 183-185. For an account that argues in favor of a traditional, continuous text see Jonathan Barnes “Aphorism and Argument,” in Language and Thought in Early Greek Philosophy, ed. Kevin Robb (La Salle: Hegeler Institute, 1983), pp. 91-
extend beyond the purview of natural philosophy, Plato takes his Presocratic predecessor to be the “philosopher of flux” when it comes to cosmological questions, while Aristotle categorizes the mysterious Ephesian sage as a material monist who considered fire to be the source (ἁρμός). Without the luxury of the lost book, subsequent readers have to navigate the further difficulty of piecing together the surviving fragments in some kind of cogent order. Establishing any principle of organization, however, also inevitably imposes a particular interpretation that can be difficult to justify among the many possibilities. Some have arranged the fragments without regard to thematic content, thus implicitly attributing a collection of stand-alone “wise-sayings” to Heraclitus. Others contend that Heraclitus’ work is better understood as an intentionally integrated whole, perhaps on the model of a choral ode with its “fluid, but carefully articulated

100. For an account that criticizes Barnes’ approach and instead argues for an aphoristic, discontinuous text, see Herbert Granger “Argumentation and Heraclitus’ Book,” Oxford Studies in Ancient Philosophy 26 (2004): 1-17. 99 See Charles H. Kahn, The Art and Thought of Heraclitus (Cambridge: Cambridge University Press, 1979), p. 4, (hereafter ATH), and McKirahan, PBS, p. 125. For Plato’s views see Theaetetus 152d2-e8 and 160d6-8 and Cratylus 402a8-10; for Aristotle’s views see Metaphysics 984a7-8 and Physics 205a3-4. While the standard story (found in Kahn and, more recently, in McKirahan) takes Aristotle to emphasize Heraclitus’ interest in fire as a kind of monism, Aristotle also rehearses Plato’s representation of Heraclitus as a philosopher of flux in Metaphysics 1010a7-15. The difference can be accounted for by Aristotle’s greater interest in natural philosophy, thus he accepts Heraclitus as the philosopher of flux who extends this view to questions of materiality through fire. For an account that explores and subsequently undermines the “Platonic-Aristotelian interpretation of Heraclitus’ views on change,” see G.S. Kirk, “Natural Change in Heraclitus,” Mind, 60 (1951): 35-42, at 35.

101 For a concise history of the scholarly dispute regarding fragment order and its connection to interpretive framework in Heraclitus, see Charles Kahn “A New Look at Heraclitus,” American Philosophical Quarterly, 1 (1964): 189-203, at pp. 189-191. Kahn notes that even Diels’ classic arrangement of the fragments “alphabetically, according to the author who happens to cite them” is problematic since it “impos[es] his own view of Heraclitus’ work as lacking literary structure,” p. 189. Kahn cites Burnet, Gomperz, and Frankel as the few classical commentators who object to “the principle of Diels’ arrangement,” preferring instead the original grouping by Bywater according to subject matter, p. 190 n. 7. Kahn’s own approach in ATH follows Bywater by giving the fragments a thematic arrangement, though according to his own interpretation.

101 For a more recent collection and translation of the Heraclitean fragments that follows Diels’ method of arrangement, see T.M. Robinson, Heraclitus Fragments: A text and translation with commentary (Toronto: University of Toronto Press, 1987). Generally speaking, Robinson’s translations more readily preserve original textual ambiguities and accompanying translational difficulties than, for example, the translations found in Kahn’s ATH or Graham’s TEQP, but frequently at the expense of readability. The bulk of the translations in this chapter are taken from Kahn, however, in certain cases translations from Graham and Robinson are more fitting and I have used and noted these as appropriate. Identifiers for fragments and testimonia from Diels/Kranz have been retained for the sake of clarity.
movement from image to aphorism, from myth to riddle to contemporary illusion.”

Whichever may be true, nearly all scholars agree that Heraclitus is a deliberate, careful writer whose rhetorical method serves his philosophical purpose. This purpose, and the “central issue” for Heraclitus are at the center of the interpretive challenges that continue to attract scholars to the perpetual puzzle of the Ephesian’s philosophical views.

Yet for all the attention directed to Heraclitus’ fragments, the role that φύσις plays in linking key ideas has been underappreciated or simply disregarded. Hans-Georg Gadamer notably dismisses the significance of φύσις for Heraclitus, claiming agreement with what he takes to be Kirk and Raven’s position when he says that, “the concept of physis in Heraclitus did not yet have any philosophical import.”

Gadamer considers only the idea of collective ‘Nature’ to merit description as a concept, readily dismissing the idea of physis as a “thing’s true constitution” as being philosophically insignificant. Although he cites them for support, Kirk and Raven suggest an important parallel between physis and logos in their concluding remarks on Heraclitus by saying, “Understanding of the Logos, of the true constitution of things, is necessary if our souls are not to be excessively moistened and rendered ineffective by private

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102 Kahn, “A New Look at Heraclitus,” p. 190. Kahn’s claim is that Heraclitus’ poetic contemporaries, Pindar and Aeschylus are the models against which to understand the Ephesian sage, rather than the aphoristic Nietzsche.

103 Hans-Georg Gadamer, The Beginning of Philosophy (New York: Continuum, 1998), pp. 34-35. Although Gadamer is not specific with respect to what he has in mind from Kirk and Raven, it seems likely that he is referring to their assessment of B123 “where φύσις probably means not ‘Nature’ but ‘a thing’s true constitution’,” KR, p. 194. Gadamer goes further than this brief speculation offered by Kirk and Raven by arguing that “we must assume that an actual concept [of physis] began to form only when the counter concept to it had also taken shape,” p. 34. His point is that it is not until the rise of custom (nomos) as an explanatory principle among the sophists that nature must emerge as a robust philosophical concept. But as I argued in the previous chapter, and as Strauss points out quite effectively, the concept of custom arises prior to the concept of nature as the default mode of explanation “what something is” even in Homeric times. The Presocratic emphasis on nature must then be seen as a reaction against the influence of custom as an explanatory mode in Homer and Hesiod. While few go so far as Gadamer in rejecting the significance of φύσις in Heraclitus’ work, the notion has merited far less attention than other concepts, especially logos. Heidegger is a notable exception, having dedicated a significant portion of his Introduction to Metaphysics to the Greek idea of φύσις. In some ways, Gadamer’s dismissal of the significance of φύσις may be a reaction against Heidegger’s thorough-going emphasis on the concept in early Greek philosophy in general. For Heidegger’s ideas on φύσις in Heraclitus specifically, see Introduction to Metaphysics, trans. Gregory Fried and Richard Polt (New Haven: Yale University Press, 2000), pp. 133-143. For a more recent treatment of the topic, see Enrique Hülß Piccone, “Heraclitus on Φύσις,” Epoché, 17.2 (2013): 179–194.
They do not, in short, provide the support for his position that Gadamer attributes to them. In this chapter, I defend the idea that Gadamer so easily rejects and that others, conversely, accept almost in passing as self-evident. Simply put, I argue that φύσις itself is the essential riddle with which Heraclitus wrestles and that this riddle as the “true constitution of things” is even more intricate than commentators have realized. On this reading, φύσις is a far more central philosophical concept for Heraclitus than has generally been accepted. I argue that Heraclitus finds prevailing notions of nature to be woefully insufficient and in need of radical redefinition. In his attempt to achieve his new account, he expands the range of phenomena that the concept of nature can explain to include those experiences and events firmly grounded in the human realm. Expanding the concept of nature itself through the connection to λόγος, Heraclitus lays the groundwork for the broader idea of Nature. In the process of redefining, or better yet rediscovering, the idea of nature, however, Heraclitus develops an entirely new approach. If nature is indeed a riddle, then one must be trained in the art of riddles, the art of paradox, to begin to untangle and “see through” the riddle. Heraclitus’ vaunted and frequent use of paradox is, therefore, the only way one could conceivably approach the enigmatic, obscure nature of reality. The reading offered here uses Heraclitus’ notion of φύσις as a way to connect his most important ideas concerning both the natural world and human experience, presenting his fragments as guides for how to decode the secrets of nature.

This chapter focuses on Heraclitus’ transformation of the pedestrian notion of nature as the “character” or “qualities” of the thing into a more intricate conception of identity that has epistemological and ethical consequences for the way humans live. Rather than disconnected or disassociated but loosely related thoughts, Heraclitus’ insights are thus entirely dependent on this

new understanding of nature. Far from being philosophically insignificant then, the entire project of human wisdom is grounded on the proper understanding of the idea of nature. Nature as a philosophical concept must be dynamic enough to account for both plurality and unity, change and enduring identity. Echoing throughout Heraclitus’ fragments, the riddle of nature reverberates in profoundly different themes, and demands a certain orientation from he who would properly investigate the most perplexing puzzle. It is not an orientation, Heraclitus tells us, that can be readily adopted by the many. Exploring Heraclitus’ innovative notion of φύσις first by arranging and analyzing the fragments that explicitly contain the term φύσις, I develop an understanding of the context and importance of Heraclitus’ concept of nature as it connects to his idea of λόγος and his own philosophical method. More readily than any of his predecessors, Heraclitus connects his fundamental philosophical concepts to the way men actually live. After establishing this foundation, I turn then to those fragments that concern his theory of the unity in opposites. Here I show that Heraclitus applies and expands notions of unity found in his predecessor’s ideas to shape the idea of the nature (φύσις) of individual things as the unity of fundamental opposites. These ideas are connected to some of Heraclitus’ most powerful statements about the nature of the cosmos that has always existed, governed by parallel notions of strife, justice, and the divine. In the final section of the chapter, I explore the purposive implications of Heraclitus’ conception of conflict and justice and the idea of nature as a harmonia with a ‘built-in’ teleology that steers the cosmos.

RIDDLES AND PARADOX IN THE SEARCH FOR PHYSIS

Of the nearly one hundred and thirty Heraclitean fragments that survive to the present day, only five contain the noun φύσις. In addition to confirming Heraclitus’ awareness of the cosmological and conceptual innovations of the earliest Milesians, the repeated use of the term also suggests a rise in its prevalence since the time of Homer and Hesiod, Aeschylus, and Pindar.
where it occurs but seven times in total. In only one instance does φύσις explicitly assume the role of subject of the fragment; in the other fragments, it is overshadowed by concepts like λόγος that are generally taken to be much more important for Heraclitus. Cautioning his reader against relying overmuch on what is readily apparent, however, Heraclitus tells us that, “The hidden attunement is better than the obvious one” (ἅρμονίη ἀφανῆς φανερῆς κρείττων, B54). Presenting nature as a riddle, the “self-concealed, concealer,” Heraclitus famously and cryptically observes that “nature is ever hidden” (φύσις κρύπτεσθαι φιλεῖ, B123). For Heraclitus, φύσις is this “unapparent structure” or “hidden attunement,” both within his fragments and in the cosmos itself. Unlocking the secret of the “hidden attunement” in the Heraclitean fragments requires careful, methodical interpretation and an ability to persevere beyond the surface to new depths of knowledge. This is, of course, precisely what Heraclitus intends, as his art imitates nature that is inherently obscured. Although some scholars debate whether common conceptual threads do in fact tie his fragments together, it can hardly be denied that Heraclitus’ eminently quotable yet profoundly perplexing style is intended as a deliberate

105 John Walter Beardslee, The Use of φύσις in Fifth-Century Greek Literature (Chicago: Chicago University Press, 1918), p. 1. Beardslee suggests, however, that while φύσις only appears twice in Pindar’s work, “φυή is frequently found, and there is apparently no difference in meaning between the two words,” p. 6. To the best we are able to reconstruct the history of the term, it seems that it is during Heraclitus’ time that the usage of φύσις begins to rise dramatically in frequency such that by the time we get to Sophocles, the word is a commonplace, appearing more than 30 times in his plays. See Arthur O. Lovejoy “The Meaning of Φύσις in the Greek Physiologers,” The Philosophical Review 18.4 (1909): 369-383, at 376.


provocation to the reader. But provoke the suitable reader to what, exactly? The most immediate answer: to learn to listen well.

Striking a scornful tone, Heraclitus admonishes the many when he says, “Having heard without comprehension they are like the deaf; this saying bears witness to them: present they are absent” (ἀξύνετοι ἀκούσαντες κωφοῖσιν ἐοίκασι· φάτις αὐτοῖσι μαρτυρεῖ παρεόντας ἀπεῖναι, B34). Foolishly accepting a shallow version of reality, mere sounds without meaning, the many are unable to connect what they experience with what matters most. Everything is, in effect, the same for them: sound without comprehension. Worse yet are those among the many who listen too much, that is, without the proper discernment: “A stupid person tends to become all worked up over every statement (he hears)” (βλὰξ ἄνθρωπος ἐπὶ παντὶ λόγῳ ἐπτοῆσθαι φιλεῖ, B87). These individuals are equally hopeless, though in a different way. Blown with the prevailing winds, they lack the wherewithal to commit to a particular account. What then is one to be listening for, precisely? Heraclitus’ play on ἁρμονίη as an “attunement” is intentional, though he does not mean it solely in the musical sense attributed to him by Plato. As an attunement, ἁρμονίη requires that things be “fitted together” properly. While this applies equally well to the sensitive ear of the listener and the sensitive mind of the student of nature, it need not be an attunement in the way one expects. In fact, if it is “hidden” or “latent,” and thus the more important connection, then it very likely is not the kind of fitting together that is readily apparent or expected.

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108 Graham translation, TEGP, p. 145.  
110 See Symposium 187a; Kirk judges Plato guilty of misinterpreting Heraclitus because the “technical musical meaning” of ἁρμονία does not exist during Heraclitus’ time, HCF, p. 204. Kahn views the musical application as just one of three meanings for Heraclitus, see ATH, p. 203.
Many Heraclitean fragments are themselves carefully constructed in ways that model a very precise attunement. In B54, which Charles Kahn calls “one of the shortest and most beautifully designed fragments,” Heraclitus uses the principle of fitting together opposites to literally forge the verbal and conceptual connection: ἁρμονίη ἀφανῆς φανερῆς κρείττων.\(^\text{111}\) Listening is the analogy Heraclitus uses for comprehension, connecting his ideas on the investigation of nature with everyday life, but it is rather the ability to pay close attention to the way things fit together that Heraclitus finds to be the truly vital element in understanding. This is one of the reasons he uses an array of literary techniques: to cultivate proper discernment through listening well for what fits together. The careful attunement in his fragments serves two purposes. First, the subtle attunement aims to condition the listener to see precisely these sorts of connections in nature itself. In effect, Heraclitus teaches a new way to find meaning using the idea of nature, by attuning ourselves to the unapparent connections in things.\(^\text{112}\) It is not enough simply to announce that there are powerful, hidden realities, as the Milesians do, Heraclitus must guide the listener into moving beyond what is obvious in the same way that someone first grasps sounds and moves to meaning. Such obscurity demands an intelligent reader searching for hidden truths and connections between seemingly disconnected ideas. Though some commentators have lamented the numerous, vastly divergent interpretations that arise from such a method, this open-endedness is entirely by design, in a way that fits with the object of inquiry. In other words, the method of discourse necessarily reflects the hidden, enigmatic quality of

\(^{112}\) Glenn Most points to the poetic quality, and intentional shrouding of truth, found in many of Heraclitus’ aphorisms in suggesting that the form of his philosophy itself demands close attention and interpretation from the listener, see “The Poetics of Early Greek Philosophy,” in *The Cambridge Companion to Early Greek Philosophy*, ed. A.A. Long (Cambridge: Cambridge University Press, 1999), 332-362, at pp. 357-359.
nature itself. When it comes to reading Heraclitus, then, one should be wary of explicit subjects and overt connections, instead listening carefully in order to seek after the less obvious, even obscure connections. The only way one may approach nature is by learning the language of nature, or as Heraclitus says, “Eyes and ears are poor witnesses for men if their souls do not understand the language” (κακοὶ μάρτυρες ἀνθρώπωσιν ὀφθαλμοί καὶ ὀτα βαρβάρους ψυχὰς ἐχόντων, B107). Language begins with the use of the senses but every translation from sights and sounds gathered requires interpretation in order to make those signals meaningful. The language of nature is no different for Heraclitus, and it requires one to reorient his ability to listen in order to understand and ultimately “speak” the language: “Not knowing how to listen, neither can they speak” (ἀκοῦσαι οὐκ ἐπιστάμενοι οὐδ᾿ εἰπεῖν, B19). True comprehension is not just a discerning ear for how things “fit together,” but the ability to articulate the hidden connections in nature.

Heraclitus offers clues on how to understand the language of “ever-hidden” nature in a fragment that receives comparably little attention. In an adaptation of a common tale from the Lives of Homer, Heraclitus presents a tantalizing riddle intended to both teach and ridicule: “Men are deceived in the recognition of what is obvious, like Homer who was wisest of all Greeks. For he was deceived by boys killing lice, who said: what we see and catch we leave behind; what

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113 Guthrie bemoans the breadth of possible interpretations of Heraclitus as “discouraging,” but admits that “one can only give one’s own,” HGP, vol. 1, p. 427. Barnes is somewhat more poetic in expressing the point when he says, “The truth is that Heraclitus attracts exegetes as an empty jampot wasps; and each new wasp discerns traces of his own favourite flavor,” The Presocratic Philosophers, volume 1 (London: Routledge and Kegan Paul, 1979), p. 57, (hereafter PP).

we neither see nor catch we carry away” (ἐξηπάτηνται οἱ ἄνθρωποι πρὸς τὴν γνῶσιν τῶν
φανερῶν παραπλησίως Ὁμήρῳ, δὲ ἐγένετο τῶν Ἑλλήνων σοφώτερος πάντων· ἐκείνον τε γὰρ
παῖδες φθείας κατακτείνοντες ἐξηπάτησαν εἰπόντες· ὅσα εἴδομεν καὶ κατελάβομεν, ταῦτα
ἀπολείπομεν, ὅσα δὲ οὔτε εἴδομεν οὔτ᾽ ἐλάβομεν, ταῦτα φέρομεν, B56).115 Though this
fragment has been generally interpreted and often dismissed as merely an attack on Homer,
Heraclitus presents both a paradox and riddle that go to the heart of his thoughts on
knowledge.116 Opening with the paradox of the “deceptiveness of knowledge,” Heraclitus
sounds the familiar theme of the unapparent nature of true wisdom, and follows this with a riddle
that is both old and new. The riddle is an old tale, presumably one that has been told many
times, but Heraclitus puts a new spin on it: presenting with paradox, illustrating with the riddle.
The riddle itself shows that “the things closest to us are what we do not know,” and that “nature
as physis, the true being of things as self-unfolding, loves to hide.”117

If Heraclitus intends the prosaic notion of nature as the “character” of a thing, reflected in
his predecessors’ customary view as the “outward, physical characteristics” then this sentiment
of nature as unobvious makes little sense. We might, more poignantly, interpret this fragment as
a direct repudiation of his poetic predecessors who understand the φύσις of anything to be

115 The point of B56 is easy to miss, as when Kahn wonders, “Why does Heraclitus find the story significant?” ATH,
p. 111. For a thorough interpretation of the significance of this fragment as it reveals key Heraclitean ideas, see
The interpretation presented here is heavily indebted to Rethy’s reading. For a more recent account that defends
the crucial importance of B56 for a proper understanding of Heraclitus’ thought, see Roman Dilcher, “How Not to
Conceive Heraclitean Harmony,” in Doctrine and Doxography: Studies in Heraclitus and Pythagoras, ed. David
116 For a thorough account of Heraclitus’ “harshly critical” view of Homer grounded in a thorough repudiation of the
references B56 as an explicit criticism of Homer, p. 1n1. The majority of scholars interpret this fragment along
these lines. See, for example, Kahn, ATH, p. 112 and Miroslav Marcovich, Heraclitus: Greek Text with Short
obvious. Nature hides in the way a riddle does, that is, the *meaning* is what is hidden, and we must wrestle with it to untangle the knot.

In a truly fascinating observation, Serge Mouraviev has keenly pointed out that fragment B123 contains a reverse anagram

ΦΥΣΙΣ ΚΡΥΠΤΕΣΘΑΙ ΦΙΛΕΙ

such that the enigmatic φύσις is literally “escaping precisely in its striking self-exhibition.” As a “classic riddle,” the very idea of φύσις is one in which “the immediate expectation or surface meaning of terms and situations must be seen through for the riddle to be solved.”

Heraclitus then fulfills the role of oracle, as he suggests in another fragment: “The lord whose oracle is in Delphi neither declares nor conceals, but gives a sign” (ό ἄναξ οὗ τὸ μαντεῖόν ἐστι τὸ ἐν Δελφοῖς οὔτε λέγει οὔτε κρύπτει ἀλλὰ σημαίνει, B93). One must learn how to interpret the various signs and clues offered by both Heraclitus and the divine.

While wide-ranging interpretations have been offered for Heraclitus’ frequent use of an eclectic mix of proverbs, prophecy, paradox and riddles, in reality his ideas would be ineffectively transmitted in any other way. Heraclitus’ provocation through paradox goes

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118 Serge Mouraviev’s striking claim can be found in *Heraclitea*, III.3.A (Sankt Augustin: Academia, 2002). See Hülsz Piccone, “Heraclitus on Φύσις,” for a brief analysis of the claim as it fits into Heraclitus’ broader approach to φύσις, p. 185.


120 Ibid., p. 1. Rethy briefly notes some of the adaptations Heraclitus makes to the classic tale, namely the replacement of fishing boys with children and catching with “seeing and grasping.” For an account which situates Heraclitus’ take on the riddle more thoroughly in antiquity, see Kirk, *HCF*, pp. 158-160.

121 Nietzsche suggests that Heraclitus’ style of “oracular proverbs and the language of the Sibyls” reveals a profound loneliness in the Ephesian sage, *The Pre-Platonic Philosophers*, trans. Greg Whitlock (Urbana, Illinois: University of Illinois Press, 2001), p. 55. Guthrie contends that it is Heraclitus’ love of puzzles and “delight in paradox” that inspires his rhetorical choices or, alternatively, that the language of the time was too limited, necessitating the use of paradox, *HGP*, vol. 1, pp. 410-413. Graham suggests that Heraclitus “departs[s] from the usual style of exposition” because the many “are incapable of understanding his message, even when it is explained to them,” “Heraclitus: Flux, Order, and Knowledge,” p. 170. Each of these may hold some bit of truth but they fail to explain such precise and careful linguistic construction of many of the fragments. Further, to miss the symmetry between Heraclitus’ philosophical ideas and his rhetorical method, or to dismiss it as some unintentional byproduct of personality, as even Theophrastus does, is to miss out on precisely what makes his fragments so fascinating.
beyond challenging his listener to just think more deeply, instead aiming to “startle and outrage” us in order to “direct our thought in particular determinate directions.”

Heraclitus’ river fragments are the most famous example: “One cannot step twice into the same river, nor can one grasp any mortal substance in a stable condition, but it scatters and again gathers; it forms and dissolves, and approaches and departs” (B91). Likewise, “as they step into the same rivers, other and still other waters flow upon them” (B12). These fragments present a blatant challenge to common sense, in order to “activate reflection” in a way that draws us both to the conflicting elements in reality as well as to the conflict within our own cognitive processes.

Understanding nature as a riddle we cannot leave behind necessitates the development of a certain perspective in ourselves, an orientation toward a perpetually deep and ever-deepening mystery. If Heraclitus truly understands, “the finding of the ‘latent structure’, of the ‘nature’ of things” to be “solving of the riddle,” then only he who can grapple with the paradox and effectively navigate the riddle is worthy of the wisdom of nature.

Lest we make the mistake of thinking that the notion of nature as unapparent (ἀφανής) or hidden is entirely new, we should not fail to point out certain similarities with the single use of φύσις in Homer’s Odyssey. There Odysseus is dependent upon Hermes for knowledge of the φύσις of the Molu flower that the god “pulled from the earth (ἐκ γαίης ἐρύσας).” Hermes shows Odysseus “its nature” (φύσιν αὐτοῦ ἔδειξε), and notes the difficulty mortals have in digging it up. In this case, the root must be unearthed because it is the hidden aspect that must be revealed.

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123 Ibid., p. 3.
125 See Hülsz, “Heraclitus on Φύσις,” for an account of Heraclitus’ continuation of Homer’s notion of φύσις. Hülsz notes that the similarities with Heraclitus are “remarkable,” the differences “subtle” and cites the B22 as a Heraclitean parallel: “Those who search for gold, then, dig up much earth and find little” (χρυσὸν γὰρ οἱ διζήμενοι γῆν πολλήν ὀρύσσουσι καὶ εὑρίσκουσιν ὀλίγον), p. 182.
in order for the nature to be fully explained. The emphasis on the difficulty of the task, and the
subsequent comparison with the unlimited power of the gods, illustrates that the knowledge of
φύσις is the “prized goal of hard digging.”

And yet although there are certainly Homeric
evertones in Heraclitus’ thought with respect to the “hidden” quality of φύσις, as well as the
difficulty of the investigative labor required to unearth what hides, the differences are equally
striking. If, for Heraclitus, the divine does not “reveal,” but rather only “gives a sign,” then there
is no divine revelation and the task is not digging but interpretive. In addition to the fact that the
wise must know how and where to look, when it comes to mortals they must also be committed
to the labor of dogged investigation to search out “what is hidden.”

“He who does not expect will not find out the unexpected, for it is trackless and unexplored” (ἐὰν μὴ ἔλπηται ἀνέλπιστον
οὐκ ἐξευρήσει, ἀνεξερεύνητον ἐὸν καὶ ἀπορον, B18). This hiddenness plays itself out in his
interactions with other supposed purveyors of truth: “Of all those whose accounts I have heard,
none has gone so far as this: to recognize what is wise, set apart from all” (ὁκόσων λόγους
ἤκουσα οὐδεὶς ἀφικνεῖται ες τοῦτο ὥστε γινώσκειν ὅ τι σοφόν ἐστι, πάντων κεχωρισμένον,
B108). Since he points to a common mistake, it is worth thinking about precisely which
accounts Heraclitus has in mind here. The venerable figures he references throughout his
fragments, both explicitly and implicitly, offer radically different accounts, though he finds them
similarly deficient. From Heraclitus’ view, the Milesians may fail to appreciate how the “wise”
is “set apart from all” since they look only for what is common. Yet Xenophanes does seem to
distinguish between a divine that knows, and the material world inhabited by mortals grounded

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127 Kahn offers little in the way of commentary beyond grouping B123 with other fragments that illustrate this
theme of searching, ATH, p. 105. Pierre Hadot, on the other hand, spends a great deal of interpretive effort
untangling all the possible meanings for this short fragment, deciphering at least five worthy of investigation, Veil of
Isis, pp. 9-10.
only in opinion. Xenophanes’ mistake may then have been a failure to appreciate what true wisdom really entails, rather than how it is distinct or “set apart” (B40). In any event, it is with no small amount of confidence that Heraclitus sets the stage for what his account will accomplish where others have failed.

Connecting that which is “wise, set apart from all” to what men fail to adequately “hear” through his notion of λόγος, Heraclitus famously begins his book, saying

τοῦ δὲ λόγου τούδε ἐόντος αἰεὶ ἀξύνετοι γίγνονται ἄνθρωποι, καὶ προσέθεν ἢ ἀκούσατοι, καὶ ἀκούσαντες τὸ πρῶτον· γιγνομένων γὰρ πάντων κατὰ τὸν λόγον τόνδε ἀπειροίσιν ἑδίκασα, πειρώμενοι ἐπένων καὶ ἐχθράν τοιούτων, ὁκοὶ α ἐγὼ διηγοῦμαι, κατὰ φύσιν διαρέων ἔκαστον καὶ φράσεων ὁκόσα ἔχει. τούς δὲ ἄλλους ἄνθρώπους λανθάνει ὁκόσα ἐγερθέντες ποιοῦσιν, ὁκὼστερ ὁκόσα εὐθῶντες ἐξιπιλανθάνονται.

Although this account holds forever, men ever fail to comprehend both before hearing it and once they have heard. Although all things come to pass in accordance with this account, men are like the untried when they try such words and works as I set forth, distinguishing each according to its nature and telling how it is. But other men are oblivious of what they do awake, just as they are forgetful of what they do asleep. (B1)

Linking the task and value of the pursuer of wisdom explicitly with the notion of φύσις, Heraclitus adopts Xenophanes’ use of φύσις as a mechanism of distinction and classification. By enhancing the crucial role φύσις plays in unlocking the λόγος, however, Heraclitus shifts philosophical inquiry to include “how humans react to the world.” If these are the opening lines of the book, then they are crucial for pointing the reader to the importance of the concept of φύσις. From an epistemological standpoint, the ability to recognize an underlying reality by “distinguishing each according to its nature” (κατὰ φύσιν διαρέων ἔκαστον) and ultimately

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giving an account (“telling how it is,” φράζοντα ὅκως ἔχει) is what produces knowledge of this “higher law” of the cosmos to which only few have access. It is, in short, what separates the wise from the untried. Yet for the enigmatic sage, the pursuit of the hidden truth of things is not about mere accumulation of knowledge but is itself a way of life. In fact, although Heraclitus’ general issue with the many is that they perpetuate a general “failure to grasp the underlying connection between things,” this can take several forms. The many often fail to get beyond their own private thoughts: “Most men do not think things in the way they encounter them, nor do they recognize what they experience, but believe their own opinions” (οὐ γαρ φρονέουσι τοιαῦτα πολλοὶ ὁκοίους ἐγκυρέουσιν, οὐ δὲ μαθόντες γινώσκουσιν, ἑωυτοῖσι δὲ δοκέουσι, B17). Others, often considered wise, confuse learning as amassing facts or information with comprehension: “Much learning does not teach understanding. For it would have taught Hesiod and Pythagoras, and also Xenophanes and Hecataeus” (πολυμαθίη νόον οὐ διδάσκει· Ἦσίοδον γὰρ ἂν ἐδίδαξε καὶ Πυθαγόρην, αὐτὶς τε Ξενοφάνεά τε καὶ Ἑκαταίον, B40). The awareness of the λόγος through the pursuit and articulation of the φύσις of things differentiates what

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129 Enrique Hülz aptly suggests that φράζον may be better translated here as “showing it forth,” emphasizing the visual connotation. See “Heraclitus on Logos: Language, Rationality, and the Real,” in Doctrine and Doxography: Studies in Heraclitus and Pythagoras, ed. David Sider and Dirk Obbink (Berlin: De Gruyter, 2013), pp. 281-299, at 283. Though Hülz does not cite other Heraclitean fragments to support his translation, contending only that it fits the context and “is consistent with usage at Heraclitus’ time,” the Ephesian sage’s emphasis on sense experience, particularly sight, does suggest an affinity with “showing.” See, for example, B55 “Whatever comes from sight, hearing, learning from experience: this I prefer” and B101a “Eyes are surer witnesses than ears.” Compare with Homer’s use in the Iliad: ἐκ γαίης ἐρύσας καὶ μοι φύσιν αὐτοῦ ἔδειξε. The φύσις of individual things requires a demonstration both in Homer and Heraclitus. A notion of mere “telling” may or may not live up to such a requirement demanded by the obscure nature of φύσις because it is so difficult to distinguish.

130 This reading may be controversial given that there is little consensus around the precise sense of λόγος in the Heraclitean fragments. Two basic camps emerge, only to see deeper fissions within them. On the one hand, we have the “minimalists” who understand λόγος to refer to only to Heraclitus’ words, see M.L. West Early Greek Philosophy and the Orient (Oxford: Oxford University Press, 1971), p. 124. Jonathan Barnes adopts a similar view, claiming that “it is wasted labor to seek Heraclitus’ secret in the sense of logos,” PP, p. 59. The other camp is much larger and takes Heraclitean λόγος to refer to something more universal and metaphysical. This camp is deeply divided, however, on the precise meaning of this universal λόγος such that any sort of agreement is generally only derived from suggesting what λόγος is not: restricted to Heraclitus’ words.

Heraclitus comprehends from what others believe about the world. More importantly, perhaps, this awareness also differentiates how the sage lives from the way other men blindly go about their lives. Such obliviousness may be traced to the inability to understand and properly apply the idea of nature. In short, on account of their failure to understand nature, most people are, in effect, nothing more than zombies.\textsuperscript{132}

But we may ask: In what sense does knowledge of the nature of things give us access to a λόγος?\textsuperscript{133} Playing on the multi-faceted meaning of λόγος, Heraclitus offers, on the one hand, a traditional construction that typically begins such early Greek works that speak of λόγος as the author’s own account.\textsuperscript{134} On the other hand, Heraclitus clearly intends something far more universal than simply his own discourse, especially given that he chastises men for a failure to comprehend the λόγος even “before hearing it.” The λόγος is the account that stands outside of time (“holds forever”), and that effectively governs the universe as “all things come to pass in accordance with this account.” But the fixed, unchanging nature of the account is directly contrasted with the transience of all things (πάντων) that are subject to the effects of time and becoming (γιγνομένων). Access to the fixed “account” of the λόγος, that underlying structure or reality of all things, is only gained by inquiring into the nature (φύσις) of individual, changing

\textsuperscript{132} Thus the warning in B71-73: “Men forget where the way leads...And they are at odds with that which they most constantly associate. And what they meet with every day seems strange to them...We should not act and speak like men asleep.”

\textsuperscript{133} It should be noted that some commentators have denied precisely the link I am here arguing for between φύσις and λόγος for Heraclitus. See, for example, Kirk, \textit{HCF}, p. 43 and Curd, “Knowledge and Unity in Heraclitus,” p. 542.

\textsuperscript{134} Kahn suggests Heraclitus’ use of λόγος at the outset of his work is part of an existing literary tradition of prose but an “atypical representative of the new genre,” \textit{ATH}, p. 97. Kahn points out that early prose authors like Hecataeus and Ion of Chios, among others, “regularly introduced [treatises] by a reference to the logos or discourse as such,” p. 97. Kahn’s treatment of the topic in \textit{ATH} is nevertheless only a cursory one; for a more detailed etymological history of λόγος, see Kahn, “A New Look at Heraclitus,” pp. 191-193. For a broader treatment of the various uses of λόγος in the fifth century, see Guthrie, \textit{HGP}, vol. I, pp. 420-424. Nussbaum critiques the supposed “impressive diversity of usage” that Guthrie develops by arguing that “Λόγος in early writers is not used frequently,” but that when it is it “always means a story” and usually a “falsehood,” “ΨΥΧΗ in Heraclitus, I,” p. 3.
things. Such knowledge is not gained by divine revelation or even by way of experience.\footnote{For detailed discussions of Heraclitus’ epistemology, see Edward Hussey “Epistemology and Meaning in Heraclitus,” in \textit{Language and Logos: Studies in Ancient Greek Philosophy Presented to G. E. L. Owen}, ed. Malcolm Schofield and Martha Craven Nussbaum (Cambridge: Cambridge University Press, 1982), pp. 33-59, and Lesher, “Heraclitus’ Epistemological Vocabulary.”} Studying entities that change over time, seemingly becoming something both the same and yet different, gives insight into what unites or undergirds change and motion. The pitfall of such observational habits, and the resulting view of reality, is a kind of relativism that Heraclitus objects to when he says, “Though the λόγος is common, the many live, however, as though they had a private understanding” (τοῦ λόγου δ’ ἐόντος ξυνοῦ ζώουσιν οἱ πολλοὶ ὡς ἰδίαν ἐχοντες φρόνησιν, B2).\footnote{Robinson translation, \textit{Heraclitus: Fragments}, p. 11.} The danger is not being able to transcend observed multiplicity and change in the search for something more fundamental and universal. As a mode of inquiry, the study of φύσις provides access to what is common or “shared by all” by allowing the wise to move from what they experience to what connects those experiences. In short, as Curd notes, “an understanding of the cosmos is grounded in the knowledge of the nature of each thing.”\footnote{Patricia Curd, “Parmenides and After: Unity and Plurality,” in \textit{A Companion to Ancient Philosophy}, ed. Mary Louise Gill and Pierre Pellegrin (Malden: M.A.: Blackwell Publishing, 2006), pp. 34-55, at 36. Curd’s view here seems an adjustment of her earlier account in “Knowledge and Unity in Heraclitus,” which indicated that the logos may be grasped independent of any knowledge of particular things.} By establishing a conceptual pattern that unifies the experience of change while at the same time being able to account for differences, φύσις provides the path to a more comprehensive understanding of things in the world.

In yet another fragment dealing with φύσις, Heraclitus gives an example that strengthens the essential connection between the idea of nature and how one ought to live when he tells us that “Thinking well is the greatest excellence and wisdom: to act and speak what is true, perceiving things according to their nature” (σωφρονεῖν ἀρετὴ μεγίστη καὶ σοφίη, ἀληθέα λέγειν καὶ ποιεῖν κατὰ φύσιν ἐπαίοντας, B112). Constituting Heraclitus’ contribution to σωφρονεῖν, the
“paramount virtue of his age,” this fragment draws together the important concepts of the pursuit and articulation of knowledge with virtue into a vision of the best life. The fragment works backward from the ultimate goal of σωφρονεῖν to the way in which this excellence is produced: true act and speech. Such truth is elusive both in thought and action, Heraclitus implies, without the ability to properly perceive the nature of individual things. Not only can we not know, we cannot effectively choose without the ability to grasp the φύσις of things. All that man might achieve for himself, the greatest excellence, thus depends upon the ability to properly see the nature of things. What seems to be the least important concept in the fragment, φύσις, is hidden in plain sight and turns out to be the most essential. Heraclitus not only moves philosophical investigation from cosmology to human affairs, he moves the concept of φύσις from one that concerns scientific or atmospheric phenomena to one that is integral to all human endeavors. Thus, in addition to knowledge of how things come to be, Heraclitus also understands that “moral virtue is deeply rooted in φύσις.” As Heraclitus suggests in a separate fragment: “It belongs to all men to know themselves and to think well” (ἀνθρώποισι πᾶσι μέτεστι γινώσκειν ἑωυτοὺς καὶ σωφρονεῖν, B116). Perhaps then Heraclitus gives the first step on the path to moral virtue when he says, “I went in search of myself” (ἐδιζησάμην ἐμεωυτόν, B101).

But in order to think well, one must in effect discover how to think. Heraclitus, like Xenophanes, challenges the traditional mode of learning that has done more harm than good. Whereas Xenophanes aims most of his ire at Homer as the one from whom “all have learned,”

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138 Kahn weighs in on the authenticity debate surrounding this fragment, saying, “If [B112] is not his, Heraclitus has nothing really original to say on sophrosyne, the paramount virtue of his age. But if it belongs to Heraclitus, [B112] is his most interesting utterance as a moral philosopher,” *ATH*, p. 120. Though some have certainly raised plausible doubts as to authenticity, Kahn appropriately claims that “the burden of proof falls on those who would deny authenticity.” Nevertheless, the real and underappreciated significance of this fragment is the connection it forges between Heraclitus’ moral philosophy and the endeavor of the natural philosopher to properly grasp things according to their φύσις. Heraclitus is often singled-out as the earliest Presocratic philosopher concerned with ethical questions, but rarely do commentators connect these with his developing theory of φύσις.

Heraclitus targets Hesiod, saying, “The teacher of most is Hesiod. It is him they know as knowing most, who did not recognize day and night: they are one” (διδάσκαλος δὲ πλείστων Ἡσίοδος· τούτον ἐπίστανται πλείστα εἰδέναι, ὅστις ἡμέρην καὶ εὐφρόνην οὐκ ἐγίνωσκεν· ἐστι γὰρ ἕν, B57). Homer is the teacher of kings, Hesiod the teacher of farmers, and between them they constitute the principal sources of Greek knowledge. Hesiod’s reach, according to Heraclitus, is far greater because it extends to hoi polloi, that is, to “most” (πλείστων). Simultaneously complimentary and insulting, Heraclitus suggests that Hesiod’s influence is powerful and pervasive but ultimately misleading and detrimental to the masses. The irony is that this powerful source of knowledge in the Greek world makes a fundamental mistake. Hesiod’s real error, Heraclitus points out, is that he “counted some days as good, others as bad, because he did not recognize that the nature (φύσις) of every day is one and the same” (῾Ησιόδῳ τὰς μὲν ἁγαθὰς ποιουμένας, τὰς δὲ φαύλας, ὡσ ἀγνοοῦντι φύσιν ἡμέρας μίαν οὖσαν, B106). In Hesiod’s Theogony, Day and Night are personified as characters, distinctly separate from one another with Night giving birth to Day (Theogony 748-757). But, as Nietzsche points out, night and day are “unthinkable separated” precisely because they are “opposites sides of one and the same relationship.”140 Heraclitus challenges Hesiod’s authority by undermining the traditional notion of φύσις as something that serves solely as a means of differentiation. The nature of something, anything, must be a unity. Hesiod’s failure has consequences: since he registers “some days as good and some as bad,” he ascribes value where there is none. His failure to understand φύσις and the true unity of things means that he has ultimately failed to grasp the meaning of existence.141

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140 Nietzsche, *The Pre-Platonic Philosophers*, p. 57.
141 See Kirk on the connection between λόγος and meaning for Heraclitus, *HCF*, p. 37. Kahn provides a brief discussion concerning meaning and Heraclitus’ use of the ideas of his predecessors in the development of his own
Unmistakably woven throughout many of Heraclitus’ fragments, φύσις is thus intimately connected with questions of what humans can know and how they should live. His understanding of φύσις as an unapparent ἁρμονίη is reflected in the precise composition of his aphoristic fragments that entice the reader beyond the obvious. For Heraclitus, one must be rigorously prepared to go beyond simple experience in order to grasp the secret structure of things by means of the riddle. But all this for the sake of what truths, what insight? What then is φύσις for Heraclitus? As he indicates in B1, φύσις is a means of distinguishing individual things in a way that ultimately allows access to the λόγος. Although λόγος plays the role of cosmic unifier, Heraclitus connects φύσις with unity even more explicitly in B106, where he indicts Hesiod for his failure to understand true unity, namely that “the nature (φύσις) of every day is one and the same.” The failure to understand the hidden connection in things extends even to the “teacher of most.” Hesiod’s real error is making an improper distinction, believing Night is the parent of Day, principally because he sees opposition where unity in fact exists. There is some truth in Hesiod’s view, however, as opposition plays an integral part in the fundamental structure of reality. For Heraclitus, the movement beyond earlier versions of φύσις, whether poetic or philosophic conceptions, comes through recognizing that φύσις is a unification of opposites within the things themselves. Heraclitus thus establishes a new way to think of φύσις as a unity, specifically a unity in opposites. Though some have suggested such a link in passing, or alluded to a comparison rather vaguely, the connection has not been fully appreciated and properly defended as a revolutionary articulation of φύσις in the early Greek period.142

142 See Michael C. Stokes, One and Many in Presocratic Philosophy (Washington, D.C.: The Center for Hellenic Studies, 1971), pp. 89-90, for a brief discussion of the novelty of such an idea in antiquity. Pierre Hadot suggests the possibility of connecting φύσις in Heraclitus with the idea of contraries through an analysis of B123 (φύσις theories, maintaining that “men like Xenophanes and Pythagoras failed to see the true meaning of their own knowledge,” “A New Look at Heraclitus,” p. 191.
Although the existence of a theory of the “unity of opposites” has generally been accepted, the proper understanding and precise implications of this key idea in Heraclitus have been a source of considerable debate. Aristotle takes Heraclitus to mean that opposites are identical, not merely unified in some way, and concludes that Heraclitus perhaps was not serious about such an obvious absurdity. Aristotle’s motivation for such a simplistic reading of his predecessor is unclear. What is clear from a reading of the Heraclitean fragments that deal with this idea is that identity is only one possible way to think of the sort of “sameness” or unity that Heraclitus has in mind. The notion of unity was itself nothing new, as earlier Presocratic thinkers clearly wrestled with how to understand that which holds things together. They had been chiefly concerned with explaining a unified cosmos, however, through a variety of principles. Although Heraclitus may have been influenced by his cosmological predecessors, the Ephesian is not merely or even primarily a cosmologist. Instead, he is far more concerned with unity as it relates to the “requirements for an object of knowledge.”

Understanding and explaining what something is, or in his words “distinguishing each according to its nature and κρύπτεσθαι φιλεῖ). He arrives at a rather unorthodox conclusion that “reality is such that within each thing there are two aspects that destroy each other mutually,” Veil of Isis, p. 10. As previously quoted, Hussey may suggest a parallel between ἁρμονίη, φύσις, and the unity of opposites when he says “the finding of the ‘latent structure’ of the ‘nature’ of things, is solving the riddle,” but he offers no substantive explanation or argument regarding this claim, “Heraclitus,” p. 91.


145 Graham’s account of this idea in Explaining the Cosmos is helpful in understanding the range of possibilities of “sameness,” among which identity is merely one option, see pp. 122-129.

146 Curd, “Knowledge and Unity in Heraclitus,” p. 532.
telling how it is” (κατὰ φύσιν διαφέρων ἕκαστον καὶ φράζων ὅκως ἔχει, B1), requires an account of what makes some entity a unified thing. Heraclitus fashions a new notion of unity by synthesizing the ideas of his predecessors into a description of both the unity and difference that describes the fundamental reality of existence. By importing the philosophical notion of unity at the level of the individual entities, Heraclitus gives a way to understand both identity and change, unity and differentiation. Further, φύσις as such gives humans a path to grasping the λόγος according to which “all things come to pass.” In this way, Heraclitus establishes a far more specific way to understand the parallel operations between the individual and the cosmos that is a commonplace in ancient Greek thought. By moving beyond simplistic principles of unification such as “everything is water” or “everything is rarefied or condensed air,” Heraclitus allows for different kinds of unity and differentiation at various levels of reality.

Although some have occasionally challenged the presence of a “unity of opposites” theory in the extant fragments, the fact that Heraclitus has “monistic ambitions” is hard to refute. He suggests repeatedly and in a variety of ways that “all things are one.” Reinforcing a parallel with listening and logos, he says, “It is wise, listening not to me but to the account, to agree that all things are one” (οὐκ ἐμοῦ ἀλλὰ τοῦ λόγου ἀκούσαντας ὁμολογεῖν σοφόν ἐστιν ἓν πάντα ἐδίναι, B50). The unity is difficult to “grasp” given the apparent prevalence of contrary movements or opposing traits: “Grasplings: wholes and not wholes, convergent divergent, consonant dissonant, from all things one and from one things all” (συλλάψεις· ὅλα καὶ οὐχ ὅλα, συμφερόμενον διαφερόμενον, συνάδως διαδόν, ἐκ πάντων ἐν καὶ ἐξ ἑνὸς πάντα, B10). Such unity may in fact be hidden behind what we too casually take to be opposite states: “The same…: living and dead, and the waking and the sleeping, and young and old. For these transposed are those, and those
transposed again are these” (ταύτο τ’ ἔνι\(^{147}\) ζὸν καὶ τεθνηκός καὶ τὸ ἐγρηγορός καὶ τὸ καθεύδον καὶ νέον καὶ γηραιόν· τάδε γὰρ μεταπεσόντα ἐκεῖνά ἐστι κάκεινα πάλιν μεταπεσόντα ταῦτα, B88). Among the Heraclitean fragments, even the ones just highlighted, one finds not a single version of unity but rather different kinds of unity of opposites. Correspondingly, his commentators manage all manner of schema for connecting the various fragments that deal with opposites.\(^{148}\) For our purposes, it is enough to illustrate a few examples. When Heraclitus contends that “Beginning is together with end [on a circle] (ξυνὸν γὰρ ἀρχὴ καὶ πέρας ἐπὶ κύκλου [περιφερείας], B103), the paradox here is that the opposites are “logically indistinguishable.”\(^{149}\) In other cases, the opposites may be unified in the form of a continuum, as in those fragments that assert that Night and Day are really one. Elsewhere, Heraclitus highlights the way two opposites are said simultaneously of the same thing: “A road up and down is one and the same” (ὁδὸς ἄνω κάτω μία καὶ ὡυτή, B60).\(^{150}\) The perception of unity may be a matter of perspective. Here it depends on the perspective taken on the entity in question, suggesting an affinity with those fragments that suggest a relevance problem: “The sea is the purest and foulest water: for fish drinkable and life-sustaining; for men undrinkable and deadly” (θάλασσα ὕδωρ καθαρώτατον καὶ μιαρώτατον· ἰχθύσι μὲν πότιμον καὶ σωτήριον, ἀνθρώποις δὲ ἀποτόμος καὶ ὀλέθριον, B61). Unity, it turns out for Heraclitus, is said in many ways, and the specific role opposites play in generating or revealing that unity differ. Yet in each case the specific unity of particular opposites is what reveals the nature of the thing. A circle is the kind

\(^{147}\) I have followed Kahn here in leaving τ᾽ ἔνι in the text though he notes that it “must be wrong and should probably be bracketed,” \textit{ATH}, p. 70.

\(^{148}\) Kahn divides the fragments dealing with unity in opposites between anthropocentric and cosmic subjects, \textit{ATH}, p. 185ff. Stokes starts with the “easiest kind of unity first” and progresses through what he takes to be increasingly complex varieties, \textit{One and Many in Presocratic Philosophy}, pp. 90-100. Mackenzie develops a scheme that embraces, in true Heraclitean fashion, reciprocal concepts of the unity of opposites and the opposition of unity, “Heraclitus and the Art of Paradox,” pp. 7-12.

\(^{149}\) Stokes, \textit{One and Many in Presocratic Philosophy}, p. 90.

of thing in which the beginning and end are one and the same. A road is the kind of thing that simultaneously travels in opposite directions. Sea water is, at the same time, poisonous and nourishing.

Heraclitus reveals more about the nature of this unity in opposites as a specific pattern when he describes it as an attunement (ἁρμονίη). Kahn’s analysis shows that the notion of ἁρμονίη manifests itself in three particular ways in the Heraclitean fragments: 1) “a physical fitting together of parts,” 2) “a principle of reconciliation between opponents,” and 3) “a pattern of musical attunement.” Explicitly identifying the idea of attunement as a facet of reality that escapes most people, Heraclitus says: “They do not comprehend how a thing agrees at variance with itself; it is an attunement turning back on itself, like that of the bow and the lyre” (οὐ ξυνιᾶσιν ὅκως διαφερόμενον ἑωυτῷ ὁμολογέει· παλίντροπος ἁρμονίη ὅκως πόσερ τόξου καὶ λύρης, B51). In these situations, the attunement is internal: “a thing agrees at variance with itself.” And it is this unification of conflicting forces or features that makes a thing what it is. In other words, the φύσις of the thing as a unity is generated by the opposition. Without the tension, the conflicting pull in opposite directions, neither the bow nor the lyre would exist as such. In stark contrast to the traditional Greek notion of φύσις as the “essential character” of a thing with an eye toward the obvious, outwardly visible quality, Heraclitean φύσις presents particular opposites as the essential features of a thing. In his usual paradoxical way, Heraclitus repeatedly points to individual objects “characterized by contradictory properties”: the road, the circle, and “the path of the carding wheels is straight and crooked” (γνάφων ὁδὸς εὐθεία καὶ

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151 Kahn, *ATH*, p. 197.
152 Graham carries the opposition even further by suggesting an intentionally juxtaposed symbolism of the bow as an object of war and the lyre as an object of peace, unified as simultaneous representations of Apollo, “Heraclitus: Flux, Order, and Knowledge,” p. 178.
153 Dilcher alleges that the instances of opposites in the fragments are so “diverse” as to make any notion of unity so elastic that it is nearly meaningless, “How Not to Conceive Heraclitean Harmony,” p. 264.
In many cases, the opposites are not cosmic or elemental opposites, but within the individual entity. As such, opposition in general allows us to “structure and find our way about so much of our experience.” That is to say, the opposites give us a starting place to begin to properly “distinguish each according to its nature” (B1), but true recognition of the φύσις of any individual thing, that is being able to “tell how it is,” requires grasping how this opposition generates a unity.

The unapparent ἁρμονίη is not only a “principle of reconciliation between opponents” but a process that connects several of Heraclitus’ key ideas into a cogent whole: “The counter-thrust brings together, and from tones at variance comes perfect attunement, and all things come to pass through conflict” (καὶ Ἤρακλειτος <φησιν> τὸ ἀντίξουν συμφέρον καὶ ἐκ τῶν διαφερόντων καλλίστην ἁρμονίαν καὶ πάντα κατ’ ἔριν γίνεσθαι, B8). It is in this process of ἁρμονίη that the Heraclitean notion of unity “performs its essential function” that “unites, controls, and gives meaning to the opposites.” This “hidden unity of warring opposites” may only be perceived, however, through “coming-to-be and passing away, in change and transmutation.” Heraclitus refers to this both when he says “The same…: living and dead, and the waking and the sleeping, and young and old. For these transposed are those, and those transposed again are these” and “For souls it is death to become water, for water it is death to become earth; out of earth water arises, out of water soul” (ψυχῆσιν θάνατος ὕδωρ γενέσθαι, ὕδατι δὲ θάνατος γῆν γεγένεσθαι· ἐκ γῆς δὲ ὕδωρ γίνεται, ἐξ ὕδατος δὲ ψυχή, B36). Likewise, pointing to the inevitability of transition between opposites, he says, “Cold warms up, warm cools off, moist parches, dry dampens (τὰ ψυχρὰ θέρεται, θερμὸν ψύχεται, ὕγρόν αὐαίνεται, καρφαλέον νοτίζεται, B126). In

155 Hussey, “Heraclitus,” p. 94.
156 Ibid., p. 98.
157 Seligmann, The Apeiron of Anaximander, p. 52
perhaps his most famous fragment, Heraclitus claims that, “We step and do not step into the same rivers; we are and are not” (ποταμοῖς τοῖς ἀντίς εμβαίνομεν τε καὶ οὐκ ἐμβαίνομεν, εἶμεν τε καὶ οὐκ εἶμεν, B49a). Rather than an enigmatic reference to the inevitability of change, the flux of all things, Heraclitus’ river fragments present the paradox of φύσις. In this case, “it is the very essence of...any river, to be composed of moving waters that are renewed constantly.”158 The nature of anything is thus fixed and changing at the same time, making the elusive interplay of change and permanence another way in which nature hides. Expanding this idea to all things when he says, “While changing it rests” (μεταβάλλον ἀναπαύεται, B84a), φύσις as a ἁρμονίη is both the constant process by which the opposites “fit together” and the structure of the unified entity.

For Heraclitus, then, it is variety in kinds of unity, specifically in the more precise nature of attunements, that constitutes the φύσις of things as a kind of common pattern and yet uniquely discernible in individual things. The particular opposites in a thing and their specific attunement is what Heraclitus is able to distinguish that others are not. Able to recognize the kind of unity that exists for a particular individual thing, Heraclitus thus grasps the unapparent ἁρμονίη by means of the measured process of change. Insofar as Heraclitus is concerned with what constitutes an “object of knowledge,” it is the φύσις of the thing that demands his attention and necessitates going beyond the “outward appearance” of a thing. In doing so, Heraclitus sees possibility and complexity that opens up the world of experience. A road may seem one directional to most due to individual vantage point; likewise, one may fail to see that the end of a circle, or a journey, also must be a new beginning. Rather than distinct opposites, one ought to understand that night and day are “really two facets of a single process; this, indeed, is their...

The uncovering of greater possibilities for conceptions of the cosmos and human life unlocks the λόγος as the “unifying principle that guides and steers all things, a single account of how things are, and the object of genuine knowledge.”

JUSTICE, HARMONIA, AND PURPOSIVENESS

The general view of the early Greeks that the cosmos is guided in some way finds its strongest proponent yet in Heraclitus. The surviving fragments of his predecessors offer only several vague gestures at such a notion. Anaximander believed that the boundless must “contain all things and steer all things” and Xenophanes contends that the One God effortlessly “shakes all things by the thought of his mind.” Heraclitus returns to the idea of a guided cosmos multiple times in different contexts, going well beyond mere suggestion to articulate, albeit cryptically, precisely how he understands this to take place. Sounding a purposive note at the outset of his book, he suggests that “all things come to pass in accordance with this λόγος” (B1). To the frustration of those who place so much emphasis on the centrality of the term, the other fragments that specifically mention λόγος fail to clarify how this might be the case. Heraclitus does, however, repeatedly provide his reader with the pattern of that force responsible for generation, movement, becoming in the world. Within the structure of the fragments themselves, this pattern emerges as the conflict implicit in the paradoxes and riddles and their resolution, depending on the aptitude of the listener, in some fundamental insight that they lacked prior to this experience. Heraclitus’ fragments, an experience in themselves, are composed as a reflection of the overall pattern or structure that guides the cosmos itself, a hidden truth summed up when he says “all things come to pass in accordance with conflict” (B8). While the conflict

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159 Kirk, HCF, p. 230.
160 Curd, “Parmenides and After: Unity and Plurality,” p. 36.
161 See B2, B39, B50, B87, B108.
between particular opposites produces the φύσις of individual things as a unity, these individual entities, including human beings, are only mirrors which reflect this greater cosmic process. Extending his insight to the cosmic level, he says: “One must realize that war is shared and Conflict is Justice, and that all things come to pass (and are ordained) in accordance with conflict” (εἰδέ<ναι> χρὴ τὸν πόλεμον ἐόντα ξυνὸν καὶ δίκην ἔριν καὶ γινόμενα πάντα κατ᾿ ἔριν καὶ χρεώμενα, B80). Casting aside any doubt concerning the fundamental existence of opposition in the basic nature of things, Heraclitus adopts Anaximander’s “serial injustice” as the basic condition of existence. Yet whereas Anaximander has Time as the cosmological, teleological force which shapes all things by imposing order on naturally conflicting opposites, Heraclitus maintains that conflict, and not its mediation, is the force of justice that shapes and order to the cosmos. Although the text is uncertain at this point, the notion of χρεώμενα at the end of the fragment supports teleological implications through the suggestion that all things are ordained, that is, they are “established as right and necessary” by conflict. As “the pattern of order and reciprocity,” justice is the “principle of regularity,” and for Heraclitus it is conflict that plays this role within all things. The same conflict that shapes individual things as unities also guides the unfolding of all events in the cosmos.

In a stark reversal of the Homeric view of conflict, however, Heraclitus says, “Homer was wrong when he said, ‘Would that Conflict might vanish from among gods and men!’”. For there would be no attunement without high and low notes nor any animals without male and female, both of which are opposites” (καὶ Ἦρακλειτος ἐπιτιμᾷ τῷ ποιήσαντι Ἀ�ς ἔρις ἔκ τε θεῶν καὶ ἄνθρωπων ἀπόλοιτο ὀὐ γὰρ ἂν εἶναι ἁρμονίαν μὴ ὄντος ὁξέος καὶ βαρέος, οὐδὲ τὰ ξόα

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162 The phrase is used by Graham, Explaining the Cosmos, p. 36.
163 See Kahn, ATH, p. 207 and p. 326 n. 275 for a brief discussion of the textual ambiguities in B80.
164 Kahn, ATH, p. 206.
ἄνευ θήλεος καὶ ἄρρενος ἐναντίων ὄντων, A22). The explicit connection between conflict and ἁρμονίη is impossible to miss. In order to allow for the possibility of ἁρμονίη as a goal, there must be opposition and conflict. This fragment also sheds light on the twin error of Homer and Hesiod. Hesiod fails to recognize the unity (B57), Homer fails to appreciate the necessity of conflict; both fail to grasp the “true structure of things” through different mistakes.165

Extending his criticism to the Milesians, Heraclitus advocates for a very different kind of source for all things: “War is father of all and king of all. He renders some gods, others men; he makes some slaves, others free” (Πόλεμος πάντων μὲν πατήρ ἐστι, πάντων δὲ βασιλεύς, καὶ τοὺς μὲν θεοὺς ἔδειξε τοὺς δὲ ἄνθρωπους, τοὺς μὲν δούλους ἐποίησε τοὺς δὲ ἐλευθέρους, B53). This criticism casts as wide net, ensnaring the theogonies in Homeric and Hesiodic epics as well as naturalistic explanations that suggest first principles in the form of archai. As “father” war serves as a source, and as a “king” it plays the role of a principle that rules over all things, shaping things by hierarchy. Likewise, this criticism seems aimed at Xenophanes as well, who attributed the distinction between mortal and divine natures to the possession of key attributes. Heraclitus maintains instead that war (πόλεμος) is what differentiates not only in the broadest possible sense between human and divine, but in what sort of lives individual men will lead. Though this illustrates the way the cosmos is directed, how does Heraclitus understand it to be purposive?

From an etymological perspective, a ἁρμονίη “implies a purposive mutual adjustment of components to produce a unity” as the result of this process of “fitting together.”166 More specifically, this unity operates as a telos that “becomes more than mere schematism: we find

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165 Ibid., p. 204.
166 Hussey, “Heraclitus,” p. 110 n. 15.
that the unity unites, controls, and gives meaning to the opposites.” For Heraclitus, the attunement of opposite features is what makes every individual thing what it is, but the making as a process is fundamentally purposive. The process of attunement, a process grounded in conflict, is itself what steers everything in the cosmos. And yet for Heraclitus, the connection of the ἁρμονίη as “built-in teleology” to the divine is unmistakable. As Kahn notes, “the universal ἁρμονίη or fitting together and the divine unity that structures the world are only different modes of designating the same principle.” Invoking the imagery of traditional divinity in connection with his new wisdom, Heraclitus claims, “The thunderbolt steers all things” (τάδε πάντα οἰκάζει κεραυνός, B64) and “The wise is one alone, unwilling and willing to be spoken of by the name of Zeus” (ἐν τῶ σοφῶν μοῦνον λέγεσθαι οὐκ ἐθέλει καὶ ἐθέλει Ζηνὸς ὄνομα, B32). The belief that the universe is steered in some capacity is part of the cultural view of the early Greeks, but Heraclitus’ view is unique in suggesting that the purposive operation of the divine is somehow available to mortals: “The wise is one, knowing the plan by which it steers all things through all” (ἐν τῶ σοφῶν· ἐπίστασθαι γνώμην ὅκη κυβερνῆσαι πάντα διὰ πάντων, B41). Wisdom, in Heraclitus’ view, gives an account of why things happen. As the unity-in-opposites, φύσις for Heraclitus is not an inert structure but an active unification that both guides and illuminates. As a hidden unity φύσις is the manifestation of the cosmic process of ἁρμονίη at the level of the individual, the recognition of which allows for the possibility of true wisdom: “of all those whose accounts I have heard, none has gone so far as this: to recognize what is wise, set apart from all” (όκόσων λόγους ἣκουσα οὐδεὶς ἀφικνεῖται ἐς τούτο

167 Ibid., p. 98.
168 Ibid., p. 97.
169 Kahn, ATH, p. 203. Kahn conceives of the Heraclitean ἁρμονίη as a response to Pythagorean “conception of the world in terms of the musical numbers.”
ὥστε γινώσκειν ὅ τι σοφόν ἐστι, πάντων κεχωρισμένον, D108). But what, precisely, is recognized?

Customarily, Heraclitus offers no clear answer to this question, but the *gnomai* that “steers all things” as a kind of divine purposiveness provides a clue. Elaborating on the *gnomai*, he draws a distinction between moral and divine activity along purposive lines when he says “Human nature has no set purpose, but the divine has” (ἦθος γὰρ ἀνθρώπων οὐκ ἔχει γνώμας, θείον δὲ ἔχει, B78). A better understanding of the fragment is generated, as Kahn suggests, if we think of ἔχει as “holds onto,” so human nature fails to consistently hold onto the “set purpose” (*gnomai*) in the way that the divine is naturally able to maintain.170 Humans get lost in the world of opposites while the divine retains its purposiveness because it *is* the unity in opposites which serves as the living, latent structure in a way that is simultaneously “intelligent, purposive, and controlling.”171 Heraclitus draws together the divine and the theory of the unity of opposites when he says: “The god: day and night, winter and summer, war and peace, satiety and hunger. It alters, as when mingled with perfumes, it gets named according to the pleasure of each one” (ὁ θεὸς ἡμέρη εὐφρόνη, χειμὼν θέρος, πόλεμος εἰρήνη, κόρος λιμός. ἀλλοιοῦται δὲ ὁκόσταν συμμιγῇ θυώμασιν ὀνομάζεται καθʿ ἡδονὴν ἑκάστου, B67). Kirk notably summarizes by saying: “all the pairs of opposites can themselves be equated with god” insofar as the divine “stands for the connexion between things.”172 Mortals fail to grasp what is “set apart from all” because they are focused on “the more apparent variation which is nominal and superficial though not completely unreal.”173 Viewed from the perspective of the divine, there is no evaluative difference between opposites: “For god all things are fair and good and just, but men

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170 Ibid., p. 173.
173 Ibid.
have taken some things as unjust, others as just” (ὡς τῷ μὲν θεῷ καλὰ πάντα καὶ ἀγαθὰ καὶ δίκαια, ἄνθρωποι δὲ ἃ μὲν ἄδικα ὑπειλήφασιν ἃ δὲ δίκαια, B102). Knowledge of the repeating pattern of φύσις gives us access to this divine λόγος which is simultaneously “set apart from,” and yet identical with, all things. That is, φύσις unlocks not only what the cosmos is, but the process by which it becomes so. It is, however, not enough to grasp this divine connection, this logos, one must augment this knowledge with the courage of conviction: “Speaking with understanding they must hold fast to what is shared by all, as a city holds to its law, and even more firmly. For all human laws are nourished by a divine one. It prevails as it will and suffices for all and is more than enough” (ξὺν νόῳ λὲγοντας ἰσχυρίζεσθαι χρὴ τῷ ξυνῷ πάντων, ὅκωσπερ νόμῳ πόλις καὶ πολὺ ἰσχυροτέρως· τρέφονται γὰρ πάντες οἱ ἀνθρώπων νόμοι ὑπὸ ἑνὸς τοῦ θείου· κρατεῖ γὰρ τοσοῦτον ὁκόσον ἐθέλει καὶ ἐξαρκεῖ πᾶσι καὶ περιγίνεται, B114). Such knowledge may be transformed into practical wisdom for Heraclitus, but only if humans possess the endurance to see the riddle through and the conviction to hold onto the hard won knowledge. Thus it is that divine purpose may be infused into human endeavors.

CONCLUSION

Heraclitus thus develops a dynamic concept of φύσις that reflects the enigmatic, hidden quality of nature as a perpetual riddle. Grounded in the inherent dynamism in the cosmos, his idea of nature expands on Xenophanes’ concept as a tool of differentiation and classification since it presents a unified experience of change in the natural world while at the same time being able to account for differences. As a ἁρμονίη of opposites, the φύσις of things is only available to those who are attuned to the language of nature. Heraclitus’ own paradoxes, riddles, and proverbial utterances challenge his reader to develop the capacity to listen well and interpret the signs of nature. In short, he enables us to teach ourselves the language of nature in order to derive the meaning of this riddle. In doing so successfully, these rare individuals develop the
ability to understand the λόγος according to which all things happen. That is, they gain insight not simply into the pattern and connection in all things, but rather into the divine in its dual aspect as recurring conflict and enduring unity which shapes all things. But it is only through grasping the inherent purposiveness in the unity of opposites, in a ἁρμονίη born of conflict, that one achieves true wisdom. Wisdom, for Heraclitus, is only for those brave enough to face down the unsolvable riddle of nature.
Chapter 4: The Limits of Nature: Parmenides and the Path to Enlightenment

The path of my fixed purpose is laid with iron rails, whereon my soul is grooved to run. Over unsounded gorges, through the rifled hearts of mountains, under torrents’ beds, unerringly I rush. Naught’s an obstacle, naught’s an angle to the iron way!

—Ahab in *Moby Dick*

Aristotle does not mince words when he declares that adopting Eleatic monism seems “next door to madness.” Regardless of apparent logical consistency, once one properly considers the facts, Aristotle tells us, “no lunatic seems to be so far out of his senses as to suppose that fire and ice are one.”¹⁷⁴ The insanity of such strict monism notwithstanding, many commentators, both ancient and modern, hold that Parmenides advocates precisely this kind of extreme unity that denies the very possibility of change. It may seem strange then that Parmenides casts the longest shadow throughout antiquity as that of the first true philosopher.¹⁷⁵ Likewise, the modern narrative for understanding the early Greeks portrays Parmenides as the central figure among the Presocratics; all of the earliest philosophers are then categorized in a general way as either Pre-Parmenidean or Post-Parmenidean.¹⁷⁶ In all likelihood, the relatively large portion of his poem that survives, nearly one hundred and fifty lines in all, invites bolder and more definitive claims from modern scholars than they often dare to make about earlier figures from

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¹⁷⁵ As I contend later in this chapter, Aristotle conflates the respective views of Parmenides and Melissus when it is convenient for him to do so given his own philosophical agenda. Nevertheless, he does recognize appreciable differences in their thought such that it is probably only Melissus’ version of monism that Aristotle has in mind as being “next door to madness.”

¹⁷⁶ See Daniel W. Graham, *Explaining the Cosmos*, pp. 19-27. Parmenides’ pivotal role is among the few things commentators agree on when it comes to the Eleatic philosopher. Guthrie contends that “Presocratic philosophy is divided into two halves by the name Parmenides,” *HGP*, vol 2., p. 1, while Jonathan Barnes says more broadly that “Parmenides of Elea marks a turning-point in the history of philosophy,” *PP*, p. 155. James Lesher is more precise, arguing that three identifiable factors distinguish Parmenides’ poem from earlier philosophical accounts: 1) the “high level of abstraction” Parmenides uses in his discussion of τό ἔον; 2) the manner in which Parmenides orders, distinguishes, and evaluates “possible ways of thinking” about “what-is”; 3) the “degree of rigour” with which Parmenides argues for the attributes of “what is.” See “Early Interest in Knowledge,” in *The Cambridge Companion to Early Greek Philosophy*, ed. A.A. Long (Cambridge: Cambridge University Press, 1999), pp. 225-249, at 236. Such a pronounced division holds for the present study of the development of the concept of nature in early Greek philosophy. Following Parmenides, subsequent philosophers must grapple with new requirements for what constitutes a “nature” in light of the arguments put forth in Parmenides’ poem.
this period. Within his poetic discourse, however, it is Parmenides’ combination of the dactylic hexameter of epics past with a new form of logical dialectic that firmly plants his poem at the crossroads of archaic style and novel questions. Enthralling listeners with revolutionary ideas and arguments, the Eleatic philosopher-poet harnesses the power of the epic hero to advance provocative philosophical concepts, including a new idea of nature. Parmenides challenges some of the basic assumptions of early philosophical orthodoxy, if indeed there is such a thing, by raising critical questions that cut to the heart of the prevailing Ionian understanding of nature. Inevitably, his arguments demand a response in a way that produces an immediate and significant impact on his philosophical successors.

Within the emerging philosophical milieu of the 5th century B.C., Parmenides stands out as an entirely new kind of thinker, so unlike other physiologoi as to demand an entirely different classification. Rather than attempt to make sense of plurality and change, as his philosophical predecessors did, Parmenides denies them outright. Since only one thing exists, the world of multiplicity, conflict, and appearance is merely illusory. Thus, traditional Ionian inquiry into the φύσις of things is pejoratively relegated in his poem to the status of mere opinion “on which there is no true reliance” (B1, 30). Or so the story goes. An alternative narrative has emerged in more recent accounts of his poem, challenging some of the conventional, long-standing

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177 Scholars have long wrestled with how to make sense of Parmenides’ use of traditional poetic form for his new truths. Reasons abound for Parmenides’ choice of poetry to convey his ideas, but a typical answer is that the customary meter of epic poetry had the advantage of being easier to memorize as well as connoting “wisdom and authority” and serving as a “vehicle of divine revelation,” PBS, p. 152. Other commentators, like Glenn Most, contend that the choice serves a far more philosophically significant purpose by answering the question: “how can the philosopher know the truth of what he claims to know?,” “The Poetics of Early Greek Philosophy,” p. 353. Similar disputes also emerge with respect to which epic poet most influences Parmenides. Werner Jaeger argues that Hesiod’s Theogony is the model for Parmenides’ poem, The Theology of Early Greek Philosophers, p. 93. For a detailed account of the Homeric influence on Parmenides, see E.D. Floyd, “Why Parmenides Wrote in Verse,” Ancient Philosophy 12 (1992): 251-265. For a more complete summary of the various ways scholars have made sense of Parmenides’ use of verse, especially as it relates to the Proem, see Herbert Granger, “The Proem of Parmenides’ Poem,” Ancient Philosophy 28 (2008): 1-20, at 1-5.
interpretations of Parmenides’ project and arguments. These *nouveau*, “predicational” readings argue, in different ways, that Parmenides’ real aim is to specify what it is to be the “nature” of a thing. On such a reading of the poem, Parmenides denies neither plurality nor change, and instead focuses his argument on the necessary ontological and epistemological criteria for all entities. Rather than deny the possibility of cosmological inquiry, Parmenides instead seeks to establish a solid metaphysical foundation from which such inquiry must necessarily proceed. It is this view and the implications that such a reading of Parmenides hold for the study of the idea of nature in early Greek philosophy that I take up in this chapter.

Building on the predicational reading of Parmenides’ thought, this chapter traces the path that the Eleatic “purification” of the emerging concept of nature takes in Parmenides’ poem. Broadly speaking, I argue that Parmenides develops the metaphysical foundations and limits of the concept of nature as an explanatory principle capable of giving an account of both the “real” and sensible worlds. Hinging as it does on a critical revaluation of the standard “existential” interpretation, my account begins with a brief overview of the most influential ways that Parmenides’ project has been understood. I argue that while any definitive interpretation of Parmenides’ poem remains elusive, the predicational reading provides a more comprehensive account since it is able to take far more facets of the poem into account and also better situates

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179 More recently, however, Michael Wedin attacks what he labels the “Ionian interpretation” in his monograph *Parmenides’ Grand Deduction* (Oxford: Oxford University Press, 2014). Relying on a detailed analysis of the logical structure of Parmenides’ poem, Wedin’s arguments are in many ways a return to the existential reading of the mid-20th century that emphasizes textual analysis and all but abandon historical context and the rhetorical structure of the poem. Wedin’s monograph is an expansion of similar arguments he makes earlier in “Parmenides' Three Ways and the Failure of the Ionian Interpretation,” *Oxford Studies in Ancient Philosophy*, 41 (2011): 1-65. I argue against this way of reading Parmenides, broadly speaking, in the next section of this chapter.
the poem historically than competing interpretations. As such, the predicational account provides a way to read Parmenides as playing a crucial role not only in the development of the idea of nature in Presocratic philosophy, including an immediate impact on his successors, but more broadly to influence the Platonic and Aristotelian conceptions of natures in profound and readily visible ways. Far from the work of a philosophical renegade, or thinker utterly disconnected from his culture and the philosophical tradition, Parmenides’ poem instead blends the old and new, connecting tradition with innovation in a way that presents a novel approach to the study of nature. That is, nature both as the identity or essence of any “real” thing (τὸ ἔον) as well as dynamic idea of nature as the “works” or process governed by the idea of φύσις. In the middle sections of the chapter, I first trace Parmenides’ development of the concept of nature as basic metaphysical criteria in the Alētheia section of his poem as the ground of all rational inquiry.

But while previous commentators have much to say about the idea of “nature” as metaphysical and epistemological criteria, they fail to provide an adequate account of the use of φύσις in Parmenides’ poem. In various ways this gap in the scholarship is connected to the fact that φύσις is only found in the Doxa section of the poem. I offer an analysis of Parmenides’ account of φύσις in the Doxa section of his poem, which both tethers him to, and liberates him from, his predecessors. I argue that Parmenides’ repeated emphasis on the idea of limits (πείρατα) is a deliberate attempt to supply the concept of nature with a crucial component necessary for existence and knowledge. Parmenides’ use of the idea of limits as the defining

feature of the nature of anything is connected in key ways to the poetic and divine components of the poem, specifically as it relates to the analogy of “paths.” In the final section of the chapter then, I turn to a consideration of the purposive implications of Parmenides’ theory, specifically the didactic role of the idea of limits within the analogy of paths prescribed for humans by the divine. I argue that recurring rhetorical images like shackles as limits and paths of inquiry are Parmenidean vehicles for sophisticated developments in the concept of nature that illustrate key purposive features. Understood in this way, Parmenides’ role in opening up the possibilities in the conceptions of nature in chronologically subsequent theories becomes clearer as he paves the way for the bifurcation of the concept of nature in his philosophical successors.

ANCIENT AND MODERN READINGS OF PARMENIDES’ POEM

The question of the nature of things in Parmenides’ thought will seem strange to most readers not steeped in relatively recent scholarly debate. After all, the idea of the nature of something seems to require some notion of “becoming,” “growth,” or “change,” particularly given the relationship between the substantive ΦΥΣΙΣ and the verbal form φύω. Thus the widespread narrative concerning Parmenides’ thought holds that he famously denies the very possibility of change.\(^\text{182}\) Such denial is grounded in two basic premises frequently adopted by Parmenides’ readers: the idea that only one thing exists that is “spatially and temporally undifferentiated” and that “the world of our ordinary experience [is] a non-existent illusion.”\(^\text{183}\) Any account of the idea of nature in Parmenides thought must then begin by staking out a position on broader interpretive questions: how should we understand Parmenides’ project? What is it that he really aims to accomplish in his poem? In this section, I sketch the significant

\(^{182}\) For histories that take Parmenides to be a numerical monist who denies the reality of change, see HGP, vol. 2, pp. 1-80, KRS, pp. 239-262, and PBS, pp. 145-173.

\(^{183}\) John Palmer, *Parmenides and Presocratic Philosophy*, p. 17.
features of the dominant strains of interpretations of Parmenides’ thought, both ancient and modern, so as to establish the necessary background for my account of Parmenides’ concept of nature. While some interpretations have held sway for far longer periods of time, Parmenides is the most contentious figure in early Greek philosophy, and this is certainly reflected in the scholarship that aims to make sense of the broader implications of his work. Each view thus faces difficulties that may ultimately prove insurmountable given the incomplete historical picture. Nevertheless, I argue that the predicational reading is more compelling than the alternatives and serves as the most plausible foundation for any inquiry into the Parmenidean concept of nature.

Aristotle’s caricature of Parmenides is anything but simple, though it has had a lasting impact. The most influential accounts of Eleatic theory in the Aristotelian corpus can be found in the early parts of the *Physics* and *Metaphysics*. Sketching the scope and history of the science of nature in the opening parts of the *Physics*, Aristotle summarily dismisses the idea that Eleatic views (strict monism that denies change) are worthy of pursuit by the student of nature (*Physics* 185a1). Instead, he develops a key point of difference between the Eleatics and the *physiologoi* when he notes the disagreement with respect to ἀρχή: “It is necessary for the source to be either one or many; and if one, either without motion, as Parmenides and Melissus hold, or in motion as the natural philosophers hold” (*Physics* 184b15-17).184 Separately in *On the Heavens*, Aristotle widens the philosophical divide between Eleatics and *physiologoi* when he says:

Some removed generation and destruction from the world altogether. Nothing that is, they said, is generated or destroyed, and our conviction to the contrary is an illusion. So maintained the

184 Gerard Naddaf greatly oversimplifies when he says, “the ancient tradition clearly saw Parmenides as a phusikos,” *The Greek Concept of Nature*, p. 135. Though there are certainly parts of the ancient tradition that conceive of Parmenides as interested in the same kinds of questions, generally speaking, as the nature-thinkers of the Ionian tradition, asserting consensus among ancient interpreters on this issue goes too far. Aristotle himself seems to be of two minds with respect to this question.
school of Melissus and Parmenides. But however excellent their theories may otherwise be, anyhow they cannot be held to speak as students of nature. There may be things not subject to generation or any kind of movement, but if so they belong to another and a higher inquiry than the study of nature (On the Heavens 298b14-22).

Yet Parmenides’ text resists Aristotle’s attempts to group his predecessors neatly according to his own division of the sciences. Later in Physics I, Aristotle seems to speak of Parmenides as though he were a natural philosopher when he suggests that even Parmenides subscribes to a theory of opposites to explain the natural world (188a20-22). In his own study of this “higher inquiry,” Aristotle describes the Eleatic school as consisting of those who “spoke of the universe as if it were one entity” (Metaphysics 986b11-12). He echoes his earlier suggestion of certain natural philosopher-like qualities in Parmenides’ ideas later in the Metaphysics, arguing that being “forced to follow the phenomena,” Parmenides supposes that “what-is is one in formula but many according to perception” and, as a result “posits two causes and two principles, calling them hot and cold” (986b31-34). Within the Eleatic school, Aristotle admits subtle differences in specific features of their theories when he notes that Parmenides and Melissus differ with respect to “the excellence of their statement” and exhibit disagreement “in regard to the nature of the entity” (986b13-14). Dismissing Melissus and Xenophanes, Aristotle takes Parmenides more seriously since the latter speaks “with rather more insight” (986b28). Aristotle differentiates between the Eleatics when he says: “it appears Parmenides conceived of the Unity as one in definition, but Melissus as materially one.”

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185 Curd takes this line to be evidence that Aristotle “sees that Parmenides is primarily concerned with the unity of the nature or essence of a thing,” “Parmenides and After: Unity and Plurality,” p. 39. At the very least, this line suggests a plurality of views on monism within the Eleatic school. David Sedley notes that the difference extends to the treatment of both thinkers by modern readers, as he observes that “Too much has been written on Parmenides,” and “too little on Melissus.” Curiously, as a victim of his own diagnosis, in the very next sentence Sedley neglects to specify specific lacunae in the scholarship on Melissus, instead suggesting that more work should be forthcoming on Parmenides’ “detailed arguments for the individual characteristics of what-is.” See “Parmenides and Melissus,” in
claims of both Melissus and Parmenides that “their premises are false and their conclusions do not follow,” before immediately backtracking by stating “or rather the argument of Melissus is gross and offers no difficulty at all” (Physics 185a9-11). What then are we to make of Aristotle’s mixed treatment of Parmenides? On the one hand, he seems quite alive to the fact that Parmenides’ position is a good deal more sophisticated than Melissus’ view and that rather than a “unique metaphysical position,” monism denotes a “family of positions.” Aristotle thus criticizes the Eleatics for bringing physical and metaphysical considerations too close together when, in Aristotle’s view, they ought to be separated. Yet in different texts, Aristotle seems to deliberately conflate them in order to suit his own agenda or perhaps to avoid a more detailed discussion than is necessary. The most likely explanation, given such varied treatment, is that Parmenides does not fit neatly into Aristotle’s scheme for his predecessors, crossing over between metaphysician and nature-thinker. Aristotle’s account of nature as being distinct from metaphysical considerations arises much later, however, and Parmenides need not have thought them so clearly separable.

If Aristotle is deliberate and careful in situating Parmenides’ monism differently according to his own philosophical agenda, another ancient commentator, Colotes, cares little for potential philosophical nuance in his unabashed criticism of what he takes to be Parmenides’ strict monism. While Colotes’ work is no longer extant, Plutarch preserves a clear enough view in his repudiation of Colotes’ account. Castigating the “sycophantic” (συκοφαντῶν) Epicurean for willfully misrepresenting Parmenides’ views for the sake of scoring rhetorical points when he attributes strict monism to the Eleatic, Plutarch contends that Parmenides is instead

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186 Palmer, Parmenides and Presocratic Philosophy, p. 38.
assigning to each what is appropriate, as he places the intelligible in the class of what is one and being—calling it ‘being’ in so far as it is eternal and imperishable, and ‘one’ because of its likeness unto itself and its not admitting differentiation—while he locates the perceptible among what is disordered and changing (Adversus Colotes 1114D).

Notably then it is Colotes, likely a thinker most have never heard of, who stands as the representative ancient thinker of the view that Parmenides has adopted a strict numerical monism that denies change. Referencing the characteristics of “being” in B8, as well as the divide between parts of the poem, Plutarch’s own view establishes the foundation for modern interpretations that emphasize each part of the poem as pertaining to a particular subject: reality (Alētheia) or appearance (Doxa).187 Theophrastus echoes this reading, saying Parmenides “traveled both roads” in so far as he “declares the totality is eternal and tries to explain the generation of existing things.”188 Such early examples illustrate just how sharp the divergence is with respect to the interpretation of Parmenides’ thought.

And yet the variety of views offered in antiquity is nothing compared to the breadth of interpretations in modern literature on Parmenides.189 Not surprisingly, modern commentators cannot even agree about whether or not something like a “standard interpretation” exists in recent Parmenidean scholarship.190 In the mid to late 20th century, however, the interpretative

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187 The features of these modern interpretations are discussed more fully in the later section of the chapter devoted to φύσις in Parmenides’ poem.
188 Alexander Metaphysics 31, 9. Alexander quotes Theophrastus, going on to say of Parmenides that “he does not hold the same view of both realms, but supposes that according to truth the totality is one, ungenerated, and spherical, while according to opinion of the many he posits two sources to explain the generation of appearances: fire and earth, the one as matter, the other as cause and agent” (31, 10-14). See Graham, TEGP, p. 209 for translation.
189 As McKirahan notes, each subsequent generation seems to produce an even greater “divergence of opinion” with respect to interpretations of Parmenides’ poem, PBS, p. 151. John Palmer’s history of the interpretation of Parmenides is an extremely thorough and balanced contribution to the field, those interested in a detailed yet concise introduction to the history of interpretative readings should see especially Parmenides and Presocratic Philosophy, pp. 16-44.
landscape was dominated by G.E.L Owen’s view as articulated in the influential article “Eleatic Questions.” If any account can be said to be the recent standard interpretation, it is Owen’s. The central precept of Owen’s reading is that the subject of the poem, Parmenides’ “what-is” (ἐστι), is an existential qualifier. Thus when the goddess differentiates the paths in B2 as “the one: that it is and that it is not possible not to be” (ἡ μὲν, ὅπως ἔστιν τε καὶ ὡς οὐκ ἔστι μὴ εἶναι) and “the other: that it is not and that it is right it should not be” (ἡ δ’, ὡς οὐκ ἔστιν τε καὶ ὡς χρεών ἔστι μὴ εἶναι), she is distinguishing between what does exist and what cannot possibly exist. This prompts Owen to commit to the view that Parmenides holds that only one such thing exists and thus change is an impossibility. Accentuating Parmenides’ disdain for the natural world as illusory, Owen conceives of Parmenides as the first true metaphysician whose chief concern is “what can be talked or thought about.” Parmenides’ aim is thus to prove this single thing must exist and must have the attributes specified in B8: ungenerated, imperishable, whole, unperturbed, and complete (B8, 3-4). On this view, Parmenides’ project and his methods constitute a radical and intentional departure from the phusikoi who preceded him. Their inquiry into nature, according to Parmenides, is entirely futile.

A decade after Owen’s influential article, Alexander Mourelatos pioneered a new way of understanding Parmenides’ crucial arguments in *The Route of Parmenides*. Mourelatos argues
for a conception of Parmenides’ ἐστι as predicative, rather than existential. In his effort to challenge a flawed, standard interpretation, Mourelatos is aided by relentless critiques of the existential reading of Parmenides ἐστι by Charles Kahn, who argues in favor of the veridical reading which suggests that Parmenides means “is” in the sense of “whether or not it is the case that p.” Mourelatos, as the original proponent of the predicative reading, however, argues in favor of speculative predication. Dividing the traditional possibilities for inquiry between two flawed approaches (something like Herodotus’ ἰστορία or Heraclitus’ κατὰ φύσιν διαίρεσις), Mourelatos instead takes Parmenides’ to be aiming for “something more novel and radical: something closer to explanation and interpretation.” He develops this reading by suggesting that Parmenides intends the ἐστι to serve as the copula “grammatically,” but functioning “logically” as the “‘is’ of identity.” On this view, rather than the mere distinction and classification produced by existing methods of inquiry, the “route” of ἐστι establishes the possibility of “novel description and discovery.” In other words, Parmenides’ approach, unlike anything that previously exists in Greek thought, can tell us what something actually is. Patricia Curd’s interpretation expands on the predicative reading in Mourelatos by arguing for a greater connection between the Eleatic philosopher and the existing Ionian tradition. Rather than outright rejection of cosmological inquiry, Curd argues that Parmenides’ aim is to legitimize the study of nature through an “explor[ation of] the natures of metaphysically basic entities in an


196 Mourelatos, The Route of Parmenides, p. 56.

197 Ibid., p. 57.

198 Ibid.
explanation of the world reported by the senses.”¹⁹⁹ This reading understands Parmenides as offering a way to discover the right conception of nature as an explanatory principle, through reason and not sense experience, and, as Curd writes elsewhere, “such a nature is the only appropriate starting point for successful inquiry into the natural world.”²⁰⁰ On Curd’s interpretation, Parmenides seeks to build on the Ionian tradition by rectifying errors and establishing a new, far more solid foundation for philosophical inquiry into the nature of things.²⁰¹ In other words, this view understands Parmenides’ project to be the establishment of the metaphysical ground that allows for the possibility of real, and reasonably successful, inquiry into the natural world.

Each of the modern interpretations faces difficulties, though some confront greater obstacles than others. Those that favor the existential reading generally give significant effort to logical and linguistic analysis of the extant text in order to arrive at “explanatory clarity and economy.”²⁰² Generally speaking, such approaches either ignore the question of philosophical-literary milieu in which Parmenides’ ideas are developed or claim that Parmenides’ aim is so starkly different from his predecessors that the text is our only avenue to understanding him. Owen adopts this last approach when he concludes by saying that Parmenides “wrote as a philosophical pioneer of the first water and any attempt to put him back into the tradition that he aimed to demolish is a surrender to the diadoche-writers, a failure to take him at his word and ‘judge by reasoning that much-contested proof’.”²⁰³ In their zeal for clarity, interpreters that

¹⁹⁹ Curd, *The Legacy of Parmenides*, p. 15.
adopt the logical-linguistic approach conveniently ignore, or largely neglect, the poetic features and rhetorical devices in Parmenides’ work. Regardless of whether they articulate it, their neglect of the form of Parmenides’ philosophy as a poem, betrays an attitude on par with Jonathan Barnes’ stated view:

> It is hard to excuse Parmenides’ choice of verse as a medium for his philosophy. The exigencies of metre and poetical style regularly produce an almost impenetrable obscurity; and the difficulty of understanding his thought is not lightened by any literary joy: the case presents no adjunct to the Muse’s diadem.\(^{204}\)

Barnes finds “little of philosophical importance” in the allegorical Proem, a view which is fairly common among interpreters who adopt this approach. Such strong statements from the likes of Owen and Barnes undeniably exerted significant influence on those with competing views who only very tentatively raised the possible objections, as Mourelatos does when he couches his critiques of Owen’s interpretation only as a desire to “increase empirical content as much as possible” by making “connections” with the epic tradition, philosophical lineage, and less overt themes throughout the rest of Parmenides’ poem.\(^{205}\) Nevertheless, Mourelatos’ criticisms illustrate the way the standard interpretation is disconnected from “pre-Parmenidean speculation,” the “epic motifs” that figure prominently in the poem, and the purpose of the extremely specific *Doxa* part of the poem.\(^{206}\) In addition to these shortcomings, the standard

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\(^{204}\) *PP*, p. 155.

\(^{205}\) Ibid., p. 5.

\(^{206}\) Not all those who adopted a more historical approach were so tentative. Hermann Fränkel rightly notes “much will be radically misunderstood, and many of the best, liveliest and most characteristic features of the doctrine will be missed, if one fails to read the work as an epic poem which belongs to its own period, and to approach it as a historical document, through its language,” “Studies in Parmenides,” in *Studies in Presocratic Philosophy, Volume II: The Eleatics and Pluralists*, ed. R.E. Allen and David J. Furley (Atlantic Highlands, N.J.: Humanities Press, 1975), pp. 1-48, at 1. Fränkel goes to significant lengths to demonstrate an “exact parallel” between the opening imagery of ascent via chariot in Parmenides’ poem and the corresponding image in Pindar’s 6th Olympian ode. Recently, M. Laura Gemelli Marciano argues instead that “the image of the chariot in Parmenides’ proem has its roots in religious tradition,” “Images and Experience: At the Roots of Parmenides’ *Aletheia*,” *Ancient Philosophy* 28 (2008): 21-48. Regardless of individual differences in locating Parmenides influences in the religious or poetic traditions, this line of interpretation understands the Eleatic as thoroughly grounded and innovating within tradition,
interpretation only draws on roughly twenty of the 150 surviving lines of Parmenides’ poem to fashion a “definitive” account. In short, the standard interpretation goes to great lengths to take virtually the smallest possible portion of the poem and largely ignores the early Greek literary-philosophical milieu when crafting definitive claims. And yet dislodging Parmenides and his ideas from the traditional epic poetry and emerging philosophical traditions by arguing that he has nothing to do with his predecessors’ projects seems misguided, particularly in light of the concluding remarks of his book: “Thus, according to the views of men, have these things [of the natural world] arisen and [thus] do they exist at present; and from this point will they be nourished further and afterwards come to an end” (οὕτω τοι κατὰ δόξαν ἔφυ τάδε καὶ νῦν ἔασι καὶ μετέπειτ’ ἀπὸ τούτων τελευτήσουσι τραφέντα· τοῖς δ᾿ ὄροις ἄνθρωποι κατέθεντ’ ἐπίσημον ἐκάστωι, B19). Here as before, the goddess points the youth toward the existing mortal opinions, even if only “so that no mortal judgment may ever overtake you” (B8, 61). While her precise intent arguably remains obscure, the goddess’ efforts clearly suggest a practical use for the reasoned analysis she invites the kouros to participate in throughout the experience. This practical use is situated in the realm of human knowledge and opinion, and he is perhaps called to propound the truths he learns from the goddess for others upon his return from the Underworld. In any case, it seems clear that the didactic quality of the poem is not limited to the goddess and kouros interaction; it is meant to be instructive for all of Parmenides’ readers. With such an emphasis on the oral component, it seems unlikely that Parmenides intended only a few

rather than a radical logician bent on undermining it. For additional criticism of the lack of historical awareness in the standard interpretation, see Curd, The Legacy of Parmenides, pp. 11-12.

207 Mourelatos claims that “an adequate base for SI (standard interpretation) is provided by B2, B3, B6.1-2 and the first three lines of B8.” See “Some Alternatives in Interpreting Parmenides,” p. 5.

lines of the poem to be taken into account or that the lengthy cosmology is some sort of “extended jest.”

Of course these types of epistemological questions, particularly as they pertain to the relationship between gods and mortals, were nothing new. Homer has the gods sometimes being deceived by other gods, or deceived “for human reasons” by flimsy disguises or, perhaps an even worse reason for divine ignorance, simply “not being told.” Likewise, it is clear that humans in Homeric epics are sometimes unable to “know for certain.” In fact, Parmenides’ poem demonstrates clear ties to the attempts of his predecessors and contemporaries to provide answers to these questions through theogonies, cosmogonies, and cosmologies for the natural world. Rather than running from the historical context, the predicational reading aims to situate Parmenides’ thought within the traditions of the early Greeks. In many cases, scholars adopting such a view go to great lengths to show how their reading of the text is consistent with contemporary thinkers, etymological history, and epic tradition and motifs. While one could never definitively rule out the “existential” reading, from the perspective of intellectual history, the picture it provides is, at best incomplete, and at worst, deliberately neglects some of the essential features of Parmenides’ poem and the early Greek period. The more recent trend to consider Parmenides’ connection to the philosophical, literary, and historical milieu of early Greek life raises important questions that the existential reading has no interest in answering. For instance, if Parmenides so thoroughly rejected Ionian cosmology, why do subsequent Ionian thinkers like Anaxagoras not attempt to “defend the possibility of cosmology against

210 Ibid., n. 4.
Parmenides’s apparent rejection of the enterprise?"\textsuperscript{211} The predicational reading may raise more interesting questions than it alone can hope to answer, yet it has made a persuasive case that the broad aim of Parmenides’ poem is not a blatant rejection of previous thinkers and Ionian ἱστορία, but rather the practical path by which any individual may reach enlightenment about the true reality of things. This path begins by reformulating the idea of nature.

**THE IDEA OF NATURE IN PARMENIDES’ *ALÊTHEIA***

The didactic nature of Parmenides’ poem is readily apparent and confirmed at the end of the Proem, where the goddess proclaims to the *kouros* that he must “learn all things” (B1, 28).

Although delivered in the dactylic hexameter of Homer, the goddess’ invitation signals an important shift away from passive mortal learning from the divine in Homeric epics. Addressing the Muses directly, Homer asks them to tell him “who were the leaders and princes of the Greeks; for you are goddesses and you are present and know everything,” while humans “only hear the report and do not know anything” (*Iliad* II. 484-487). By contrast, Parmenides’ goddess seeks to empower the youth as she begins the *Alētheia* section of the poem by describing the possible ways of inquiry using the metaphor of paths:

\begin{quote}
 εἰ δ᾿ ἄγε τῶν ἐρέω, κόμισαι δὲ σὺ μῦθον ἀκούσας,
 αἴπερ ὅδοι μοῦναι διζησίαις εἰσι νοὴσαι·
 ἡ μὲν, ὡς ὡστε ἔστι τε καὶ ὡς οὐκ ἔστι μὴ εἶναι,
 Πειθοῦς ἐστὶ κέλευθος, Ἀληθείη γὰρ ὀπηδεῖ,
 ἡ δ’, ὡς οὐκ ἔστι τε καὶ ὡς χρεών ἔστι μὴ εἶναι,
 τὴν δὴ τοι φράζω παναπευθέα ἐμμέν ἄταρπόν·
 οὔτε γὰρ ἂν γνοίης τὸ γε μὴ ἐδών, οὐ γὰρ ἀνυστόν,
 οὔτε φράσασις.
\end{quote}

Come now and I shall tell, and do you receive through hearing the tale,

*Which are the only paths of inquiry for thinking*

The one: that it is and that it is not possible not to be,

Is the path of Persuasion (for she attends on Truth);
The other: that it is not and that it is right it should not be,
This I declare to you is an utterly inscrutable track,
For neither could you know what is not (for it cannot be accomplished),
Nor could you declare it (B2).

Although her account is framed in terms of a story (μῦθον) that one is able to “receive through hearing,” the point of the story goes beyond revelation by proposing to teach the youth not what to believe but rather how to think.212 Grounded not in cosmogonical or theogonical history, the path of inquiry is a forward-leaning one of discovery by means of reason rather than revelation. The aim of good judgment requires the proper path for understanding and the goddess emphasizes mortal decision-making by framing her “tale” in terms of the choice of paths to follow or keep from following. Thus the promise of the initial choice will be borne out in the future by continuing to follow the path where it leads. Defined by what they seek, these paths of inquiry correspond to “what-is” and “what-is-not,” respectively. The one deals with things that are, presumably derived from meditation on how they are what they are, while the other is the forbidden path of inquiry that entails speculation about “what is not.” Such a path is forbidden by the goddess at the very least because it can never be completed.213 That is, empty speculation, about what is not or even about what could be, can never arrive at actual knowledge; in effect, the path goes nowhere and thus is not much of a path at all. And yet, these paths seem to be more than just methods of inquiry aimed at producing knowledge, as Parmenides tells us: “...for the same thing is (there) for thinking and for being” (...τὸ γὰρ αὐτὸ νοεῖν ἐστίν τε καὶ εἶναι,

212 Thus we should take issue with Hussey when he says of Parmenides’ poem: “What is said is worthy of acceptance because, and only because, it is the utterance of a super-human authority.” Or, rather, we should agree with the Hussey who says just a few short sentences later: “It is manifestly on the basis of his reasoned argument that Parmenides thinks the first main section of his poem, the exposition ‘concerning truth’, must be accepted,” “The Beginnings of Epistemology,” p. 29.
B3).\textsuperscript{214} The goddess reiterates her desire for the youth to think things through for himself when she elaborates on yet another path:

χρὴ τὸ λέγειν τε νοεῖν τ᾿ ἐὸν ἐμμεναί· ἔστι γὰρ ἔμεναι, μηδὲν δ᾿ οὐκ ἔστιν· τὰ σ᾿ ἐγὼ φράζεσθαι ἀνωγα. πρώτης γὰρ σ᾿ ἀφ ὁδοῦ ταύτης διζήσιο <εἰργω>,\textsuperscript{215} αὐτὰρ ἔπειτ᾿ ἀπο τῆς, ἣν δὴ βροτοὶ εἰδότες οὐδὲν πλάζονται, δίκρανοι· ἀμηχανίη γὰρ ἐν αὐτῶν στήθεσιν ἰθύνει πλαγκτὸν νόον· οἱ δὲ φορεῦνατι κωφοὶ ἀμμίζοι τυφλοὶ τε, τεθηπότες, ἀκριτα φῦλα, οίς τὸ πέλειν τε καὶ οὐκ εἰναι ταὐτὸν νενόμισται κοὐ ταὐτὸν, πάντων δὲ παλίντροπος ἐστι κέλευθος

It is right both to say and to think that it is what-is: for it is the case that it is, but nothing is not: these things I bid you ponder. for this is the first path of inquiry from which I hold you back, and then from that one on which mortals, knowing nothing, wander, two-headed: for helplessness in their breasts steers their wandering mind. They are borne along deaf and blind alike, dazed, hordes without judgment by whom it (namely, what-is) is thought both to be and not to be the same and not the same; but the path of all is backward-turning (B6).\textsuperscript{216}

Quite intentionally, the goddess saves her most damning criticism for the “path of mortals,” and not the path of “what is not.” Passive by nature, this path is crowded with “hordes without judgment” that are “borne along” toward nowhere in particular and “steered” by “helplessness.”

The imagery is not accidental: Parmenides’ criticism aims at the connection between how one thinks and how one lives. The consequences of poor judgment extend beyond simply “bad thinking” or misperceiving reality. When it comes to mankind, how one thinks is equivalent to \textit{who one is} for Parmenides, and one who thinks along the wrong path is lost: “wander[ing],” “two-headed,” and “helpless” (B6, 5). The aimlessness of this path leaves the many wandering

\textsuperscript{214} Translation from Graham, \textit{TEGP}, p. 213.
\textsuperscript{215} Following Graham in supplementing Diels, \textit{TEGP}, p. 214.
\textsuperscript{216} Translation from McKirahan, \textit{PBS}, pp. 146-147.
and because of this, their lives lack necessary focus and any sense of autonomy. As a result, people that follow this path are not only poor thinkers, their lives are essentially devoid of meaning. Since paths for Parmenides are “the same for thinking and for being,” it is the nature of the path to provide purpose for both human inquiry and human life.

Drawing a tight connection between the paths and the available means for producing knowledge, the goddess advocates the movement away from the use of the senses and experience and toward critical reason as a way to evaluate her speech on the paths of inquiry:

οὐ γὰρ μὴποτε τούτο δαμῆι εἶναι μὴ ἔόντα·
ἄλλα σὺ τῆσδ᾿ ἀψ᾿ ὁδὸν διζήσιος εἰργε νόημα
μηδὲ σ᾿ ἐθος πολύπειρον ὄόνν κατὰ τήνδε βιάσθω,
νοιμὰν ἄσκοπον ὃμα καὶ ἰχθῆσαν ἄκουην
καὶ γλώσσαν, κρίναι δὲ λογοι πολύληρην ἔλεγχον
ἐξ ἐμέθεν ῥηθέντα.

For never shall this prevail, that things that are not are,
But restrain your thought from this path of inquiry,
Nor let habit force you, along this path of much experience,
To ply an aimless eye and ringing ear
And tongue; but judge by reasoning the very contentious disproof
That has been uttered by me. (B7)

The path of “much experience” is the path of the many and marked by habit which uses “force.” This path is explicitly contrasted with the freedom the goddess advocates by encouraging reasoning that allows independent judgment. The interplay of restraint and freedom emerges again and again throughout the poem.²¹⁷ Restraint turns out to open up the possibility of freedom through knowledge. Habit, the close ally of experience, is here connected to uncritical and unfocused behavior: “aimless eye and ringing ear and tongue.” Parmenides rejects the empiricism of his predecessors, poetic and philosophical, to consider the idea of the “nature” of things as it relates to method of inquiry by reasoning alone. Further, the goddess’ invitation for a

²¹⁷ For a sustained discussion of the “Theme of Fate-Constraint” in the poem, see Mourelatos, The Route of Parmenides, pp. 25-29.
mortal to question her “very contentious disproof” is unprecedented encouragement for human inquiry.\textsuperscript{218}

In addition to the paths being dictated, respectively, by reason and experience, the goddess emphasizes the connection between the path of inquiry and the particular qualities of the objects of knowledge that effectively constitute this path. In terms of the first forbidden path, οὐκ ἔστιν, the qualification is simply that the objects or attributes that one speculates about do not exist. But when it comes to the path one ought to follow, the path prescribed by reason and that concerns fundamentally “what-is,” the goddess elaborates by saying

...μόνος δ’ ἐτι μῦθος ὁδοῖο
λείπεται ὡς ἔστιν· ταύτηι δ’ ἐπὶ σήματι ἔσαι
πολλά μᾶλ’. ὡς ἀγένητον ἕν καὶ ἀνώλεθρον ἔστιν,
οὐλον ποτ’ ἦν οὐδ’ ἔσται, ἐπεὶ νῦν ἔστιν ὁμοῦ πᾶν,
ἐν, συνεχες· τίνα γὰρ γένναν διζήσεαι αὐτοῦ;
πῆι πόθεν αὐξηθέν;

There is still left a single story
Of a path, that it is. On this path there are signs
Exceedingly many—that being ungenerated it is also imperishable,
Whole and of a single kind and unshaken and complete.
Nor was it ever nor will it be, since it is now, all together one, continuous. For what birth will you seek for it?
How and from where did it grow? (B8, 1-7)\textsuperscript{219}

Having eliminated the paths that are impossible or deeply flawed, we are left with a single path forward for inquiry. Of course, what defines any path, is first where it leads, the destination, but also the particular way one gets there. With respect to the production of knowledge, the path is not understood merely by the end at which it aims, but also the limits that mark its boundaries thereby differentiating it from what is unnecessary, misleading, or “off track.” Within the path

\textsuperscript{219} Translation from David Gallop Parmenides of Elea: A Text and Translation with an Introduction (University of Toronto Press, 1991), but taking ὁδοῖο as “path” rather than “way.”
metaphor, Parmenides describes these limits as “signs” (σήματα) that point the traveler in the right direction, helping to keep them on the path. Alexander Nehamas, playing appropriately on Parmenides’ poetic language, contends that these are “signposts…[that]...characterize a particular and very restrictive way of being” in that they “tell us what conditions must be met if a subject is to be something in the appropriate way.”220 But the identity of thinking and being for Parmenides means that the end of inquiry into “what-is” is knowledge of the fundamental essence of anything that truly exists. As Curd argues, “A controlled noos, taking the path of what-is, engages in inquiry that ends (both completes its journey and perfects itself) in what-is.”221 Thus do the “signs” take on the role of metaphysical and epistemological criteria both for thinking and for being.222 Suggested by reason itself, the authority of the “signs” as criteria for thinking and being is established through argument.

Parmenides declares that “what-is” must be ungenerated and imperishable on the grounds that it stands outside of temporal constraints. That is, “since it is now, all together one, continuous,” it remains impossible to give an account either of its origin or its process of growth, past or future. It is “Justice” that “holds it fast,” preventing what-is from either coming to be or perishing (B12-14). Likewise, it is “whole and of a single kind” and “motionless in the limits of the great bonds” since it “is all full of what-is” and held in place by “mighty Necessity” (B8, 22-30). Finally, Parmenides argues that what-is cannot be incomplete “for it is not needy; if it were it would lack everything” (B8, 32-34). But the most striking repetition in B8 is the ubiquitous use of the idea of limits in different capacities in each of the arguments for the necessary attributes of what-is. It is the shackles of Justice by which “coming to be is quenched and

221 Curd, “Parmenides And After: Unity and Plurality,” p. 41.
perishing unheard of” (B8, 21), thus necessitating that what-is is ungenerated and imperishable. Likewise, though less explicit, what-is is indivisible, or a “whole of a single kind” precisely because it lacks any kind of internal divisions or limits. It is instead “all continuous, for what-is cleaves to what-is” (B8, 25). Parmenides then describes what-is as “motionless in the limits of great bonds, it is without starting or stopping” (B8, 26-27) as a consequence of the banishment of coming to be and perishing by “true faith.” Augmenting this confusing argument, however, he goes on to argue for the motionlessness of what-is: “Remaining the same in the same by itself it lies and thus it remains steadfast there; for mighty Necessity holds it in the bonds of a limit which confines it roundabout” (ταὐτόν τ᾿ ἐν ταὐτῶι τε μένον καθ᾿ ἑαυτό τε κεῖται χοῦτος ἐμπεδον αὖθι μένει· κρατερὴ γὰρ Ἀνάγκη πείρατος ἐν δεσμοῖσιν ἔχει, τό μιν ἁμφὶς ἑργεῖ, B8, 29-31). Likewise, the final attribute of what-is, its completeness, Parmenides declares that a short while later in arguing that one can only think about what-is, Parmenides contends this is so “since Fate shackled it” (ἐπεὶ τὸ γε Μοῖρ᾿ ἐπέδησεν, B8, 36-37). He returns here to the notion that “the same thing is for thinking and is wherefore there is thought” (B8, 34). The arguments offered for attributing these qualities to what-is are all linked to one another using this idea of limits.

Parmenides’ move to use the idea of limits is a substantial one in the early history of the concept of nature. Whereas the nature of something was understood somewhat ambiguously in a Homeric sense as the “dominant feature” of the thing, or some vague combination of origin and process in the theories of the Milesians, or by Heraclitus as a unity of conflicting features, in Parmenides’ thought, the idea of nature is defined in terms of limits and grasped through rational argument. Indeed, the questions and arguments Parmenides poses are a critique of earlier concepts of nature, and while his predecessors may also have taken the idea of nature as “the
only subject of which knowledge was possible,” it is Parmenides who supplies the ideas of definable limits to the concept of nature as a way to orient thinking properly to what-is.223 Rather than a concept that distinguishes and identifies among a plurality of things, the metaphysical criteria Parmenides establishes thus indicates the attributes each “real” thing must possess. Thus, a kind of predicational monism emerges with the attributes argued for in B8. Within the development of the concept of nature, Parmenides’ move highlights the emergence of the idea of an unalterable essence that can be known as such, although both the physiologoi and the many have missed this since, as Curd argues, “mortals fail in controlling noos; not understanding the nature of its proper object, they fail to steer it properly.”224 In short, the path that leads to true knowledge is bounded by these “limits” of nature, according to which one must “steer” themselves to the goal by use of reason. These limits are what makes any entity a genuinely “real” unity as well as what makes it knowable.

In the Ἀλῆθεια section, the nature of some thing, that is any thing that truly is, must be fixed by these particular limits. Rather than use habit to follow the path of “much experience,” one must begin with the metaphysical and epistemological criteria for what “must be.” The end of “Truth” in the poem is really only another beginning, however, particularly with respect to scholarly disagreement. What follows in Parmenides’ poem is a perplexing inquiry into a whole range of theories with respect to traditional “physical” questions. It is also the part of the poem where Parmenides makes explicit use of the traditional Greek word for nature, φύσις. If Parmenides intends us to understand what-is as a description of the universal nature of all “real”

223 A.H. Coxon, The Fragments of Parmenides, p. 18. Coxon describes Parmenides as expanding on Xenophanes’ rational conception of the divine by “showing that the characteristics which Xenophanes ascribed conjecturally to God must, together with others, be asserted of a transcendent subject not ‘probably’ but necessarily,” p. 18.
224 Curd, The Legacy of Parmenides, p. 49
entities, what are we to make of the very different account of nature as the φύσις of things that emerges in the Doxa?

**PHYSIS IN PARMENIDES’ POEM**

The portion of the poem historically attributed to mortal opinions (δόξα) is undeniably puzzling for Parmenides’ readers. The reasons for confusion are considerable. The goddess seems at the outset of the poem to present a stark contrast between the two components of knowledge in which she will instruct Parmenides. “There is need,” she tells him, “for you to learn all things--both the unshaken heart of persuasive Truth and the opinions of mortals, in which there is no true reliance” (B1, 28-30). A bit further along in the poem she describes the path of inquiry preferred by mortals as that path, “on which, mortals, knowing nothing, wander, two headed: for helplessness in their breasts steers their wandering mind” (B6, 4-6). In language that parallels Heraclitus’ sharp criticism of his contemporaries, the goddess complains of mortals that “they are borne along deaf and blind alike, dazed, hordes without judgment by whom it (namely, what-is) is thought both to be and not to be the same and not the same” (B6, 6-9).

Following such an introduction of the paths of inquiry, one cannot help but question why the youth need learn about mortal opinions at all. Even if the answer to this question is, as the goddess later suggests, so that the kouros cannot be misled by future opinions proffered by his contemporaries (B8, 61), we should expect the bulk of the poem to concern the “unshaken heart of persuasive Truth” that unquestionably has much more intrinsic value.

Yet despite the fact that significant portions of the Doxa have not survived to modern day, ancient reports indicate that this section of the poem was considerably longer and far more

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225 Heraclitus makes similar complaints when he criticizes his contemporaries: “Not comprehending, they hear like the deaf. The saying is their witness: absent while present” (B34). Ensuring beyond any doubt that his criticism extends to the masses, he elsewhere comments, “What wit or understanding do they have? They believe the poets of the people and take the mob as their teacher, not knowing that ‘the many are worthless’, good men are few” (B104).
detailed than the *Alētheia*.\(^{226}\) Plutarch comments on the impressive breadth of Parmenides’ cosmological and biological theories and Simplicius notes an extraordinary level of detail in the Eleatic’s accounts “down to the parts of animals.”\(^{227}\) At a minimum, the portion of the poem devoted to such diverse inquiry seems to have included a cosmogony, physiology, embryology, psychology, and even a related theogony.\(^{228}\) Not surprisingly, modern accounts that attempt to make sense of the *Doxa* and situate it within a more comprehensive reading of Parmenides’ poem diverge considerably.\(^{229}\) Despite their sharp disagreement over how to interpret the path of “what is,” some scholars, like Mourelatos and Owen, view the *Doxa* as “entirely false and deceptive” as they cling to the goddess’ classification of the “deceptive ordering” of the δόξα.\(^{230}\) Other interpreters downplay the strength of the deception when they argue that the *Doxa* instead compliments the *Alētheia* because it deals with an entirely different subject, namely the sensible world of appearance.\(^{231}\) Karl Popper tries to rescue the *Doxa* from any notion of deception by suggesting that a grievous mistake by a careless copyist transformed Parmenides’ intended ἀπατητόν (“untrodden”) into ἀπατηλόν (“deceptive”).\(^{232}\) More recently, however, commentators

\(^{226}\) Diels speculates that roughly one-tenth of the *Doxa* is extant, while nine-tenths of the *Alētheia* has survived, see *Parmenides: Lehrgedicht* (Berlin: Georg Reimer, 1897).

\(^{227}\) See Guthrie, *HGP*, vol 2, pp. 60-61; Plutarch, *Adversus Colotes* 1114b-c; and Simplicius, *De Caelo* 559, 26-27.


\(^{232}\) Karl Popper, *The World of Parmenides* (London: Routledge, 1998), pp. 93-96. Popper gives other alternative translations for ἀπατητόν: “very new,” “unusual,” and “so far unused,” and offers six arguments supporting his proposed change, p. 94. The translation as “untrodden” is the only one offered by Liddell and Scott and represents a striking coincidence given Parmenides’ repeated use of paths to describe ways of inquiry.
have gone one step further in rehabilitating the *Doxa*. Curd argues that Parmenides does in fact believe a “trustworthy cosmology may be possible” and that in the *Doxa* he “discloses what such a theory might be like and how it would be tested.”²³³ Still more recently, Mourelatos tries to make sense of how the “expressly disparaged” part of the poem contains “astronomical breakthroughs” that comprise “part of the record of early exploratory thrusts and gradual conceptual gains” in scientific knowledge.²³⁴ In short, Mourelatos and Curd both abandon previously held views, instead coming to regard the *Doxa* as playing a vital, positive role in Parmenides’ philosophical account. Néstor-Luis Cordero alternatively argues that we have misunderstood what δόξα refers to through poor textual reconstruction and anachronistic readings of key distinctions in the text.²³⁵ For Cordero, the lines of the poem that deal with “physical” questions do not belong in the δόξα at all. This means Parmenides’ cosmology is neither “deceptive” nor “unreliable,” and that the only “deceptive ordering” has been history’s failure to properly reconstruct the poem. In the end, perhaps we are forced to agree with Kahn that “the vexing problem of the *Doxa*...on Parmenides’ principles is not really soluble at all.”²³⁶ But if we cannot definitively answer the question of how to view the *Doxa*, how is an account of Parmenides’ notion of φύσις possible?

²³³ Curd, *The Legacy of Parmenides*, p. 100.
²³⁴ A.P.D. Mourelatos, “Parmenides, Early Greek Astronomy, and Modern Scientific Realism,” in *Early Greek Philosophy: The Presocratics and the Emergence of Reason*, ed. Joe McCoy (Washington D.C., Catholic University Press, 2013), pp. 91-112, at 93. In the same volume, Daniel Graham concurs, saying “If one reads the Alētheia, or true section, in light of the *Doxa*, or Opinion section, one sees the cosmology there as a new, improved version of what had been done poorly and unreflectively by earlier cosmologists. So Parmenides’s challenge is not to abandon cosmology, but to put it on a theoretically sound basis,” see “Anaxagoras: Science and Speculation in the Golden Age,” p. 141. Of course, Graham immediately equivocates by pointing to the modern view that holds that Parmenides really only intends to show the “futility of the enterprise” of cosmology. Regarding those who argue for this view, Graham asserts non-committally “and they may be right,” p. 141.
An important fact that commentators sometimes overlook in their haste to answer the “central problem” presented by the *Alētheia-Doxa* distinction in the poem, is that Parmenides himself made no such strict division. The division has been subsequently inferred largely on the basis of the goddess’ words in the Proem. Setting aside the problems of accurate reconstruction of the poem, which we are not likely to solve, the order of the “parts” of the poem seems problematic for an interpretation that dismisses the content of the *Doxa*. If the goddess’ intent is to show a better way of thinking by undermining mortal opinions, itself a code for Ionian inquiry, why does Truth come first? Beyond the order of the poem, it seems highly unlikely that Parmenides spends so much effort in order to merely denounce φύσις as an unreliable concept of inferior Ionian inquiry and “mortal opinion.” The goddess sketches a traditional inquiry into nature for the youth:

εἴση δ᾿ αἰθερίαν τε φύσιν τά τ´ ἐν αἰθέρι πάντα
σήματα καὶ καθαρὰς εὐσεβεῖς ἥλιοιο
λαμπάδος ἐργ´ ἄιδηλα καὶ ὀππόθεν ἐξεγένοντο,
ἐργα τε κύκλωπος πεύσηι περιψοιτα σελήνης
καὶ φύσιν, εἰδήσεις δὲ καὶ οὐρανόν ἀμψίς ἔχοντα
ἐνθὲν ἐφιν τε καὶ ὀς μιν ἄγουσ(α) ἐπέδησεν ἀνάγκη
πείρατ ἐχειν ἀστρων.

You shall know the ethereal nature and all the signs
In aether, and the unseen works of the pure torch
Of the blazing sun, and whence they came to be,
And you shall learn the revolving works of the round-eyed moon
And her nature, and you shall know surrounding heaven,
Whence it grew and how Necessity led it in shackles to keep the limits of the stars. (B10)²³⁷

In this passage, Parmenides’ use of φύσις captures what many believe to be the original meaning connected with the notion of growth, that is, “the sense of ‘becoming’ in the stem φυ-.”²³⁸

Though some suggest this is the “primitive” use of the term, out-moded before the 5th century

²³⁷ Graham translation, TEGP, p. 221.
B.C., G.S. Kirk contends instead “that at the ‘primitive’ stage of language there is no distinction
between ‘become’ and ‘be’.”\(^{239}\) Thus, Kirk continues, “the broad general sense of φύσις...is
‘essence’ or ‘nature’, the way a thing is made...and, what is at times connected with this, the way
it normally behaves.”\(^{240}\) Mourelatos infers from this that Parmenides, uniquely among his
contemporaries, understands that “the quest for φύσις = ‘essence’ ...could not be a quest for
φύσις = ‘becoming’.\(^{241}\) Instead, Parmenides aims to “purge” the concept of φύσις of
“dynamism,” implicitly connecting this idea with the “routes” presented in Alētheia.\(^{242}\)
Mourelatos then contends that the explicit use of φύσις in the Doxa is “misapplied--by
undiscerning mortals.”\(^{243}\)

Although Mourelatos’ perspective resolves the “fundamental dilemma” in a simple and
efficient way, it hangs far too much on a few words of the goddess’ poetic discourse. The
suggestion that the explicit use of φύσις is somehow “misapplied” (a charge that Mourelatos
does little to substantiate), and that an implicit account of φύσις is embedded by Parmenides in
the arguments of B8, embraces an unnecessarily complicated approach. Instead of attempting to
purge φύσις of its dynamic components, Parmenides aims to properly situate it by grasping that
one cannot understand the nature of things that change until one understands what it means to be
a “nature” in the first place. That is, one cannot understand becoming until one understands
being, and inquiry ought not begin with cosmogony and cosmology. Parmenides recognizes the
failure of previous thinkers to properly distinguish between these two key aspects of the idea of
nature as a new explanatory concept. Thus, instead of seeing φύσις as implicit in Aletheia, we

\(^{239}\) Kirk, HCF, p. 228 n. 1.
\(^{240}\) Ibid.
\(^{241}\) Mourelatos, The Route of Parmenides, p. 62, his emphasis.
\(^{242}\) Ibid.
\(^{243}\) Ibid., p. 63.
should understand Parmenides to be actively distinguishing the concept of nature into its identity and growth, or being and becoming, components. Parmenides aims at giving a comprehensive account of “the nature of things” by moving from metaphysical to physical principles. Only the former can be known for certain, however. Physical properties, and nature as “works” can only ever be “likely,” thus they lack “true reliance.” The concept of nature, for Parmenides, is therefore split into its metaphysical and physical components; the “being” or essence of real entities that necessarily entails the attributes listed in B8, and the φύσις of natural bodies as the active, “becoming” facet conceived of as process. Insofar as anything is misleading or deceptive in the Doxa, it is therefore specifically a deceptive ordering (κόσμον ἀπατηλὸν, B8, 52).

Beyond properly distinguishing the facets of the concept of nature, Parmenides’ poem also effectively places the Alētheia before the Doxa as appropriate steps on the path of inquiry. The didactic poem thus serves as a model for inquiry itself, beginning with questions and subjects that are later associated with “first philosophy.” Rather than the content of the Doxa, Parmenides’ reference to a “deceptive ordering” in all likelihood refers to his predecessors’ fascination with φύσις as the fundamental explanatory concept of nature as an inappropriate first step on the path. In short, φύσις must be put in its proper place along the path of inquiry.

The subjects of natural inquiry, according to the goddess, are those bodies that comprise the natural world, in this case the celestial part of it, though Parmenides’ interests extend to other more earthly natural bodies as well. Like his philosophical predecessors, Parmenides indicates a departure from identifying the φύσις of something with its prevalent “outward characteristic” by linking φύσις explicitly with the “unseen works” of the extremely visible heavenly bodies of sun and moon. The nature of these mysterious, distant objects is “ethereal,” but not divine, and distinctly juxtaposed with the “signs.” To acquire knowledge of the φύσις of these bodies, the
youth will have to understand both what he can see and what he cannot. Understanding requires both the “works” and “whence they came to be,” that is, the total process of becoming that includes its origin and activities. Parmenides here offers a concept of nature that fits with the emerging philosophical understanding of φύσις as a dynamic relation of origin and process that originates in the Milesians and is broadened as a tool for classification in Xenophanes.\footnote{See Chapter 2 on Xenophanes and Chapter 3 on Heraclitus. Coxon translates φύσις as “origin” citing Aristotle’s Physics 193b12ff in support, but this is only a part of the concept, especially here in Parmenides. See The Fragments of Parmenides, p. 227.}

Strengthening the etymological connection to φύσις, Parmenides points, finally and more comprehensively, to “the surrounding heaven” and “whence it grew” (ἔνθεν ἔφυ). But how does one grasp the φύσις of these things? As the subject of knowledge in these accounts, φύσις includes both origin and process--how can mankind understand these for the sun? There seem only two possible ways: 1) revelation or 2) observation and reason. Since the φύσις of anything, including celestial bodies, has change involved in it, it can never move beyond opinion. As process, φύσις alters and humans can have, at best, a kind of true belief. Unlike with Heraclitus, where φύσις was the tool for distinguishing things, and thus for acquiring knowledge of the logos, in Parmenides, the “nature” as metaphysical criteria allows us to better understand physical phenomena and φύσις.

The chronology and relationship of Parmenides and Heraclitus has intrigued both ancient and modern commentators in large part because of the diametrically opposed specifics they seem to espouse.\footnote{See Nehamas’ concise summary of “the facts” regarding the pair in “Parmenidean Being/Heraclitean Fire,” p. 45. Nehamas’ chapter disputes the connections Graham makes between the thinkers in his respective chapter in the very same volume.} The caricatures are familiar to all who engage in a cursory reading of ancient philosophy: Heraclitus the devotee of constant change, Parmenides the vehement change-denier. The usual chronology is that Heraclitus precedes Parmenides, and that the Eleatic’s arguments
can be read as a response to the Ephesian’s ideas, but more than a few scholars have argued that the reverse is true.\textsuperscript{246} The precise chronology is not so vital for the present study, yet it becomes clear that, in many traditional accounts of Presocratic philosophy, each is the face of a different facet of the emerging concept of nature in early Greek philosophy. The etymological origins of φύσις contain both the notion of growth or change, and the idea of the “essential character” or identity of a thing. The concept of nature, from a very broad perspective may be said to contain two distinct notions: a nature describes or defines what something fundamentally is and delineates the possibilities for what that something will become. Simply put, φύσις as “the nature of the thing” originally contains both being and becoming, and yet for Parmenides φύσις is thoroughly about growth, change, or becoming. As an explanatory concept, φύσις can explain the operation of natural bodies like the sun and the moon but we are forced to conclude that it fails to answer the question about what is real. Or, put more precisely, how do we know what is real? For Parmenides φύσις cannot move beyond becoming to tell us what is: ungenerated, imperishable, a whole of a single kind, unshaken, and complete (B8, 3-4). Yet both seem to be objects worthy of inquiry to Parmenides. Whereas Heraclitus understands φύσις to lead to an understanding of the λόγος, Parmenides establishes truth (ἀλήθεια) in order to properly ground inquiry into φύσις. One must have the right metaphysical foundations, in Parmenides’ view, to allow for even the possibility of discovery of the φύσις of things. Thus Mourelatos, no doubt because he consider the Doxa at the time of his monograph to be “the false doctrine of ‘mortals’,” incorrectly aligns the two when he says that it is “because Parmenides grasped the

\textsuperscript{246} Karl Reinhardt is the first to argue strongly in favor of dating Parmenides prior to Heraclitus. See Parmenides und die Geschichte der griechischen Philosophie, pp. 221- 230. See also Michael C. Stokes, The One and Many in Presocratic Philosophy, pp. 109-112. The recent consensus seems to be an explicit agnosticism with respect to the question of chronology, yet often the language used by scholars or the order in which these thinkers are discussed still reflects an implicit assumption that Heraclitus lived and wrote before Parmenides.
distinction between “being” and “becoming” that he conceived of the cognitive quest as directed
toward ἀλήθεια, rather than toward φύσις.” Knowledge of both is possible for Parmenides,
but φύσις at best only tells a “likely story” of how something operates, not what it is.

Moreover, the study of the concept of nature in Early Greek philosophy sheds light on the
debate between the principles of Parmenides and Heraclitus by showing that, at bottom, it is not
only a debate about ultimate reality in the universe, but equally so about the φύσις of individual
things within the cosmos and how the two are connected. For Heraclitus, the essential structure
of reality can only be discovered through φύσις, through the practice of distinguishing things
according to their nature and understanding how everything is “fit together” in a kind of
ἁρμονίη. This knowledge, in turn, gives access to the λόγος, which is that unifying structure
understood as a guiding principle for the entire cosmos. But for Parmenides, the essential
structure of reality is not accessible through φύσις, but only through reason and careful
judgment. Thus, the goddess invites the youth to learn “all things,” even those in which there
is “no true reliance,” that is, those subject to time and change. Though both Heraclitus and
Parmenides recognize the philosophical significance of φύσις, they take steps to prevent us from
mistaking φύσις for ἀλήθεια or λόγος. For Heraclitus, φύσις is the path to λόγος, but for
Parmenides, the concept of nature is divided as the “essence” of any entity that is truly real and
the φύσις of natural bodies that move and change.

LIMITS, PATHS, AND PURPOSE IN PARMENIDES’ POEM

247 Mourelatos, The Route of Parmenides, p. 63. This seems to contradict his simultaneous suggestion that φύσις is
implicitly embedded in the facets of what-is in B8.
Purposiveness in Parmenides’ poem admits of multiple layers and begins when he introduces the imagery of paths in the *Proem* that he returns to throughout the poem. Noting the way the youth’s path has been ordained, the goddess allays potential fears when she says:

ἐπεὶ οὔτι σε μοῖρα κακὴ προὔπεμπε νέεσθαι
tήνδ᾿ ὁδόν, ἦ γὰρ ἀπ᾿ ἀνθρώπων ἐκτὸς πάτου ἐστιν,
ἀλλὰ Θέμις τε Δίκη τε.

Since no ill fate sent you out to travel
this path (for it is indeed far from the beaten track of human beings)
But Right and Justice (B1, 26-28)$^{249}$

Established by divine forces, the paths play a crucial, natural role in the poem in at least two senses. First, paths are a natural metaphor in that they do not rely on convention or context for understanding. As embodied creatures trying always to go somewhere, we intuitively understand paths that help us navigate from one point to another. Among Parmenides’ contemporaries, we find by contrast that Heraclitus is fond of contextual metaphors, and his use of the bow and lyre to describe ἁρμονίη is one such example. Without knowing what a lyre or a bow is, one would not be able to grasp his point that it is the tension, the conflicting pull in opposite directions, which produces the unity of the thing itself. Parmenides’ use goes beyond metaphor here, however, because he thinks of the possible ways of being and thinking as actual paths, rather than simply a heuristic. Summing up the possible ways of advancing toward a goal, these paths exhaust all possibilities “both for thinking and for being.” In other words, the second sense in which paths are natural is that they are nature’s way of teaching us which way to go, that is, of directing humans toward an end. Further, if thinking and being are the same, as Parmenides suggests, then these paths are not just about possible methods of inquiry: they also represent corresponding paths of being. The choice between the alternatives is precisely the judgment

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(κρίσις) that the goddess is clarifying for the kouros, we elect to set out on a path not only of a particular way of thinking but the corresponding way of living. In that they necessarily imply a destination as well as a means of steering oneself toward this goal or “remaining” on the path, the paths used by Parmenides inherently contains both purposive elements. The limits of the path act as guides, and by keeping within the limits, one is led inevitably to the end. And the destination, the telos, keeps us on the path as continuously oriented toward something. In short, the idea of paths in Parmenides’ poem is inherently purposive, and the repetition of this motif shows this purposiveness to be intentional.

At the heart of the poem, Parmenides’ use of paths is complex, with multiple paths conceived of and discussed in various ways and with different ends. The first path the goddess references is the path that has brought the youth to her, to the divine, that is “far from the beaten track of human beings.” The youth is led here in the chariot by knowing steeds, this path often considered to be the path toward divine knowledge. The use of paths is extended when the godess transitions from discussing the path that has brought the kouros to her to the possible paths of human inquiry. An examination of how the two faulty paths fail helps illustrate the purposive features.

Commentators often draw a brief comparison between Parmenides and Descartes, using the father of modern philosophy to elucidate more complex features of Parmenides’ thought. Yet they fail to appreciate the striking connection between the two thinkers with respect to paths of inquiry and philosophical method. In Part II of the Discourse on Method, Descartes suggests with respect to his decision to abandon all his previously held beliefs that “the world is largely

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composed of two types of minds for whom it is quite unsuitable.\textsuperscript{251} The first are hasty and lack the patience necessary to “direct all their thoughts in an orderly manner” with the predictable result that “they could never stick to the track that must be taken” thereby “remain[ing] lost all their lives.” The second kind of mind is far more “modest” in recognizing their limitations and thus need “to follow the opinions of others rather than seek better opinions themselves.” This type of person lacks the ability to lead himself along the path, signaling an unmitigated dependence on others. Of course, Descartes is in neither camp, thus there is a third kind of mind that should emulate Descartes’ philosophical method beginning with radical doubt. This kind of mind has precisely the opposite attributes of the first two: he is able both to stick to the necessary path and judge for himself how to arrive at his destination.

Descartes continues this analogy in the next section of the work that deals with morality, thus linking method of inquiry with action. There, in describing his second maxim as being firm and decisive in my actions,” he draws the analogy of a traveler lost in a forest. How does one escape such a situation? First, he points to the two common mistakes such travelers make, warning that one should not “wander about turning this way and that” or “still less stay in one place.” Both, Descartes implies, stand little chance of ensuring that one gets to their destination. The real solution is to choose a path and commit to it unwaveringly. Descartes supposes a connection between the first kind of mind and the first path--the aimless wandering of a hasty individual who lacks the patience to stick to the limits of the path they have chosen. Likewise,

the second path is the one taken by those who are unable to lead themselves out of difficult situations, thus their path goes nowhere and they remain, perhaps forever, stuck in one place.

Parmenides’ possible paths of inquiry bear a remarkable likeness to those suggested by Descartes. The path of mortals is the path of the “wandering, two-headed, helpless,” while the path of what-is-not simply does not go anywhere at all, that is, it “cannot be completed.” The failures that correspond to each path are different. Those who choose the wandering path of mortals cannot stick to the path, because they fail to recognize the “limits” or “signs” along the way. Rather than reason, it is the “helplessness in their breasts [that] steers their wandering mind” as they “are borne along deaf and blind alike” (B6). The path of what-is-not, on the other hand, cannot be completed because the “end” of the path is nothing at all. That is, such a path effectively goes nowhere, since following this path of inquiry would mean we would need to give a “negative account of what something really is,” that is to say “it is not this, or this, or this….”

Thus, it is “an utterly inscrutable track, for neither could you know what is not, nor could you declare it” (B2, 6-8). The only path to take is the one that moves unerringly toward the goal, and in both cases, this goal is knowledge of what-is as defined by the limits, or criteria, found in B8.

An integral component of the choice facing the youth, and by extension all human beings, is the kind of life he wants to have which is determined by the goal at the end of the path. The disturbing imagery of the second forbidden path provides a more compelling account that Parmenides understands paths to be about more than inquiry. As a result of poor thinking, most mortals are indecisive, helpless, and wandering through life. In the first path, there is no goal, in the second path, the goal is unintelligible. Thus, only the path of what-is can be called a true

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252 Curd, *The Legacy of Parmenides*, p. 46.
path. Still, the end at which this path aims is difficult to see. In describing the only path the
goddess permits, Hermann Fränkel notes twin goals, one for thinking: “the actual aim of the
journey is the knowledge of pure Being” and one for being: “the goal was a state in which the
Self extinguishes the world of Seeming and is freed of its separate existence.”253 Curd claims
that “the subject of the routes of inquiry...is the genuine nature of a thing,” so the ultimate aim is
knowledge of a the metaphysical criteria of “real” things.254 The specific end may be subject to
interpretation, perhaps intentionally so, but broadly speaking there is an undeniable similarity
with the “rough, steep path” that Socrates describes in the allegory of the cave (*Republic* 515e).
There can be little doubt that the path to what-is leads in some sense from ignorance to
enlightenment.

Beyond purpose in human endeavors, Parmenides’ cosmology mixes natural and
supernatural purposive explanation for particular phenomena and order of the cosmos when he
says:

> αἱ γὰρ στεινότεραι πληντα τυρός ἀκρήτοιο,
> αἱ δὲ ἐπὶ ταῖς νυκτός, μετὰ δὲ ψυλογὸς ἵεται αἷσα·
> ἐν δὲ μέσωι τούτων δαιμονίων ἢ πάντα κυβερνάι·
> πάντων γὰρ στυγεροῖ τόκου και μίξις ἄρχει
> πέμπτουσ’ ἀρσενι ὥθηκε μιγήν τό τ’ ἐναντίον αὐτός
> ἀρσεν θηλυτέρωι

For the narrower (rings) are full of unmixed fire,
Those over these with night, and a portion of flame follows after.
And in the midst of these is the deity who steers all things.
For she rules over frightful childbirth and copulation of all things,
Sending the female to mingle with the male and again contrariwise
The male to mingle with the female (B12).

Here Parmenides presents the familiar notion of a steered universe that is ubiquitous in early
Greek philosophy. For Parmenides, however, the deity who steers all things is not the

254 Curd, *The Legacy of Parmenides*, p. 49.
thunderbolt we find in Heraclitus or Anaximander’s *apeiron*, but the unnamed goddess. The ambiguity of the text makes it difficult to determine what goddess Parmenides has in mind, particularly given the references to various divinities throughout the poem. Parmenides specifies here that she steers the universe by dominion over the natural process of copulation, so the goddess may be justice, who naturally holds an esteemed place of rule. Perhaps, Parmenides intends an expansion of the authority Hesiod grants to Justice: “Fishes and beasts and fowls of the air devour one another. But to man, Zeus has given justice. Beside Zeus on his throne Justice has her seat.” With respect to the earlier portions of the poem, the different divinities such as Justice, Constraint, and Fate “appear as cognate agents in the containment of what-is.”

Contrasting Parmenides’ ἐόν with the external compulsion found in Anaximander and Heraclitus’ conceptions of the cosmos, Mourelatos notes that Parmenides’ notion is “an inner-directed justice, innocent of the temptation of aggrandizement or of the spirit of *ressentiment* [that] draws on intrinsic rather than extrinsic sanctions and reward.” The idea of limits established through the poetic repetition of “the language of ‘bounds’, ‘fetters’, and ‘shackles’” suggests how the cosmos is “steered,” but by combining these images with the “divine notion of πίστις,” the result is in fact a cosmos guided through limits by “gentle persuasion.” That is, as Mourelatos argues, “it is not only “inevitable” and “fated” and “just” that the real should lie within the bounds circumscribed in B8; it is also “agreeable” that it should do so. The real identifies with its limits or bounds and accepts them willingly.” Subtly then, Parmenides modifies the early Greek assumption that the cosmos and man operate in a parallel fashion by

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255 *Works and Days*, II. 276-281.
257 Ibid.
258 Ibid., p. 153.
advancing a notion of justice grounded in “civilized agreement and positive teleology.” In stark contrast with Homer and Hesiod, and paving the way for Plato and Aristotle, the cosmos is not so hostile to man after all.

CONCLUSION: PARMENIDES’ IMMEDIATE LEGACY

The history of the concept of nature in early Greek philosophy takes a sharp turn with Parmenides, or rather, the path forks considerably in the wake of the Eleatic’s poem. As a result of the revolutionary division Parmenides makes between the “being” and “becoming” of nature, the concept of nature employed in explanations by subsequent philosophers becomes bifurcated in similar, though not identical, ways. The next two chapters examine the essential “pluralist” thinkers who develop their theories in the wake of Parmenides’ significant influence. These different thinkers, Anaxagoras, Empedocles, Philolaus, and Democritus, are frequently understood as attempting to make good on Parmenides’ critical arguments by properly identifying the fundamental building blocks of nature in a way that allows for multiplicity and change. From the perspective of the concept of nature, however, these thinkers accept another starting point: the “nature” of anything is in some sense bifurcated between what something is and the process by which things become what they are. By teasing these facets apart, Parmenides has reformed earlier convoluted concepts of nature that imprecisely combine, or haphazardly employ, the “identity” aspect and the “process” aspect of nature. This model of “being” and “becoming” as distinct but interrelated facets of the concept of nature is at the heart of the theories of Anaxagoras, Empedocles, and Philolaus. Although the theories offered by the pluralists accentuate different features, processes, and mechanisms according to which nature operates, and thus is defined, each is nevertheless marked by the two distinct “halves” of the

\[259\] Ibid.

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concept of nature that diverge in the wake of Parmenides’ poem. The next chapter turns to tracing the emergence of this bifurcated concept of nature in three very different thinkers and the different ways a reinvigorated purposiveness emerges in their respective theories.
Chapter 5: The Early Greek Pluralists and the Bifurcation of Nature

We are instinctively willing to believe that by due attention, more can be found in nature than that which is observed at first sight. But we will not be content with less. What we ask from the philosophy of science is some account of the coherence of things perceptively known.

—A.N. Whitehead

The philosophical views of Anaxagoras and Empedocles are often taken as a direct response to the arguments presented by Parmenides. The pluralist theories advanced by these thinkers are an attempt to make sense of a world of change while paying homage to Parmenides’ concept of what-is and the criteria that it entails for what constitutes an essential unity, or the “nature” of any actual thing. In a similar fashion, the first Pythagorean thinker whose written work survives, Philolaus of Croton, can also be understood as a pluralistic response to Parmenides’ ideas. Specifically, the changes Parmenides makes in the way “nature” is conceived lead to pluralist responses that bifurcate the concept of nature in various ways. This chapter shows how this occurs in the accounts offered by Empedocles, Anaxagoras, and

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261_The interpretation offered here follows from my reading of Parmenides’ poem in the previous chapter and is indebted to the “predicational monism” reading offered by Patricia Curd in The Legacy of Parmenides.

262_Barnes calls Empedocles and Anaxagoras the first “neo-Ionians,” PP, vol. 2, p. 5, and Graham contends that such a term “allows us to class philosophers of Italy and Sicily, such as Philolaus and Empedocles, with later philosophers from Ionia, such as Anaxagoras.” See Daniel W. Graham, “Empedocles and Anaxagoras: Responses to Parmenides,” in The Cambridge Companion to Early Greek Philosophy, ed. A.A. Long (Cambridge: Cambridge University Press, 1999), pp. 159-180, at 177 n.1. For an account that interprets Philolaus’ arguments as a direct response to Parmenides, see Martha C. Nussbaum, “Eleatic Conventionalism and Philolaus on the Conditions of Thought,” Harvard Studies in Classical Philology 83 (1979): 63-108.
Philolaus. Prior to Parmenides, early Greek thinkers who considered nature can be classified as those who understood it as material or structural components and those who instead emphasize the process or becoming element of nature. Another way to think of this would be to see the divide as between those who conceive of nature as “stuffs” and, alternatively, as “powers.”

In all likelihood, this division corresponds to the identity and growth facets of φύσις, and yet at best, one could argue that both elements are included in any one earlier theory only in a very rudimentary way. By distinguishing and properly situating these different aspects of nature, Parmenides initiates a significant shift in how nature is understood, but the pluralists go further in dividing and then combining the two facets into unified concepts of nature. With such a move, the purposiveness that has operated in the background of the previous theories emerges in much more explicit ways. The “becoming” facet of nature, that is, the “power” that brings about change, exhibits explicitly purposive imagery. Empedocles’ Love (φιλότης) and Strife (νεῖκος), Anaxagoras’ Nous, and Philolaus’ ἁρμονίη each demonstrate purposive qualities in their respective roles in the construction of all things, albeit in very different ways. This chapter thus analyzes the different directions that the concepts of nature and purpose take in these three figures and their philosophical responses to Parmenidean monism.

The three views may be sketched very generally as follows. Empedocles uses the idea of “roots” (ῥίζῳματα) and mixture (μίξις) as material constituents of everything combined with the notions of Love and Strife as purposive forces. Although also associated with mixture, Anaxagoras’ pluralism travels a different course as he argues for homeomerous substances as the essential building blocks which are mixed and molded by his concept of Nous. Finally, the most

264 Ibid., p. 123.
oft-overlooked pluralist thinker among the Presocratics, Philolaus constructs his account of φύσις as the limiters and unlimiteds brought together by an inherent ἁρμονία. In short, among the pluralists here discussed, nature emerges alternatively and nearly simultaneously as 1) the ratio of fundamental elemental constituents, 2) the predominance of a single ingredient in a homeomerous mixture, and 3) the ratio as a specific relation of limiters and unlimiteds. Thus, through the following analysis of the theories of Empedocles, Anaxagoras, and Philolaus, I argue that the pluralists most clearly illustrate the significant degree of differentiation and resulting rapid evolution in the various early Greek notions of nature. Despite the diversity, each concept of nature is bifurcated into what constitutes the ratio or relation on the one hand, and what produces it, on the other. The latter facet, I will argue, assumes an increasingly purposive role in the formation and guidance of all things, laying important foundations for the more significantly teleological accounts of nature found in Plato and Aristotle.

EMPEDOCLES OF ACRAGAS

In a period of philosophical history marked by interesting, sometimes extreme characters, there can be little doubt that Empedocles of Acragas is the most colorful figure. Tales of his exploits range from the miraculous, as when he supposedly brings a woman back from the dead, to the politically prescient, as when he shirks his aristocratic birthright to defend democratic ideals, to the simply outrageous claim that he leapt to his death in a volcano to prove his divinity. He is variously described as a doctor, politician, and renowned poet, though some of these descriptions may be self-aggrandizing exaggerations based on the claims found in his own poetry.265 He certainly shows no lack of confidence in his own abilities, claiming a transcendence for himself when he says: “I, in your eyes a deathless god, no longer mortal, go

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among all, honoured just as I seem: wreathed with ribbons and festive garlands” (ἐγὼ δ᾿ ὑμῖν θεὸς ἀμβροτὸς οὐκέτι θνητός πωλεῖμαι μετὰ πᾶσι τετιμένος, ὥσπερ ἔοικα, ταίνίας τε περίστεπτος στέφεσίν τε θαλείοις, B112, 4-6).

Renowned for his rhetorical skill, and oftentimes considered more a mystic than philosopher, Empedocles aims at the broadest of syntheses of the different strands of Greek culture. Using the masterful language of the poets, he blends “Eleatic metaphysics, Ionian physics and cosmology, and Orphic-Pythagorean religious doctrine” into his account of the origin and growth of the cosmos.

Unlike most of his Presocratic contemporaries, a great deal of Empedocles’ written material survives the ravages of history. Unfortunately, scholars remain perplexed about the attribution of these fragments to specific works. The long-established view holds that recovered fragments could be attributed to two principal poems, On Nature (Peri Physeos) and Purifications (Katharmoi), though scholars seldom agree on which fragments should be assigned to which poem. Even this view may presume too much, however, as another frequent point of dispute is whether there were really two poems at all, or merely two parts of a single poem. In

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266 All translations of Empedocles’ fragments are taken from Brad Inwood, The Poem of Empedocles, unless otherwise noted.

267 Aristotle, however, is much less impressed than most with Empedocles’ poetic skill and offers criticism of Empedocles’ “long circumlocutions,” “ambiguous utterances” and “vague generalizations,” see Rhetoric 1407a35-1407b1. For an account that emphasizes Empedocles’ mysticism, see Peter Kingsley, Ancient Philosophy, Mystery, and Magic: Empedocles and the Pythagorean Tradition (Oxford: Clarendon Press, 1995).

268 Graham, TEGP, p. 328.

269 Guthrie provides a succinct history of the reception of the two poems in HGP, vol. 2, pp. 124-128. More recent scholarly opinions cover the range of the spectrum. Osborne argues in favor of a single poem, “Empedocles Recycled,” pp. 24-27. Inwood asserts that “no broad consensus has yet appeared on this topic,” suggesting that we should accept Osborne’s “one poem hypothesis,” but admitting there is not much evidence for this conclusion, The Poem of Empedocles, pp. 8-10. In light of the discovery of the Strasbourg papyrus in the mid-1990s, Oliver Primavesi offers a much more optimistic take as he suggests that “the artificial fog surrounding the Hellenistic catalogue of Empedocles’ work has been dispelled.” Primavesi, who played a vital role in the translation of the material from the papyrus, contends that the evidence is overwhelmingly in favor of a single poem. See “Empedocles: Physical and Mythical Divinity,” in The Oxford Handbook in Presocratic Philosophy, ed. Patricia Curd and Daniel W. Graham (New York: Oxford University Press, 2008), pp. 250-283, at 250. Patricia Curd presents a more cautious perspective, adopting an agnostic stance on the “counting issue” and instead contends only that the Strasbourg discovery “suggests that the division between the subject matters... is not as stark as some have supposed.” See “A New Empedocles? Implications of the Strasbourg Fragments for Presocratic Philosophy,”
recent years, these old debates have found new life with the discovery of the Strasbourg papyrus, an ancient scroll containing fragments of Empedocles’ poem. Though his ideas on nature are intermingled with religious imagery and poetic diction, Empedocles advances a theory of the four basic elements that will serve as the basic scientific understanding of the essential building blocks of the cosmos for over two thousand years.

THE ROOTS AND MIXTURE

Empedocles’ suggestion that four elements—fire, air, water, and earth—comprise the essential constructive units of the universe was remarkably groundbreaking. Although previous thinkers had speculated about the “foundational” status of various individual materials, Empedocles is the first to combine them into a basic pluralist scheme. He labels these fundamental elements “roots” (ῥιζώματα), a simultaneous acknowledgment of both their original and organically foundational status. Likening the roots to particular Homeric gods, he says, “First, hear of the four roots of all things, gleaming Zeus and life-bringing Hera and Aidoneus and Nestis, who moistens with tears the spring of mortals” (τέσσαρα γὰρ πάντων ριζώματα πρῶτον ἄκουε· ζεὺς ἀργὴς Ἥρη τε φερέσβιος ἠδ᾿ Ἀιδωνεύς, Νῆστις θ᾿ ἡ δακρύοις τέγγει κρούνωμα Βρότειον, B6). In their fundamental nature then, the roots seem to possess the divine


271 Empedocles’ four elements theory holds sway until Robert Boyle directly challenges it as untenable in the Sceptical Chymist in 1661.

272 Aristotle credits Empedocles with being the first to articulate this scheme in Metaphysics 985a31–3.
quality of a primordial reality.\textsuperscript{273} Perhaps in an effort to naturalize religious custom, Empedocles may conceive of the roots as “new gods” that are “worthy of wonder” primarily because of “their eternal and unchanging nature.”\textsuperscript{274}

Empedocles begins his story of the cosmos with an account of unity, plurality, and the movement of the roots:

δίπλ᾿ ἐρέω· τοτὲ μὲν γὰρ ἑν ηὐξήθη μὸνον εἶναι
ἐκ πλεόνων, τοτὲ δ᾿ αὖ διέφυ πλέον᾿ ἐξ ἑνὸς εἶναι,
πῦρ καὶ ὕδωρ καὶ γαῖα καὶ ήέρος ἀπλετον ὑψος,

I shall tell a double tale. For at one time [they] grew to be one alone from many, and at another, again, [they] grew apart to be many from one—fire and water and earth and the boundless height of air, (B17, 16-18)

Discussing the relationship of the roots with one another, Empedocles elaborates, noting that certain elements “dominate as the cycle goes around” (ἐν δὲ μέρει κρατέουσι περιπλομένοι κόκλοιο, B26, 1), and then subsequently “shrink into each other and grow in the turn[s assigned by] destiny” (καὶ φθίνει ἐις ἄλληλα καὶ αὔξεται ἐν μέρει αἴσης, B26, 2). He further affirms the fundamental reality of the ῥιζώματα when he describes the way they interact in the production of other phenomena: “For these very things are, and running through each other they become humans and the kinds of other beasts” (αὐτα γὰρ ἔστιν ταῦτα, δι᾿ ἀλλήλων δὲ θέοντα γιγνοντ’ ἄνθρωποι τε καὶ ἄλλων ἐθνεα θηρῶν, B26, 3-4). He makes a key distinction between “the things that are real (the roots)” and the “temporary phenomena that result from the mixing...of the

\textsuperscript{273} In this regard, Martin West compares Empedocles to his near contemporary Theagenes of Rhegium, suggesting that both aimed at “interpreting the Homeric deities as allegories of the physical world.” See “Early Greek Philosophy,” in The Oxford History of the Classical World (Oxford: Oxford University Press, 1986), pp. 113-123 at 119. For a brief account of the dispute in the ancient tradition “as to which element is characterized by which divinity,” see James Longrigg, “The ‘Roots of All Things’,,” Isis 67.3 (1976): 420-438, at 422-423.\textsuperscript{274} Wright, Empedocles: The Extant Fragments, p. 22. Wright contends that Empedocles merely follows the philosophical tradition in an innovative way in his “aim to replace the traditional myths with a more seemly logos about the gods,” and that the “equality of power” of the roots mimics Homer’s description of the “equality of privilege and allotment of power enjoyed by Zeus, Poseidon, and Hades,” pp. 22-23.
when he reiterates: “But these very things are, and running through each other they become different at different times and are always, perpetually alike” (ἀλλ᾿ αὔτ᾿ ἔστιν ταύτα, δι᾿ ἀλλήλων δὲ θέοντα γίγνεται ἄλλοτε ἄλλοτε ἄλλα καὶ ἰνεκὲς αἰὲν ὁμοία, B17, 34-35).275

Empedocles’ division between those things that “are” and those things that “become” reflects the division Parmenides makes in the nature of things.276 And in fact, Empedocles provides ratios of roots for certain kinds of natural things: “And pleasant earth in here well-built channels received two parts of gleaming Nestis out of the eight and four of Hephaistos; and they become white bones fitted together with the divine glue of harmony” (ἡ δὲ χθὼν ἐπίηρος ἐν εὐτύκτοις χοάνοισι τὰς δύο τῶν ὀκτὼ μοιράων λάχε Νήστιδος αἴγλης, τέσσαρα δ᾿ Ἡφαίστοιο· τὰ δ᾿ ὀστέα λευκὰ γένοντο, ἁρμονίης κόλλῃσιν ἀρηρότα θεσπεσίῃσιν, B96). The distinction between what-is, the roots, and what becomes, natural phenomena, is made possible by the plurality of the roots. Yet only the nature of the roots is truly persistent, all else is merely a temporary combination of roots in particular ratios. For Empedocles, nature so conceived means that “knowledge of the roots and the forces can lead to a principled understanding of the phenomenal world.”277 His account of the true nature of things also allows Empedocles to correct a misconception when he says:

οὐκ ἂν ἀνὴρ τοιαῦτα σοφὸς φρεσὶ μαντεύσαιτο, ός ὄφρα μέν τε βιῶσι, τὸ δὴ βίοτον καλέουσι, τόφρα μέν οὖν εἰσιν, καὶ σφιν πάρα δελτά καὶ ἐσθλά, πρὶν δὲ πάγεν τε βροτοὶ καὶ <ἐπεὶ> λύθεν, οὐδὲν ἀρ’ εἰσιν

A man wise in his thoughts would not divine such things:
That while they live what they call life
For so long they are, and have good and evil things,
But before they are formed as mortals and <when> they are dissolved, they are nothing. (B15)

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275 Curd, “Parmenides and After: Unity and Plurality,” p. 43.
276 Ibid.
277 Ibid.
Mortals, like all else in the phenomenal world, exist always as roots. On certain occasions, they are mixed into the form of humans, other times separated out into pure roots, but, at no time are they “nothing.” Only fools, Empedocles implies, could arrive at such a conclusion.

The reality of the roots implies that the basic condition of the cosmos is not a unity but a plurality of fundamental substances. In light of the supposed Parmenidean attack on plurality, and the apparent persuasiveness of this account, however, the lack of any argument by Empedocles aimed to legitimately establish the plurality of roots is striking. Instead, Empedocles simply ignores the question as he adopts and incorporates Parmenidean arguments into his own cosmology, in particular the denial of generation and corruption. This may be because Empedocles does not take Parmenides to be attacking plurality, but establishing the true nature of what-is. Taking direct aim at the connection between φύσις and generation,

Empedocles suggests that growth and decay are at best misnomers and at worst anthropomorphic projections:

ἀλλο δὲ τοι ἐπέω· φύσις οὐδενὸς ἔστιν ἁπάτων
θνητῶν, οὐδὲ τις οὐλομένου θανάτοιο τελευτή,
ἀλλὰ μόνον μίξις τε διάλλαξις τε μιγέντων
ἔστι, φύσις δ᾿ ἐπὶ τοῖς ὀνομάζεται ἀνθρώποισιν.

I shall tell you something else: there is no growth (φύσις) of any of all mortal things,
neither any end of destructive death,
But only mixture and separation of mixed things
Exist, and growth (φύσις) is a term applied to them by men. (B8)

If φύσις is understood as the origin and growth of something from nothing, then it does not exist.

Undeniably, however, a process exists by which things come to be what they are, and it is through this process that Empedocles principally seeks his own reform of the concept of nature as origin and growth. The “nature” of any thing is nothing more than roots combined through mixture (μίξις). Echoing his claim elsewhere that “birth” is conventional in his account of the
“double story” of the cosmic cycle, Empedocles fully admits that he himself submits to the linguistic habits of the conventional ways of discussing the ideas of birth and growth contained in φύσις:

οἱ δ᾿ ὅτε μὲν κατὰ φῶτα μιγέντ᾿ εἰς αἰθέρ᾿ ἵ κωνται ἢ κατὰ θηρῶν ἀγροτέρων γένος ἢ κατὰ θάμνων ἢ κατ᾿ οἰωνῶν, τότε μὲν τὸ λέγουσι γενέσθαι, εὖτε δ᾿ ἀποκρινθῶσι, τὸ δ᾿ αὖ δυσδαίμονα πότμον· ἦ θέμις οὐ καλέουσι, νόμωι δ᾿ ἐπίφημι καὶ αὐτός

And men, when as these things are mixed together they come to Aether in a man,
Or in the race of wild beasts or of bushes
Or birds, then <they call> it birth [or: coming to be],
And when they are separated, this in turn they call pitiful fate;
They do <not> speak rightly, but I myself concur in the custom. 278 (B9)

Not only is φύσις as birth or growth only a “term applied to them by men” in lieu of the actual process of mixture, but death is the customary placeholder of the actual process of separation.

Empedocles’ view of nature is also more temporally extended than those views that place great emphasis on origin, as he also expresses contempt for those who hold similar misconceptions about death:

νήπιοι· οὐ γὰρ σφιν δολιχόφρονες εἰσὶ μέριμναι, οἱ δὴ γίγνεσθαι πάρος οὐκ ἐον ἐλπίζουσιν ἢ τι καταθνήσκειν τε καὶ ἐξόλλυσθαι ἁπάντης.

Fools! Their reflections are not far-reaching,
Who expect what was not before to come to be,
Or that something will die out and perish utterly. (B11)

Empedocles thus repeatedly belabors the idea that generation and corruption are “not real” if this means coming to be from, and returning to, nothing. Failure to grasp this important distinction, Empedocles thinks, means one not only fails to understand how the natural world works, but the necessary implications for human life.

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278 Translation from Graham, TEGP, p. 349.
Although birth and growth presume a false point of origin as well as a false “completion,” this does not mean that there are no processes of becoming, strictly speaking, only that the actual processes have been misunderstood and mislabeled. Empedocles’ reform of the idea of φύσις into μίξις centers on the idea that the roots have a fixed, stable “nature” in an absolute sense, as a genuinely real thing. The other things we take to be entities, such as ourselves, are only a particular mixture of the roots “run through.” The reflection of the “unenlightened” (νήπιοι) stops with what they observe, but Empedocles channels Parmenidean argumentation to support his claims:

ἔκ τε γὰρ οὐδάμ᾿ ἐόντος ἀμήχανόν ἐστι γενέσθαι
cαι τ᾿ ἐὰν ἐξαπολέσθαι ἀνήνυστον καὶ ἀπυστον·
αἱ ἔκ γὰρ τῇ γ᾿ ἐσται, ὅπη κέ τις αἰὲν ἐπείδημ.

For it is impossible that there should be coming to be from what is not, and that what is should be destroyed is unaccomplishable and unheard of; for it will always be there, wherever one may push it on any occasion. (B12)

Although an easy conclusion may be that Empedocles’ roots are simply a specification of Parmenides’ what-is and thus constitute the only real idea of nature in the pluralist’s views, while φύσις is merely a misleading convention, a look at additional fragments suggests a more complex picture. In another elliptical fragment, however, Empedocles seems to claim that the φύσις of individual things is dispersed and thus possesses some kind of physical reality: “But the nature of the limbs has been torn apart, partly in a man’s…” (ἀλλὰ διέσπασται μελέων φύσις, ἢ μὲν ἐν ἀνδρός, B63). Elsewhere still, he seems to hold out the possibility of nature dictating the development of a thing: “For these will grow in each character, according to its own nature” (αὐτὰ γὰρ αὐξεῖ ταῦτ εἰς ἠθος ἔκαστον, ὅπη φύσις ἐστίν ἐκάστωι, B110). The referent for “these” is unspecified, but the context indicates that Empedocles seems to be referencing
cognitive development in a way that parallels physical development. The right kinds of ideas, and Empedocles here means his theory of nature as ratio of ῥιζώματα, can be conceived of as cognitive roots that will take on a life of their own and be nurtured so that “you will acquire many others” (B110, 4). The alternative he presents is that one can fall into the old circular trap of generation and destruction by “reach[ing] out...for the ten thousand wretched things which are among men and blunt their meditations” (B110, 6-7). Empedocles thus speaks of φύσις in several senses. Sometimes φύσις is merely a customary label used by his contemporaries that signifies very little. At other times for Empedocles, however, φύσις is a ratio of roots in a given mixture that governs individual growth.

Given that Empedocles is one of the earliest philosophers to exhibit a recorded interest in medicine and the body, his concept of φύσις may have been developed more in contrast with other medical theorists and practitioners than with the conceptions developed by early Greek philosophers. As with much of the chronology and authorship in the early Greek period, the Hippocratic corpus remains shrouded in mystery. Yet the notion of “nature” in the Hippocratic tradition is remarkably clear. Rather than the result of philosophical speculation on the origin and development of the natural world, those thinkers generally grouped under this tradition developed a notion of nature based on the study of “the body, its affections and processes,” and the effects of various illnesses and substances on the human body. Of course, the boundaries between the disciplines of medicine and philosophy are not quite so clear cut at this early stage, as common interests result in a great deal of crossover such that the “medical writers” very often “emphatically put their investigations of the human body in a physicist and cosmological

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In seeking to develop natural explanations for various illnesses, the early medical writers must develop a notion of individual nature such that diseases, like epilepsy, often regarded as “demonic possession,” instead have a “nature” that can be readily identified. According to the author of *On the Sacred Disease*, understanding the nature of the disease as a cause allows for the development of a cure:

> This disease seems to me to be not in any respect more divine than the others. Rather, it seems to me that, just as other diseases have a nature out of which each originates, this one, too, has a nature and a cause, and it derives its divinity from the same things as the others and is no less curable than others.

Here the disease is described as having a nature as “origin,” but the author elsewhere describes epilepsy “as if the disease comes into being and grows like a plant, according to a definite, intrinsic pattern.” It is precisely this growth that the therapeutic remedies aim to prevent:

> “There is a risk however that the disease will be nourished and grow with the patient, unless appropriate remedies be used” (11.22-24). For the medical authors, the φύσις of diseases like epilepsy is very real and acts as a cause in bringing about certain effects on the human body. While Empedocles equivocates on the causal power of φύσις, for the medical writers who oppose his theory, φύσις must always be grasped as a causal power that must at certain times be counteracted by medical practice.

> Even if it is only “called” φύσις by Empedocles, the nature of anything and everything is a fixed ratio that is the result of the mixture and separation of the ῥιζώματα. Nature understood as such eradicates bad belief and fear of the “pitiful fate” which men believe awaits them on

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280 Ibid., p. 388.
281 This passage is taken from *On the Sacred Disease* 2.1, the translation here is from van der Eijk, “The Role of Medicine in the Formation of Early Greek Thought,” p. 391.
death. But what is responsible for specific ratios, that is, the production of specific entities? Who or what dictates what mixture will take place, determining ratios or overseeing which combinations will arise and which will not? Mixture alone is insufficient to explain why the natural world operates as it does. In the wake of Parmenides’ arguments and his commitment to explaining the observable plurality in the cosmos, Empedocles commits himself to a theory which includes two constitutive elements very different in kind from the ῥιζώματα. These elements, Love and Strife, arguably mark the first representations of nature as a kind of force.

**LOVE AND STRIFE: PURPOSIVE FORCES OF NATURE**

Although he is the first to schematize the constituent elements into the now familiar group of four, it is Empedocles’ use of Love and Strife as forces that mix the roots, effectively shaping everything in the cosmos, that marks his theory as truly innovative. While the conceptualization of the basic material nature of everything as consisting of four elements had a larger impact on the development of subsequent physical theories, the idea of the dual forces of Love and Strife garners much more attention from modern scholars. The dominant view is that Love and Strife are material in nature. Generally speaking, those who hold this view maintain that immaterial things were inconceivable for the Presocratics—everything must be made of something. Others, like Rosemary Wright and Patricia Curd, go to great lengths to show that there are numerous examples in Presocratic philosophy of immaterial conceptions:

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Xenophanes’ One God, Parmenides’ what-is, Heraclitus’ *logos*, and Anaxagoras’ *Nous*.

Thus, the alternative view is to consider Love and Strife as immaterial forces that act on the roots in order to shape the natures of everything. Waxing and waning in dominion, the conflicting forces of Love and Strife alternatively drive all things together or separate them, as Empedocles describes: “And these things never cease from constantly alternating, at one time all coming together by love into one, and at another time all being borne apart separately by the hostility of strife” (καὶ ταῦτα ἀλλάσσοντα διαμιμηρές οὐδαμὰ λήγει, ἄλλοτε μὲν φιλότητι συνερχόμεν’ εἰς ἑν ἀπαντα, ἄλλοτε δ’ αὖ διίχ ἕκαστα φορεύμενα νείκεος ἔχθει, B17, 6-8). The roots and forces both have an equally fundamental status: “For these things [roots and Love and Strife] are all equal and of like age in their birth, but each rules over a different prerogative and each has its own character and they dominate in turn as time circles around” (ταῦτα γὰρ ἰσά τε πάντα καὶ ἥλικα γένναν ἔασι, τιμῆς δ᾿ ἄλλης ἄλλο μέδει, πάρα δ᾿ ἦθος ἑκάστῳ, ἐν δὲ μέρει κρατέοσι περιπλομένοιο χρόνοιο, B17, 27-29).

Empedocles conceives of the alternating dominion of Love and Strife as a cycle that perpetuates all existence. The cycle is repetitive in its basic structure: the roots come together under Love, the union of all things results, and the roots separate under Strife. During the stages of rule of Love and Strife, all things are produced in the form of one or possibly two cosmogonies and zoogonies. The existence of a second period of creation during Strife’s dominion is a contentious claim. Aristotle holds that Empedocles did in fact suggest a second cosmogony, but that the Presocratic thinker had not thought through the implications of his

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285 See Wright, *Empedocles: The Extant Fragments*, pp. 32-33 and Curd, “Where are Love and Strife? Incorporeality in Empedocles,” pp. 114-115. Philolaus’ conception of limiters and unlimiteds should be added to Curd’s list as they are principles which govern the material world without themselves being material in nature.

suggestion. Modern commentators, not surprisingly, have argued both for and against a second “zoogonical stage.” While some contend that Empedocles envisions the dominions of Love and Strife to be in every way equal, including in the production of living things, albeit in different ways, others suggest that only Love is capable of such creation. Although the particulars of the cycle Empedocles envisions may be perpetually in dispute, we should nevertheless avoid the mistake of presuming that Empedocles understands the cycle to be a kind of “eternal recurrence of identical events.”

Empedocles appeals to human experience in the broadest possible capacities to establish the prevalence of Love and Strife. Sounding a familiar Presocratic refrain, he remarks that these cosmic forces have really been right in front of humans all along, if only they could see in the right way: “And you, gaze on her [Love] with your understanding and do not sit with stunned eyes. For she is deemed even by mortals to be inborn in [their] bodies” (τὴν σὺ νόῳ δέρκευ, μην δ’ ὄμμασίν ἢσο τεθηπώς· ἥτις καὶ θνητοὶς νομίζεται ἐμφυτος ἄρθροις, B17, 21-22).

Empedocles infers a cosmic theory involving these two forces “from the observed fact that these have the greatest influence on the behavior of men.” More specifically with regard to Love, Empedocles suggests that it is “by her [that] they think loving thoughts and accomplish works of unity calling her by the names Joy and Aphrodite” (τῇ τε φίλα φρονέουσι καὶ ἄρθμια ἔργα

287 See On the Heavens 301a14-19 for Aristotle’s critique.
291 Wright, Empedocles: The Extant Fragments, p. 31.
τελοῦσι, Γηθοσύνην καλεόντες ἐπώνυμον ἡδ᾿ Ἀφροδίτην, B17, 23-24). Thus, both the activities of the natural world and human beings are governed by Love and Strife. More specifically, Love guides those actions that aim for, or tend toward, unity, while Strife guides those that aim at division. Empedocles elaborates when he says:

τοῦτο μὲν ἀμ᾿ βροτέων μελέων ἀριδείκετον ὄγκον· ἀλλοτε μὲν φιλότητι συνερχόμεθ᾿ εἰς ἓν ἅπαντα γνώ, τὰ σῶμα λέλογχε, βίου θαλέθοντος ἐν ἀκμῇ· ἀλλοτε δ᾿ αὐτε κακῆσι διατιμηθέντ’ ἐρίδεσσι πλάζεται ἄνδιχ’ ἐκαστα περὶ ῥηγμῖν βίοι.

This is very clear in the bulk of mortal limbs: at one time we come together into one by love, all the limbs, [that is], which have found a body, in the peak of flourishing life; at another time again, being divided by evil quarrels, they [the limbs] wander, all of them separately, about the breakers of life. (B20)

Empedocles thus broadens the possible approaches to the study of the nature such that “the study of human behavior enables one to understand the nature of the cosmic principles.” Far from rejecting sense experience, as Parmenides seems to have done, Empedocles expands the role the senses and experience play since they facilitate access to both the roots and Love and Strife.

The inherent differences in the way Empedocles describes Love and Strife, on the one hand, and the ῥιζώματα on the other, provide the clearest indication that Empedocles understands both facets as co-present yet equally primordial facets of nature. As forces, Love and Strife are known and defined by their actions, by what they produce. By supposing two different, competing forces, Empedocles affords nature the power to govern multiple processes of change. His concept of nature thus not only expands what nature can do, it expands what the concept of nature can explain. True generation from nothing may be impossible, but the observable fact of

292 Ibid., p. 32.
293 For passages that suggest sense experience enables knowledge of the roots, see fragments B5, B96, and B98.
change seems inescapable. The dual forces explain both kinds of perceivable change by acting as efficient causes with a particular intent, as Wright notes: “Love is good insofar as she is the efficient cause of good, her agency resulting in a desirable state of affairs, whereas the consequences of the working of Strife are deplorable, though inevitable.” If Empedocles’ contribution to the idea of nature is the conceptualization of nature as a force that both mixes and separates, to what extent can we understand Love and Strife to be purposive forces?

The conception of forces as acting without an end, that is, simply shaping or pushing a body in a purely mechanical way is possible, but this is not at all how Empedocles describes Love and Strife. Instead, he views these forces as functionally defined by the ends that they seek. Love as a unifying force seeks total unity, or “the One,” as its final goal. Likewise, Strife is defined by the absolute dispersion that is its aim, fulfilling its telos as an established duty at the appointed time:

αὐτὰρ επεὶ μέγα νεῖκος ἐνι μελέεσσιν ἐθρέφθη,
ἐς τιμάς τ᾽ ἀνόροουσε τελειομένοιο χρόνοιο,
ὁς σφιν ἀμοιβαίος πλατέος παρ᾽ ἐλήλαται ὄρκου

But when strife had grown great within its limbs
And leapt up to its prerogatives, as the time was being accomplished
Which has been established for each in turn by a broad oath (B30)

Empedocles speaks in multiple passages of the “prerogatives” or “offices” (τιμαί) of Love and Strife, thereby reinforcing the idea of the rule of Love and Strife. The “established” rule of each is marked by the effect produced on the roots and compounded mixtures. Each force is therefore separately purposive in the sense that the ends are immanent within the forces themselves, but also in that over the course of time, the rule of each force is characterized by movement toward a

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294 Wright, Empedocles: The Extant Fragments, p. 31.
particular end. Insofar as there are alternating ends at which all things must aim, that is absolute unification or total dispersion, all things in the cosmos are continuously being directed toward one or the other end. Instead of a single end, Empedocles produces a dual *telos* in nature.  

Empedocles also deliberately imports purposive imagery into some of his descriptions of Love and Strife. In a way that anticipates Aristotle, Empedocles discusses nature as an artist. The forces of Love and Strife are depicted as painters that “take in their hands many-coloured pigments, mixing them in harmony, some more, others less” (οἵ τ´ ἐπεὶ οὖν μάρψωσι πολύχροα φάρμακα χερσίν, ἀρμονίη μιξαντε τά μὲν πλέω, ἄλλα δ´ ἐλάσσω, B23, 3-4). The pigments are the ριζώματα and “from them they prepare forms resembling all things, making trees and men and women and beasts and birds and water-nourished fish and long-lived gods, first in their prerogatives” (ἐκ τῶν εἴδεα πάσιν ἄλγκια πορσύνουσι, δένδρα τ´ κτίζοντε καὶ ἄνερας ἡδὲ γυναῖκας, θήρας τ´ οἰωνοῦς τε καὶ ύδατοθρέμμονας ἵθος, καὶ τε θεοὺς δολιχαίωνας τιμήσι περίστους, B23, 5-8). Individual natures are an aesthetic collaboration of these poetic forces to produce specific mixtures of the ριζώματα that humans, for better or worse, label as the φύσις of a thing. As an aesthetic creation, each individual mixture that both comes together and slowly separates thus bears the mark of its artists, Love and Strife.  

Beyond each individual force, the perpetuation of the cosmos as a whole is purposive. As a never-ending cycle between Love and Strife, continued existence is itself an end of the processes of mixture and dispersion. Empedocles supposes dual ends but ultimately one end—the cyclic endurance of the cosmos where unity spawns multiplicity and multiplicity produces unity. And so Empedocles may agree with Nietzsche that “only as an aesthetic phenomenon is existence and the world eternally justified.”²⁹⁶ And this matches Empedocles’ own poetic

commitments, as one commentator puts it: “Imaginative vividness took hold of [Empedocles] with more persuasiveness than did logical consistency, and he inevitably baffles minds not constituted like his own. The important thing in understanding him is to stop thinking at the right moment.”

ANAXAGORAS OF CLAZOMENAE

Perhaps on account of the shared influence of Parmenides and their mutual fascination with mixture, it is rare to find modern discussions of Empedocles without mention of Anaxagoras somewhere nearby. Of the relation between these two thinkers, Aristotle famously claims that “Anaxagoras of Clazomenae, earlier than him [Empedocles] in date but later in his works, declares that the principles are infinitely many” (Ἀναξαγόρας δὲ ὁ Κλαζομένιος τῇ μὲν ἡλικίᾳ πρότερος ὦν τούτοις δ’ ἐργοῖς ὑστέρος ἀπείρους εἶναι φησι τὰς ἀρχὰς, Metaphysics 984a10-13). The curious phrase “later in his works” has alternatively been suggested to mean either that Anaxagoras was born before but began his philosophical career after Empedocles or simply that Aristotle believes Anaxagoras’ ideas “to be later and worth less.” In answering Parmenides’ challenge, Anaxagoras also uses the idea of mixture that figures prominently in Empedocles’ theory but moves beyond the four roots when he enigmatically suggests that “everything is in everything,” thus the infinitely many principles Aristotle mentions.

And yet, as fascinating as his theory of homeomerous mixture is, it is Anaxagoras’ description of a cosmic Nous that generates the greater interest among commentators both

297 Clara Elizabeth Millerd, On the Interpretation of Empedocles (Chicago: Chicago University Press, 1908), p. 21. Millerd continues: “On almost every problem his thought, when pushed beyond a certain point, presents contradictions and absurdities, up to that point it is singularly suggestive and clear,” p. 22.

ancient and modern. In fact, of all of the early Greek philosophers, Anaxagoras is the one to whom the idea of purposive nature is most easily attributed, at least on the face of things.

Perhaps establishing the aim of philosophical inquiry for the first time, Anaxagoras contends that the goal of best possible life is “to study the heaven and the order of the whole cosmos” (A30). In the *Phaedo* Socrates comments that Anaxagoras suggests that the universe was constructed according to the principle of arrangement for the best (*Phaedo* 97b8-98c2). In rough outline, Anaxagoras holds that the infinite principles, or “homeomerous stuffs” as they are later called, are arranged and ordered by a cosmic Mind (*Nous*). A primitive forerunner to theological notions as well as the Aristotelian notion of nature as a final cause, *Nous* guides the production of all things in the cosmos as a supreme intellect. Nevertheless, ancient commentators, especially Plato and Aristotle, were sharply critical of the purposive failures of Anaxagoras’ theory. On their view, he did not carry *Nous* far enough, nor was he clear about precisely how it operated in the arrangement of all things. In the following section, I trace the way Anaxagoras bifurcates nature into the structure of homeomerous “stuffs” and the shaping force of *Nous*. Despite similarities with Empedocles’ theory, the concept of nature that emerges in Anaxagoras arguably has more in common with a much older notion of the nature of things. For Anaxagoras, the nature of something is not a ratio of these fundamentals “stuffs” within a given mixture; rather, each entity is a mixture of everything and the nature of the individual is determined by the predominance of specific ingredients within that mixture. Following this, I examine Anaxagoras’ fragments concerning *Nous*. There I argue that, while his theory fails to live up to the teleological expectations of Plato or Aristotle, their recognition of implicit, if deficient, purposiveness illustrates a key shift in the development of the idea of purposive nature. That is, following Anaxagoras, the purposiveness of nature is not simply being directed toward a
particular end, but rather the arrangement and operation of nature can now be conceived of in terms of what is best.

SEEDS AND MIXTURE

Anaxagoras presents his own naturalistic account of cosmic origins that appears to satisfy Parmenides’ criteria for what-is:

ὅμοῦ χρήματα πάντα ἦν, ἀπειρά καὶ πλήθος καὶ σμικρότητα· καὶ γὰρ τὸ σμικρὸν ἀπειροῦν ἦν· καὶ πάντων ὁμοῦ ἐόντων οὐδὲν ἔνδηλον ἦν· ὑπὸ σμικρότητος· πάντα γὰρ ἀπόρως ταῦτα· ταῦτα γὰρ μέγιστα ἐν τοῖς σύμπασι καὶ πλήθει καὶ μεγέθει.

All things were together, unlimited both in amount and smallness, for the small, too, was unlimited. And because all things were together, nothing was evident on account of smallness; for air and Aether covered all things, both unlimited, for these are the greatest among all things both in amount and in largeness.299 (B1)

Beginning from a primal mixture of all things implies that “the things (whatever they are) that are in this mix neither came to be, nor will they pass away.”300 In fact, Anaxagoras uses some of the same principles as Empedocles in his critique of his contemporaries’ inadequate conceptions of generation and corruption:

tὸ δὲ γίνεσθαι καὶ ἀπόλλυσθαι οὐκ ὀρθῶς νομίζουσιν οἱ Ἕλληνες· οὐδὲν γὰρ χρῆμα γίνεται οὐδὲ ἀπόλλυται, ἀλλὰ ἀπὸ ἐόντων χρημάτων συμμίσγεται τε καὶ διακρίνεται, καὶ οὕτως ἂν ὁ ὀρθὸς καλὸς τὸ τε γίνεσθαι συμμίσγεσθαι καὶ τὸ ἀπόλλυσθαι διακρίνεσθαι.

The Greeks do not think correctly about coming to be and passing away; for no thing comes to be or passes away, but is mixed together and separated from the things that are. And thus they would be correct to call coming-to-be mixing together and passing-away separating apart. (B17)

299 All translations of Anaxagoras’ fragments are from Patricia Curd, Anaxagoras of Clazomenae: Fragments and Testimonia, A Text and Translation with Notes and Essays (Toronto: University of Toronto Press, 2007), unless otherwise noted.

Similarly to Empedocles, the processes are real, only poorly understood. The similarities between the two are fairly limited, however, as Anaxagoras articulates a fundamentally different understanding of the physical world. Much debated but with little consensus, Anaxagoras’ “system” involves several key principles that are interpreted in starkly different ways. Rather than a determinate number of fundamental constituents, Anaxagoras suggests that “in everything there is a portion of everything” an idea made possible by the corollary that every “thing” is infinitely divisible. Finally, the predominant ingredients in a substance are responsible for its most distinctive features. This last principle, I argue below, is Anaxagoras’ conception of the nature of anything, and it is a conception that itself relies on a compound of the oldest definition of φύσις with a post-Parmenidean emphasis on mixture as a new way to think about growth.

The claim that “everything is in everything,” is nearly synonymous with Anaxagoras’ name. Anaxagoras tells us that “since the shares of the large and the small are equal in number, in this way too, all things will be in everything” (καὶ ὅτε δὲ ἴσαι μοῖραι εἰσί τοῦ τε μεγάλου καὶ τοῦ σμικροῦ πλῆθος, καὶ σὲ τὰ ἐν τοῖς πάντας, B6). Offering further arguments, he contends, “since it is not possible that there is a least, it would not be possible that anything be separated, nor come to be by itself, but just as in the beginning, now too all things are together” (ὅτε τούλαχιστον μὴ ἔστιν εἶναι, οὐκ ἂν ἰσοκρατία ἵσσηναι, οὐδὲ ἂν ἐφ᾽ ἑαυτῷ γενέσθαι, ἀλλ᾽ ὡσεὶ ἐρχέσθαι ἐν τοῖς πάντας, B6). Anaxagoras expands on the identity of existing mixtures when he says: “Since these things are so, it is right to think that there are many different things present in everything that is being combined, and seeds of all things, having all sorts of forms, colours, flavours” (τούτων δὲ ὁμοίως ἐχόντων χρῆ δικείν ἐνείναι πολλὰ τε καὶ ἄλλα ἐν τοῖς πάντας, B6). For an account that breaks down Anaxagoras system into the preceding three tenets as the “hard core of Anaxagoras’ physics,” see Colin Strang, “The Physical Theory of Anaxagoras,” Archiv für Geschichte der Philosophie 45 (1963): 101-118.
πᾶσι τοῖς συγκρινομένοις καὶ σπέρματα πάντων χρημάτων καὶ ιδέας παντοίας ἔχοντα καὶ χροιάς καὶ ἡδονάς, B4a). Some scholars seize upon the idea of seeds, “rich in creative potency,” as Anaxagoras’ conceptual model not only for the original mixture out of which all things arose, but for how to think about “everything is in everything.” These seeds contain a bit of everything, thus allowing for the explanation of the development of particular features. Driving home his point, Anaxagoras keenly asks, “For how could hair come from not-hair, and how could flesh come from not-flesh?” (πῶς γὰρ ἄν ἐκ μὴ τριχὸς γένοιτο θρίς δὲ κατὰ μικρὸν διακρίνεσθαι; B10). Thus he claims that “things in the one world-order are not isolated from each other, nor are they cut off by an axe—neither the hot from the cold nor the cold from the hot” (καὶ ἀλλαχοῦ οὐ κεχώρισται ἀλληλῶν τὰ ἐν τῷ ἑνὶ κόσμῳ οὐδὲ ἀποκέκοπται οὕτε τὸ θερμὸν ἀπὸ τοῦ ψυχροῦ οὕτε τὸ ψυχρὸν ἀπὸ τοῦ θερμοῦ, B8). In fact, Anaxagoras offers only one exception to the principle of “everything is in everything” when he elsewhere clarifies: “In everything there is a portion of everything except mind. And in some things mind too is present” (ἐν παντὶ παντὸς μοῖρα ἔνεστι πλὴν νοῦ, ἔστιν οἷσι δὲ καὶ νοῦς ἔνι, B11).

Though the notion of mixture dominates Anaxagoras’ thought as well as Empedocles’, Anaxagoras understands the nature of any individual thing to be the predominance of a single ingredient in the mixture. Anaxagoras asserts that “All Nous is alike, both the greater and the smaller. Nothing else is like anything else, but each one is and was most manifestly those things of which there are the most in it” (νοῦς δὲ πᾶς ὁμοίος ἐστι καὶ ὁ μείζων καὶ ὁ ἐλάττων. ἐπερὸν δὲ οὐδὲν ἐστιν ὁμοίων οὐδενί, ἄλλῳ δὲ πλεῖστα ἐνι, ταῦτα ἐνδηλότατα ἐν ἐκαστοῦ ἐστί καὶ ἰν, B12). Aristotle helpfully summarizes Anaxagoras’ position by saying: “For nothing, they say, is purely and entirely white or black or sweet, or bone or flesh, but the nature (φύσις) of a thing is

held to be that of which it contains the most” (*Physics* 187b4-6). Elsewhere Aristotle clarifies by saying Anaxagoras “makes the homeomerous bodies elements--I mean bone, flesh, marrow, and those others whose parts have the same name as the whole” (*On Generation and Corruption* 314a17). Aristotle’s account reflects the dominant view in antiquity that the “stuffs” of Anaxagoras’ physics included everything that exists now. While this view is argued for, in various capacities, by a number of modern commentators, a competing interpretation holds that Anaxagoras only intends the opposites as the basic elements out of which all things are made. A moderate interpretation walks a fine line between these views by arguing that one can understand the original “stuffs” to be somewhere in between everything that exists now and the essential opposites like hot, cold, dry and wet. Short of the discovery of new evidence, it seems there is no permanent resolution to this “unending debate.” Fortunately, regardless of how questionable the precise range of “stuffs” may be, Anaxagoras seems clear in grasping the nature of anything produced from the primordial mixture as the principal ingredients. This reflects an affinity with the oldest notion of nature as the “outward characteristic” of a thing. All things possess respective dominant ingredients, because they possess all ingredients, from the beginning of time. On this view, growth and change are a process of recombining new mixtures taken in by the thing. Change is, in effect, the “re-sorting of ingredients.”

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NOUS AND THE PURPOSIVE POWER OF INTELLECT

Although “everything is in everything,” Anaxagoras describes *Nous* as having a special status since it is “unlimited and self-ruling and has been mixed with no thing” (νοὸς δὲ ἐστὶν ἄπειρον καὶ αὐτοκρατές καὶ μέμεικται οὐδὲν χρήματι, B12). In light of these descriptions, Anaxagoras’ successors are full of both praise and criticism for his theory of *Nous*. Famously, Socrates describes his initial encounter with Anaxagoras’ ideas in the Plato’s *Phaedo* as being pleased with the notion of *Nous* as the “arranger and the reason for everything.” Believing this would lead to an account of how *Nous* had in fact “place[d] each thing in the best way,” Socrates nevertheless confesses disappointment because Anaxagoras fails to make adequate use of *Nous* as being responsible “for the ordering of things.” Likewise, in pointing to the failure of earlier theories, Aristotle explains the rise of thinkers like Anaxagoras on the principle that previous thinkers were unable to give “the reason why things manifest goodness and beauty both in their being and their coming to be” (*Metaphysics* 984b11-12). Anaxagoras was “like a sober man in contrast with the random talk of his predecessors” since he maintained that “*Nous* was present—as in animals, so throughout nature—as the cause of the world and all its order” (984b15-20). The criticism immediately follows, however, as Aristotle claims that Anaxagoras’ broad speculation makes him like an untrained fighter who sometimes gets in a lucky punch (98514-15). The Presocratic philosopher’s lack of explanatory discipline means that he “uses *Nous* as a *deus ex machina* in world making, and he drags it in whenever he is puzzled about the reason

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307 Aristotle locates the rudimentary foundations of such thought earlier, however, pairing Parmenides and Hesiod together as the earliest thinkers to suggest this kind of final cause. For Hesiod, love is created third, behind chaos and earth. Parmenides, on the other hand, maintains that “First of all the gods, she devised Eros” (πρῶτιστον μὲν Ἔρωτα θεῶν μητισατο πάντων, B13). Thus, beyond the ongoing steering of all things and the continued governance of all activities relative to the reproduction of all living organisms, the universe seems designed from its origins. *Eros* being “devised” (μητισατο) signals purposive effort in the construction of the universe, and the primacy indicates the intended effects of “love” as a final cause in the cosmos (984b24-32). Anaxagoras’ *Nous* may be a closer parent to Aristotelian idea of purposive nature since it is associated more with reason than emotion.
why something is as it is necessarily, but in other cases he makes the causes of what happens everything except Nous” (985a18). But what then are we to make of Nous?

According to Anaxagoras, Nous derives its power from its unique unmixed status since “the things mixed with it would hinder it from ruling any object” (B12), and both Plato and Aristotle report this assessment. Defined by what it does, Nous first initiates the whirl which begins the process of separation of all things from the primal mixture:

καὶ ἐπεὶ ἤρξατο ὁ νοῦς κινεῖν, ἀπὸ τοῦ κινοομένου παντὸς ἀπεκρίνετο, καὶ ὅσον ἐκίνησεν ὁ νοῦς, πᾶν τούτο διεκρίθη· κινοομένων δὲ καὶ διακρινομένων ἡ περιχώρησις πολλῷ μᾶλλον ἔποιει διακρίνεσθαι

When Nous began to move [things], there was separation off from the multitude that was being moved, and whatever Nous moved, all this was dissociated; and as things were being moved and dissociated, the revolution made them dissociate much more. (B13)

In addition to this, Nous is not only self-ruling (αὐτοκρατές), but it “has control over all things that have soul.” Yet Nous not only controls all things but also “knew them all: the things that are being mixed together, the things that are being separated off, and the things that are being dissociated.” The knowledge of Nous spans all time as it not only understands “whatever sorts of things were going to be, and whatever sorts were and now are not, and as many as are now and whatever sorts will be,” but also “sets all these in order.” The ability of the cosmic force to control or order all things is a Presocratic commonplace; framing this force as one that “knows” all things is, however, a new feature. Although other early Greek philosophers have conceived of ways that order is imposed by cosmic forces like Xenophanes’ one God, Heraclitus’ λόγος, or Empedocles’ Love and Strife, Anaxagoras’ Nous is characterized by the possession of knowledge in the task of setting all things in order. The addition of the cognitive component

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308 See Cratylus 413c and On the Soul 405a15.
implies that the cosmos is not merely guided by a natural purposive process, but knowingly mixed and ordered with the respective place and identity of all things in mind. Frustratingly for Plato and Aristotle, as well as modern readers, Anaxagoras is not remotely as explicit about how *Nous* does this. Certainly by comparison to what Socrates or Aristotle might have hoped for, the teleological nature of Anaxagoras’ *Nous* seems deficient. Yet in their critiques, both Socrates and Aristotle point to the possibility of a new facet of purposiveness in nature in Anaxagoras’ theory—that nature orders everything: “for the best.” Although such a way of thinking about the cosmos is standard following Plato and Aristotle, among the Presocratic philosophers, Anaxagoras’ *Nous* understood in such a new way of thinking about the end of all things and one that starkly contrasts with the Homeric understanding of the cosmos. Far from being hostile to man, and beyond merely being goal-oriented, as some earlier forms of purposive nature may be, a cosmos arranged and driven by *Nous* implies not just the usual “everything has its place,” but that this place is, in the sense of the whole, optimal. As such, the prescriptive and normative powers of φύσις begin to expand, beyond determining what something will be, to indicating what should be. Thus with the incorporation of *Nous* into his theory of nature, Anaxagoras opens the possibility of φύσις playing a more definitive role as a normative guide in the affairs of men.

PHILOLAUS OF CROTON

Often considered a minor figure in early Greek philosophy, Philolaus of Croton nevertheless represents history’s earliest Pythagorean since fragments attributed to him are the earliest surviving Pythagorean texts. Readers familiar with Plato and Aristotle will recognize Philolaus’ theory of ἁρμονία of the soul as a rival view that figures in the *Phaedo* and the *Timaeus* dialogues as well as in Aristotle’s *On the Soul.*

Although some commentators have  

309 See *Phaedo* 85e, *Timaeus* 35a-37a, and *On the Soul* 407b27-408a19.
argued that Plato invents this theory and Aristotle merely mimics his teacher’s account, it is more likely that Plato “is giving more definite formulation of previous trends of thought.” The most well-articulated account of ἁρμονία prior to Plato is from Philolaus. And yet, ἁρμονία for Philolaus extends far beyond psychological discussions to the very origin and arrangement of the cosmos. For Philolaus, ἁρμονία governs and shapes all things in the natural world. In this section, I examine Philolaus’ conception of φύσις as the fitting together of limiters and unlimiteds via ἁρμονία. Adapting a bifurcated view of nature between basic structural but non-material facets and an inexplicable cosmic force that orders those facets in the construction of all things, Philolaus in effect redefines nature as a specific kind of relation. This relation, conceived on the model of ratio as relation, as opposed to ratio as recipe in Empedocles, accounts not only for what something is, that is, a kind of internal relation governed by internal harmony, but also its place within the cosmos itself, governed by an overarching cosmic ἁρμονία, that is, an external relation governed by external harmony.

NATURE’S CONSTRUCTION: LIMITERS AND UNLIMITEDS

Although we have no specific account of how he arrived at his theory, Philolaus’ work likely originates from a critical assessment of basic assumptions in previous notions of nature, namely, by raising the question along the following lines: what if the defining feature of the central constructs, the “matter” of nature, are not material at all? Pursuing his answer in the wake of the challenges presented to φύσις in Parmenides and Empedocles, Philolaus announces a new understanding of φύσις when he begins his book by saying, “The nature in the world-order was constructed of unlimiteds and limiters, both the whole world order and everything in it” (α

The elements or “stuffs” are not the defining features of the nature of everything; instead, nature begins on an even more basic level, with the minimal attributes that allow for anything at all to be “composed.” Embedded in such a suggestion is an implicit criticism of previous accounts since Philolaus evidently holds that more than this cannot be said about the basic components of nature. Theories of nature that imply that “all things are water,” or condensed/rarefied air, or a mixture of the four roots presume far too much, on Philolaus’ view.

Of the fundamental constituents of nature, Philolaus argues they must be two rather than one when he says, “It is necessary for existing things to be all either limiters or unlimiteds, or both limiters and unlimited, but not in every case only unlimited” (ἀνάγκα τὰ ἐόντα εἶμεν πάντα ἢ περαίνοντα ἢ ἄπειρα ἢ περαίνοντά τε καὶ ἄπειρα: ἄπειρα δὲ μόνον οὐκ ἀεί, B2). This division extends throughout the cosmos as the general principle by which all things are what they are:

“Now since it is evident that they are not made up of all limiters or all unlimiteds, it is clear then that both the world order and the things in it are constructed from both limiters and unlimited” (ἐπεὶ τοίνυν φαίνεται οὔτ’ ἐκ περαινόντων πάντων ἐόντα οὔτ’ ἐξ ἀπείρων πάντων, δὴ λοι τάρα ὅτι ἐκ περαινόντων τε καὶ ἄπειρων ὁ τε κόσμος καὶ τὰ ἐν αὐτῶι συναρμόχθη, B2). Philolaus derives these basic principles by means of reason and experience: “The actions of things also make this clear. For the things composed of limiters limit; those from both limiters and unlimited both limit and do not limit; and those from unlimited will appear to be unlimited” (δηλοὶ δὲ καὶ τὰ ἐν τοῖς ἔργοις. τὰ μὲν γὰρ αὐτῶι ἐκ περαινόντων περαίνοντα, τὰ δ’ ἐκ περαινόντων τε καὶ ἄπειρων περαίνοντί τε καὶ οὖ περαίνοντι, τὰ δ’ ἐξ ἄπειρων ἄπειρα

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311 All translations of Philolaus’ fragments are from Graham, TEGP, unless otherwise noted.
While Schofield complains that Philolaus “fails to disclose even the identity of the limiters and unlimiteds he has in mind, and thereby emasculates his argument,” it seems plausible that for Philolaus, the structural facets of nature are differentiated only by active properties, rather than inert, and more readily describable, attributes like materiality.  

Walter Burkert maintains that a “close relationship” between the atomists and the Pythagoreans means that limiters and unlimiteds can be identified with “material atoms and the ‘empty’ interstices, which do yet ‘exist’.” Schofield suggests tentatively that limiters are odd numbers, while the unlimiteds are even numbers.  

Barnes, on the other hand, asserts that shapes may be the limiters and masses of “unformed stuff” are the unlimiteds.  

Though each bemoans the silence of the doxography on the subject, the lack of specific examples or further details may be because Philolaus believed that the vague descriptions of limiters and unlimiteds was, plausibly, the most one could confidently say about the components of nature. In essence, limiters allow for enumeration and specification within the continuum of a particular unlimited. The nature of any entity must contain the two fundamental elements, as Hussey explains “Whatever stuff an individual is thought of as being ‘made of’ is in itself not ‘bounded’: for it might be present in any quantity. But for there to be an individual, there must also be a ‘bound’.”

In a number of ways, nature for Philolaus is equally grounded on the model of artifice and growth. Rather than a principle of identity through blended mixture, Philolaus conceives of the identity facet of nature as a specifically constructed interplay between the “opposing”

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312 KRS, p. 326.  
314 KRS, p. 326. This is largely drawn from Aristotle’s observation in *Physics* 203a10. Schofield thinks Aristotle a credible source that accurately reflects Pythagorean views; Barnes does not.  
315 PP, p. 86.  
elements of limiters and unlimiteds found in each thing. This “fitting together” is not an organic mixture but rather understood on the model of particular, numerically-oriented arrangement. Thus, the ratios involved may therefore be even more easily quantifiable than the “recipes” of the roots that Empedocles offers (see B96). At the same time, however, Philolaus seems to conceive of becoming in terms of the more organic model of seeds: “For all things sprout and grow from seed” (πάντα γὰρ ἀπὸ σπέρματος καὶ θάλλοντι καὶ βλαστάνοντι, B13). Although we have no synthesis of these ideas in the fragments themselves, one plausible explanation is that Philolaus understands seeds of all things to contain a blueprint of the specific ratio of limiters to unlimiteds that effectively maps out how the entity will be come into being and grow in specified ways.

Philolaus keenly points out that the idea of knowledge itself presupposes a division between limiters and unlimiteds: “There will not be anything at all that will know, if all things are unlimited” (ἀρχὰν οὐδὲ τὸ γνωσούμενον ἐσσεῖται πάντων ἀπειρῶν ἐόντων, B3). Following Parmenides and others, Philolaus takes limit to be a principle of knowledge. He suggests an important corollary to this idea when he says, “And indeed all things that are known have number. For it is not <possible> that anything at all should be thought or known without this” (καὶ πάντα γα μὰν τὰ γιγνωσκόμενα ἁριθμὸν ἔχοντι· οὐ γὰρ ὅτι ὃν τε οὐδὲν οὔτε νοηθῆμεν οὔτε γνωσθῆμεν ἄνευ τοῦτω, B4). In addition to narrowing the scope of the definition of φύσις to limiters and unlimiteds, Philolaus assigns an epistemological role to number. As Carl Huffman summarizes, “the world is known through number, not made up of number.”

And yet knowledge itself has its limits, specifically the third element of nature: the “fitting-together” or ἁρμονία of things.

Believing he has identified the basic conditions for both existence and knowledge, Philolaus clarifies the connection between his notion of φύσις and ἁρμονία:

Concerning nature and harmony, this is how it is: the essence of things, being eternal, and nature itself admit of divine but not human knowledge; except that it is not possible that any of the things that exist and are known by us could have come to be unless the essences of things, from which the world order is composed, existed—namely, limiters and unlimited. (B6)

Specific knowledge of ἁρμονία as it relates to φύσις is limited to the divine but the difference in the natures of limiters and unlimiteds, what Philolaus calls the ἀρχαί, means that unified existence cannot be explained without ἁρμονία:

And since the sources were not alike nor of the same kind, it was impossible for them to be organized unless a harmony came upon them, in whatever way it did. Now things that were alike and had of the same kind had no need of harmony, but things that were unlike and of a different kind and rank, these had to be combined by harmony, if they were to be held fast in an arrangement. (B6)

Similar to Heraclitus’ notion, Philolaus’ concept of ἁρμονία binds together two contraries, in effect producing or constructing the entity in question. But Philolaus’ notion of ἁρμονία goes beyond Heraclitus’ because it supposes the entire cosmos to be so constructed, not just identifiable individual entities. Though the paucity of evidence provides little in the way of
examples from Philolaus, he offers this principle as the foundation of his cosmology, saying, “The first thing constructed, the one in the middle of the sphere, is called the hearth” (τὸ πρῶτον ἁρμοσθέν, τὸ ἐν ἐν τῶι μέσῳ τᾶς σφαίρας, ἑστία καλεῖται, B7). He describes the coming-to-be of the unified cosmos as a process that radiates outward from this central construct: “The world order is one. It began to come to be at the middle, and from the middle upwards in the same way as downwards, <and> the things above the middle are arranged opposite to those below” (ὁ κόσμος εἶς ἔστιν, ἤρξατο δὲ γίγνεσθαι ἄχρι τοῦ μέσου καὶ ἀπὸ τοῦ μέσου εἰς τὸ ἄνω διὰ τῶν αὐτῶν τοῖς κάτω <καὶ> ἐστι τὰ ἄνω τοῦ μέσου ὑπεναντίως κείμενα τοῖς κάτω, B17). Another substantial difference with Heraclitus’ conception of a hidden ἁρμονία, is that Philolaus’ limiters and unlimiteds are not bound together in a tension that produces an attunement, but something closer to the model of a harmonic scale. The universe is a harmony in its very multiplicity and the unity produced is one of every part being in harmony with every other part.

While Philolaus is necessarily vague regarding how the “harmony came upon them” since this is beyond the scope of human knowledge, happening as he says “in whatever way it did,” it is the idea of number that gives humans access to the ἁρμονία in the cosmos. In painstaking detail, Philolaus describes a comprehensive harmony by which the various parts are all mathematically related to all other parts:

ἁρμονίας δὲ μέγεθος ἐστὶ συλλαβὰ καὶ δι ' ὥξειάν. τὸ δὲ δι ' ὥξειάν μείζον τὰς συλλαβὰς ἐπογδόωι. ἔστι γὰρ ἄπο υπάτας εἰς μέσσαν συλλαβὰ, ἀπὸ δὲ μέσσας πότι νεάταν δι ' ὥξειάν, ἀπὸ δὲ νεάτας ὑπάτας τρίται συλλαβὰ, ἀπὸ δὲ τρίταις ἐς υπάτας δὶ ὥξειάν. τὸ δὲ ἐν μέσσω καὶ τρίταις ἐπόγδοοι, δὲ ὑπάτας ἐπίπτοι, τὸ δὲ δὶ ' ὥξειάς ἡμύλιον, τὸ δὲ πασὰν ἐς διπλόον. οὕτως ἁρμονία πέντε ἐπόγδοα καὶ δύο διέσεις, δὶ ' ὥξειάν δὲ τρία ἐπόγδοα καὶ διέσεις, συλλαβὰ δὲ δὶ ἐπόγδοα καὶ διέσεις.

The magnitude of the harmony is the fourth and fifth. The fifth is greater than the fourth by a ratio of 9:8. From the lowest tone to the middle is a fourth; from the middle to the highest is a fifth. From the highest to the third string is a fourth, and from the third
string to the lowest is a fifth. The interval between the middle string and the third string is in the ratio 9:8, the fourth is in the ratio 4:3, the fifth 3:2, and the octave 2:1. Thus the harmony is five tones and two semitones. The fifth is three tones and one semitone. The fourth is two tones and one semitone (B6a).

For Philolaus, ever the Pythagorean, the specificity and universality, that is, the consistency of application of the harmony throughout the cosmos, provides all the experience one needs in order to recognize that all nature is arranged as a harmonic ratio. One can both perceive the harmony as well as quantify and reconstruct it through number. Without a doubt, Philolaus believes he has given a far clearer account than the pluralists who precede him. After all, we can imagine him asking Empedocles: how do we know this is the recipe for bone? In a similar fashion, he might ask Anaxagoras regarding the mixture of infinitely small ingredients, if they are infinitely small, how can we know they exist as such? By contrast, Philolaus presents a harmony that is remarkably consistent and identifiable. Number plays the crucial role in making such limited knowledge possible, allowing for the recognition of the universal ᾧρμοβία, though also opening up the theory to an inaccurate oversimplification that “all things are number.”

But how is Philolaus’ notion of harmony purposive? Freely admitting that humans can give no account of why such harmony exists, or precisely how it works, Philolaus maintains that the attunement running throughout the cosmos is in some sense divine. The basic notion of ᾧρμοβία, however, is not just any principle of arrangement, but arrangement as an excellence, that is, one that is perfectly attuned. According to Aristotle, the mysterious ubiquitousness of harmony in humans leads many to draw the conclusion that the soul is a kind of harmonia:

“There seems to be in us a sort of affinity to musical models and rhythms, which makes many of the wise say that the soul is a harmony, others, that it possesses harmony” (Politics 1340b17-19).

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318 Metaphysics 986a1-13. See also Huffman, Philolaus of Croton, p. 39, and pp. 57-74.
The idea of attunement as a means of explaining multiplicity and unity is an attractive one and perhaps one of the reasons music education figures so prominently in the political schemes of both Plato and Aristotle. The idea of an excellence in the ancient world is closely connected with the concept of relation, as Aristotle clearly illustrates:

> We say that all excellences depend upon particular relations. Thus, bodily excellences such as health and fitness we regard as consisting in a blending of hot and cold elements in due proportion, in relation either to one another within the body or to the surrounding; and in like manner we regard beauty, strength and all the other excellences and defects. Each of them exists in virtue of a particular relation and puts that which possesses it in a good or bad condition with regard to its proper affections, where by “proper” affections I mean those by which the thing is naturally produced or destroyed. (Physics 246b3-10)

This principle of harmony as an attunement of excellence extends throughout the entire cosmos for Philolaus. That is, for Philolaus, the natural world is not a never-ending aesthetic cycle of existence but rather the harmony of existence is the perpetually excellent arrangement of all parts of the cosmos in relation to one another. Individual things must be what they are in order to “fit-together” in the harmony of the cosmos, and though they may move and change, the harmony as a necessary relation moves and changes along with them. It is in this way that cosmos itself always aims at the most excellent arrangement of all things.

**CONCLUSION: STRUCTURE AND FORCE IN NATURE**

Commentators have often made much of the dual facets of the pluralists’ accounts, albeit separately. What has been less consistently appreciated is the degree to which this bifurcation follows in the wake of Parmenides’ modifications to the concept of nature as well as the specific ways it plays out in different concepts of nature among the pluralists. Although each thinker recognizes the need to give an account based on a concept of nature that can simultaneously explain both what something is, that is, its structural components, and how it became that way,
that is, its force components, they modify the conceptual features of the idea of nature differently in order to do so. Drawing from different aspects of the human experience, each thinker in effect discovers a different way of thinking about nature.

Nature for Empedocles is a precise ratio of the roots drawn together into a single entity by Love and slowly unfolding or separating in a process governed by Strife. Though mixture factors into Anaxagoras’ theory of nature, the identity of anything is not conceived of as a ratio, but rather as the predominant ingredient in the mixture of “everything in everything.” In this way Anaxagoras combines perhaps the oldest understanding of φύσις, as the “dominant or outward appearance of a thing” with new theories of mixture that avoid the problems of generation and corruption. In a similar fashion, Philolaus conceives of φύσις as a specific relation of limiters and unlimiteds as the fundamental constituents of anything and everything. The nature of all things in the cosmos, and by extension the cosmos as a whole, is thus “fitted-together” into a precise harmonious relation. Not only is the concept of nature sufficiently diverse among the pluralists, but we might also argue that each develops the concept of Nature as a larger collective force.

Understood in such a way, the pluralists’ theories of nature illustrate two broader conclusions about the concept of nature in Early Greek philosophy. First, the diversity in the fundamental facets of the idea of nature among the pluralist theories serves as perhaps the clearest evidence yet that there are numerous variations of the concept of nature in early Greek philosophy. As an explanatory concept, nature as ratio is significantly different from nature as predominant ingredient, and this too is a completely different way of conceiving of the natural world from a harmonious relation that fits together limiters and unlimiteds, as Philolaus contends. Perhaps more importantly for the present study, however, is that the pluralists’
theories illustrate a much greater explicit purposiveness than the preceding Presocratic theories of nature. In short, more dynamic concepts of nature are required in order to provide more comprehensive explanations in the wake of Parmenides’ arguments. The connection with epistemological questions also comes into sharper focus, particularly with Philolaus’ criticisms that harness elements of Xenophanes, Heraclitus, and Parmenides to consign the knowledge of some things to the divine. Taken together, these two conclusions illustrate a significant shift in a kind of common concept of nature to a normative force that not only describes the cosmos in a fundamentally teleological way, but is capable of rivaling convention (νόμος) as a prescriptive guide for human life.

Turning now to Philolaus’ contemporary, Democritus, we find a very different pluralist theory in ancient Greek atomism. Peripatetic accounts beginning with Aristotle typically present the atomist as a vocal opponent of the idea of purposiveness in nature, but in the few fragments concerning his physical and epistemological theory, Democritus displays caginess in avoiding the use of φύσις rivaled only by Parmenides. Coupled with the frequent and perplexing use of φύσις in his ethical fragments as a normative concept with peculiarly purposive features, it seems that Democritus’ idea of the nature of things is not quite as straight-forward as readers of Aristotle have been led to believe.
Chapter 6: Democritus and the Tale of Two Natures

We have our philosophical persons to make modern and familiar, Things supernatural and causeless.

–Shakespeare, *All’s Well that Ends Well* (ii.3.2-3)

For many of the Presocratic philosophers it is difficult to untangle the threads of poetry, mysticism, and science. Nevertheless, Democritus is credited with developing a strictly mechanical explanatory framework that could be said to render the natural world “modern and familiar” in place of the “supernatural and causeless.”319 He intends, as one commentator puts it, to “be rid once and for all of the mysterious, semi-religious external forces, which previous philosophers, and even more markedly his own contemporaries had postulated as the efficient causes of their systems.”320 Not surprisingly, philosophers in the early modern period reach back to Democritus as an exemplar in their own attempts to eradicate Aristotelian forms of natural explanation that seem too closely intertwined with supernatural causes.321 The traditional narrative thus presents the early atomists, Leucippus and Democritus, as the bulwark against the conceptual connection between nature and purpose that permeates the early Greek intellectual landscape in the various capacities thus far discussed. Conceiving of the nature of things as entirely reducible to atoms implies a deterministic causal framework, as Leucippus suggests when he says, “Nothing happens in vain, but all things happen for a reason and from necessity”

319 Leucippus is often considered the founder of ancient atomism but most credit Democritus for developing the theory in any kind of substantial capacity. For accounts of Democritus as mechanistic thinker, see Guthrie, *HGP*, vol. 2, pp. 414-419, Barnes, *PP*, vol. 2, pp. 40-75, *KRS*, pp. 402-433.
321 While Francis Bacon praises all the Presocratic philosophers as he denigrates Aristotle, he holds Democritus in particularly high esteem, arguing that Democritus’ school “penetrated more deeply into nature than the others,” *The New Organon* I.LI. While Descartes’ philosophy undeniably shares common points with atomism, the Frenchman was dismayed at frequent comparisons made between the two, saying in a letter to his friend Mersenne, “I wonder at those who say I have written only a patchwork of Democritus, and I would like them to tell me from what book I could have taken those patches, and if anyone has ever seen any writings where Democritus has explained salt, hexagonal snow, the rainbow, etc., as I have,” as translated by Daniel Garber, *Descartes’ Metaphysical Physics* (Chicago: Chicago University Press, 1992), p. 119. The original may be found in *Oeuvres de Descartes*, vol. III, Charles Adam and Paul Tannery eds., (Paris: J. Vrin., 1899), at 166.
By using the phrase “happens for a reason,” Leucippus does not mean that “there is a governing mind” but only that “everything has an explanation.” Aristotle informs us that the rejection of purposiveness in nature extends to Leucippus’ student as well when he says “Democritus, ignoring the final cause, refers all the operations of nature to necessity” (Generation of Animals 789b2). Lack of historical evidence, however, makes it difficult to determine the precise nature of Democritus’ account since his extant fragments do not present the term necessity (ἀνάγκη) in connection with his physical theory, nor is it clear whose views he may have been responding to or rejecting by making such assertions. Some have interpreted his strictly mechanical description of the workings of the cosmos to be a reaction to Socrates’ purposive understanding of the cosmos, while others have argued that it is more likely that Socrates’ “theological notion” is in fact a reaction against atomic mechanism. In either case, scholars have not questioned Democritus’ commitment to the idea of φύσις as atoms and the corresponding mechanistic explanation of natural phenomena.

Strangely enough, however, φύσις is entirely absent from those extant fragments dealing with Democritus’ physical and epistemological theory. While this lacuna may be due to a lack of surviving B-fragments, nevertheless it is a curious and inescapable fact that the account that explicitly links φύσις with the basic tenets of early Greek atomism is found only in the

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322 Translations of Leucippus and Democritus’ fragments are from C.C.W. Taylor, The Atomists: Leucippus and Democritus: Fragments A text and translation with a commentary, (Toronto: University of Toronto Press, 1999), unless otherwise noted.  
323 PBS, p. 320.  
324 Guthrie points out that Democritus’ use of both ἀνάγκη and τύχη is limited to the ethical fragments, HGP, vol. 2., p. 415, n. 3 and n. 5. No discussion of “necessity” or “chance” with respect to the physical theory survives in the extant fragments. Interestingly, however, both terms show up repeatedly in the ethical fragments.  
325 David Sedley argues that, rather than conceiving Democritus’ ideas as a rejection of Socrates’ theological notion, it is more likely that the reverse is true; see Creationism and Its Critics in Antiquity, pp. 134-135. Of course, one can look much further back than Socrates to see the entanglement of divinity and the idea of nature; see my discussions of the Milesians and Xenophanes in Chapters 1 and 2.
Aristotelian tradition. Regardless of whether Democritus aims to undermine the animism of earlier Greek theories of nature, or is simply tracing the logical implications of the atomic theory for questions of causality, the inevitable conclusion from the Peripatetic reading of Democritus’ views is that purposiveness in nature is at best a mistake and at worst a fiction by which human beings consciously and unnecessarily deceive themselves. And yet Democritus’ ethical fragments tell a very different tale; there φύσις is ubiquitous and presented as both knowable and thoroughly purposive.

The broader subject of the relationship between Democritus’ physical and ethical theories has been the subject of a fair amount of debate, particularly in the mid-20th century. The views argued for in the early and mid-20th century literature run the gamut from those who think there is little or no connection to those that suggest a very tight integration of the ethical with the physical. This chapter focuses on examining the two very different concepts of nature that emerge in the fragments of Democritus. The first section of the chapter explores the idea of nature in the testimonia and fragments from Democritus which deal with his epistemological and physical theories, albeit in a limited way. Despite a broad association between φύσις and atoms in the subsequent tradition, no such link exists in the few extant fragments from Democritus. Instead, Democritus uses ἐτεη, a term of his own invention, to describe atoms and void as a fundamental yet opaque reality. I argue that he deliberately avoids the use of the term φύσις in order to advance his atomistic theory of nature that fits with Parmenidean metaphysical criteria.

326 For the former, see Bailey, The Greek Atomists and Epicurus: A Study; for the latter see Gregory Vlastos, “Ethics and Physics in Democritus (part I),” Philosophical Review 54 (1945): 578-592 and “Ethics and Physics in Democritus (part II),” Philosophical Review 55 (1946): 53-64, and C.C.W. Taylor, “Pleasure, Knowledge, and Sensation in Democritus,” Phronesis 12: (1967): 6-27. Although Vlastos and Taylor both argue for substantial connections between the ethical and physical theories, Taylor advocates only a “structural parallel,” while Vlastos seeks to develop a much tighter connection. Taylor later modifies some of his critique of Vlastos’ reading while nevertheless refusing to accept the view “that there are law-like connections between physical and ethical descriptions,” see The Atomists: Leucippus and Democritus, p. 233.
while simultaneously creating the necessary space to repurpose φύσις as an ethical concept tied to how humans ought to live. Turning then to the ethical fragments, I explore the ways Democritus’ concept of φύσις fits into his conception of the best life in prescribing the way humans ought to live. On this reading, then, the link between φύσις and atoms is a Peripatetic anachronism that fails to distinguish appropriate nuance as Democritus retains φύσις only for more dynamic conceptions of nature that clearly contain distinctly normative features. Instead of bifurcating nature into material constituents and motive force, as the other pluralists do, Democritus separates the atomic particle “reality” of the physical world from the purposive φύσις of human life.

**PHYSIS IN EARLY GREEK ATOMIC THEORY: THE ESTABLISHED STORY**

Aristotle and Theophrastus both attribute the founding of atomism to Leucippus, of whom precious little information remains. Cicero reports that “Leucippus postulated atoms and void, and in this respect Democritus resembled him, though in other respects he was more productive,” but the evidence for real differences in the theories is thin. Historically, some commentators have disputed the existence of Leucippus thanks to Epicurus, but more recently scholars have generally avoided the question. Of Leucippus’ two reported works, *Great World System* and *On Mind*, only a single fragment has survived, but the standard account of the relationship between Leucippus, Democritus and the founding of atomic theory is that Leucippus

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327 *Academica priora*, II, 37, 118, as cited in KRS, p. 403. For a recent attempt to argue that there are substantial differences between the theories of the two atomists, see Daniel W. Graham, “Leucippus’s Atomism,” in *The Oxford Handbook on Presocratic Philosophy*, ed. Patricia Curd and Daniel W. Graham (Oxford: Oxford University Press, 2008), pp. 333-352.

sketched the broad strokes in *Great World System* and Democritus elaborated on it by providing a more detailed account of the theory in *Little World System*.\(^{329}\) Dating to Aristotle, the standard view understands the development of atomism as a response to Parmenidean monism, though it has sometimes been argued that atomic theory was asserted as a mediation or compromise between the monism of Parmenides and the pluralism of Empedocles and Anaxagoras.\(^{330}\) This reading understands the atomists to hold that nature on the broadest level is composed of “an infinite number of small particles” thereby plausibly illustrating that “pluralism is absolute” while simultaneously satisfying the criteria established by Parmenides’ what-is. Unlike the other pluralists, for the early Greek atomists “all the infinite particles are exactly similar in substance” and “each one of the particles is in itself a One.”\(^{331}\) Aristotle illustrates the plurality and unity in the atomic theory, connecting these specifically to the idea of φύσις when he says of atoms that “they are differentiated by their shapes, but their nature is one, just as if each were a separate bit of gold” (*On the Heavens*, 275b31).

In the only surviving fragment from Aristotle’s lost work *On Democritus*, which was preserved in Simplicius’ commentary on *On the Heavens*, we have a substantial account of the connection between the movement and combination of atoms and the φύσις of a particular thing. There Aristotle asserts that “Democritus considers the nature of everlasting things to be tiny substances infinite in number” (Δημόκριτος ἡγεῖται τὴν τῶν ἀιδίων φύσιν εἶναι μικρὰς οὐσιας πλῆθος ἀπείρους, A37).\(^{332}\) Such knowledge must be derived from speculation since Democritus

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\(^{330}\) KR, p. 401.

\(^{331}\) Bailey, *The Greek Atomists and Epicurus: A Study*, p. 71. Some commentators interpret Leucippus’ atomism as a response to Melissus, later developed more substantially by Democritus. Others suggest that Parmenides is the original target of Leucippus’ critique and inspiration for the subsequent development of atomic theory. For brief but competing accounts of the precise origins of atomism, see Burnet, *EGP*, p. 335, KR p. 406, and Guthrie, *HGP*, vol. 2, p. 392.

\(^{332}\) Translation of A37 from Graham, *TEGP*, p. 527.
“believes the substances are so small as to escape our senses” (νομίζει δὲ εἶναι οὕτω μικρὰς τὰς οὐσίας, ὥστε ἐκφυγεῖν τὰς ἡμετέρας αἰσθήσεις, A37). The fact that these tiny substances “have all kinds of forms, all kinds of figures, and differences of size” (ὑπάρχειν δὲ αὐταῖς πάντοτας μορφὰς καὶ σκήματα πάντοτα καὶ κατὰ μέγεθος διαφορὰς, A37), suggests that “from these elements he creates visible and perceptible masses by compounding” (ἐκ τούτων οὖν ἦδη καθάπερ ἐκ στοιχείων γεννᾶι καὶ συγκρίνει τοὺς ὀφθαλμοφανεῖς καὶ τοὺς αἰσθητοὺς ὄγκους, A37). But the movement of the atoms is such that “they conflict with each other and travel in the void because of their dissimilarities” (στασιάζειν δὲ καὶ φέρεσθαι ἐν τῶι κενῶι δαί τε τὴν ἀνομοιότητα, A37) and yet “as they travel they strike each other and become entangled in such a way as to produce mutual contact and proximity” (φερομένας δὲ ἐμπίπτειν καὶ περιπλέκεσθαι περιπλοκὴν τοιαύτην, ἣ συμψαύειν μὲν αὐτὰ καὶ πλησίον ἀλλήλων εἶναι ποιεῖ, A37). Relevant to the atomists’ idea of nature, Aristotle concludes: “but this does not in any way create a genuinely single nature from them. For it is completely absurd to think two or more things could ever come to be one” (φύσιν μέντοι μίαν ἐξ ἐκείνων κατ᾿ ἀλήθειαν οὐδ᾿ ἡντιναοῦν γενέσθαι· κομιδῆι γὰρ εὔηθες εἶναι τὸ δύο ἢ τὰ πλείονα γενέσθαι ἄν ποτε ἐν, A37). There are parallels and differences with the other pluralists here. Only atoms technically have a “nature” in this sense—the nature of anything is explicitly not a combination of the atoms that make it up. But in the other pluralists the compounds do have some notion of a nature, that is, of an identity, even if these are composed of still more primary ingredients like Empedocles’ roots, or Anaxagoras’ ingredients, or Philolaus’ limiters and unlimiteds. In those theories, the mixtures have an identity determined by ratio or priority of ingredient; yet, according to the Aristotelian interpretation of atomic theory, the identity of any entity is merely a conglomeration of atoms without discernible pattern or scheme of association. Thus it is hard to see in the atomist theory
how this idea of nature functions to explain difference in the world in an identifiable way. That is, what something is cannot be meaningfully connected to its φύσις.

The nominal connection between atoms and φύσις is repeated in Simplicius’ commentary on Aristotle’s Physics, as he develops an account of the movement of the atoms and the relation to the processes associated with nature:

They called these [atoms] nature (φύσις) and maintained that they moved in place by using their own weight in the void which yields and does not resist; they said they scatter about. And they ascribe this to the elements not just as their primary, but as their only motion for they ascribe the other motions to compounds of elements. Thus they claim things increase, decrease, alter, come to be, and perish by the aggregation and segregation of the primary bodies.333

On this account, which clearly follows Aristotle’s interpretation, atoms and nature are synonymous. Beyond what something is, however, the concept of nature must explain why the entity behaves or moves in a particular way. The atomist explains all the processes and motions of nature, previously either attributed to various inherent properties of the natural world or simply denied outright, to the “aggregation and segregation of the primary bodies.” Yet motion is completely random, there is no regularity of why atoms move the way they do or why they combine with those they do and not others. On this view, φύσις is merely a static descriptor, lacking any notion of an active principle that governs behavior, process, and growth, and instead

333 Graham, TEGP, p. 537.
merely assigning limited motion directly to the atoms. As a result, φύσις is effectively stripped of its explanatory power. Some commentators suggest such a position may have been Democritus’ intent, as Guthrie notes when he says, “the materialism of Leucippus and Democritus has restored the idea of motion as nature to matter and hence belonging to it from all time, but from this conception they have removed the last traces of animism.”334 And yet the preceding interpretation of the tenets of atomism as connected with the account of φύσις is drawn entirely from the Peripatetic tradition, leading to the question: is this account corroborated or countered by Democritus’ own words concerning metaphysical and physical topics?

**NATURE (PHYSIS) AND REALITY (ETEÊ) IN DEMOCRITUS’ FRAGMENTS**

Despite the preponderance of evidence provided by the doxographical tradition, there are certain difficulties with accepting too readily this account of Democritus’ view of nature. Curd expresses these worries succinctly when she characterizes the evidence of Peripatetic sources as “sketchy.”335 Aristotle is more forceful of his criticisms of the atomists than the other Presocratic philosophers because he judges that they omit crucial facets or fail to explain things in a way that would satisfy his requirements for a scientific explanation.336 Turning to the extant B-fragments that are not associated with ethics, only one instance of Democritus’ use of φύσις survives, and yet it is completely disconnected from any notion of atoms and void. Instead, Democritus uses φύσις to indicate mortal participation in divine nature, saying, “Homer, by getting a share in the divine nature, accomplished the ordering of all kinds of verses” (῾Ομηρος φύσεως λαχών θεαζούσης ἐπέων κόσμον ἐτεκτήνατο παντοίων, B21). Although the precise understanding of φύσις in this fragment remains open to interpretation, it cannot mean the atomic

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336 See *On the Heavens* 300b8 and *Metaphysics* 1071b31; also, Guthrie, *HGP*, vol. 2. Even Francis Bacon, who generally offers high praise of Democritus, says of the Abderan that “in explaining his first motions [he] is to be ranked even below mediocre philosophers,” *The New Organon*, II. XLVIII.
construction of divine beings. According to the Aristotelian interpretation, such a conglomerate of atoms would not even be considered a “nature,” and even if this were possible, it is difficult to see how some atoms could be considered “divine” and not others. The praise Democritus offers of Homer is instead connected to the kind of activity that defines divine beings, that is, an activity of arranging or ordering disparate parts into a unified whole that fits a specific pattern. The comparison between the order of the universe and the ordering of verses of poetry reinforces the creative quality associated with such a nature. Moreover, the emphasis is also on the aesthetic quality inherent in such ordering. By “getting a share” of this nature insofar as he does the same with various verses, Homer arranges words and phrases in a way that constructs a harmonious and beautiful whole out of disparate parts. So conceived, nature as φύσις is something that applies to divine beings and indicates a choice-worthy behavior in which mortals can participate. This fragment raises obvious difficulties for the Aristotelian interpretation of Democritus’ conception of φύσις. Either Democritus used the idea of φύσις haphazardly with little regard for consistency or he has a more sophisticated account of nature than was appreciated by the Peripatetics.

Instead of differentiating it from φύσις, Democritus contrasts convention (νόμος) with ἐτεή (reality) when he says: “By convention sweet and by convention bitter, by convention hot, by convention cold, by convention colour; but in reality atoms and void” (νόμῳ γλυκὺ καὶ νόμῳ πικρόν, νόμῳ θερμόν, νόμῳ ψυχρόν, νόμῳ χρωίη· ἐτεή δὲ ἄτομα καὶ κενόν, B125). The standard explanation that ἐτεή and φύσις are interchangeable is not satisfactory, despite Galen’s attempt to clarify by saying: “By the expression ‘by convention’ he means ‘conventionally’ and ‘relative to us’ not according to the nature of things themselves, which he calls by contrast ‘reality,’ forming
the term from ‘real’ which means ‘true’” (A49).337 Galen indicates that Democritus invented this word ἑτεή, raising the possibility that the atomist deliberately avoids using the term φύσις in conjunction with atoms and void. But if Democritus’ intends to undermine purposive accounts of φύσις or even faith in the “truth” of convention, why avoid the term here? Given the emerging φύσις-νόμος debate of the 5th century, Democritus could easily have reduced φύσις to nothing but atoms and void while simultaneously undermining the status of convention. Numerous additional fragments strengthen the suggestion that Democritus’ choice of ἑτεή is not accidental but rather is governed by a desire to deliberately reinforce the connection, or lack thereof, between nature and knowledge. Linking his new term to the philosophical tradition, he says: “That in reality we do not know what kind of thing each thing is or is not has been shown many times” (ἐτεῇ μέν νυν ὅτι οἶδον ἕκαστον ἔστιν ἢ οὐκ ἔστιν οὐ συνίεμεν, πολλαχῇ δεδήλωται, B10). Democritus’ avoidance of φύσις to identify individual nature, or “what kind of thing each thing is,” sounds remarkably Eleatic. He strengthens his claim by suggesting that this knowledge “in reality is impossible” (B8), thus beyond the basic description of the fundamental characteristics of atoms and void, further knowledge is impossible. Further describing epistemological limits in a way that channels Parmenidean thought, he displays a flair for the poetic when he says, “In reality we know nothing; for truth is in the depths” (ἐτεῇ δὲ οὐδὲν ἴδμεν· ἐν βυθῷ γὰρ ἡ ἀλήθεια, B117). But this contrasts with the picture of φύσις Democritus has presented in the fragment concerning Homer. There φύσις is recognizable and knowable, both in the display of human activity and its connection to divine activity. This contrast of obscure ἑτεή and knowable φύσις becomes even more apparent in Democritus’ ethical fragments as his account of the goal-driven good life hinges on φύσις being knowable by all.

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If he is seeking to distinguish between the two, Democritus’ use of ἐτεῆ helpfully avoids the notion of growth contained in φύσις. So nature as reality (ἐτεῆ) instead of φύσις preserves the idea of an obscured physical structure of things that identifies what-is rather than providing a blueprint for change or activity. This critical distinction leads him to conclude that “By this principle man must know that he is removed from reality” (γιγνώσκειν τε χρὴ ἄνθρωπον τῷδε τῷ κανόνι ὅτι ἐτεῆς ἀπήλλακται, B6). But this is a strange sentiment unless “reality” explicitly means atomic structure. For in what other way would humans be separated from the real? The nature of the fragment means that the exact principle to which Democritus refers remains vague, but a plausible explanation that connects the different strands of his epistemological fragments is that humans both live and know things primarily in a realm of change and becoming, according to their senses. So it is not only that the atomic structure or reality of things evades our knowledge because of its imperceptible nature, but the fact that humans are fixed in a realm of becoming also obscures our ability to perceive the static reality of atoms. Thus, the realm of the senses, of becoming, naturally lends itself, in a Parmenidean way, to a clear divide between opinion and knowledge: “This argument too shows that in reality we know nothing about anything, but each person’s opinion is something which flows in” (δηλοῖ μὲν δὴ καὶ οὕτως ὁ λόγος ὅτι ἐτεῆ οὐδὲν ἰσμεν περὶ οὐδενός, ἀλλ’ ἐπιρυσμίη ἐκάστοισιν ἡ δόξις, B7). Strangely, Democritus elsewhere seems to hold out the possibility of a more authentic criterion for knowledge:

γνώμης δὲ δύο εἰσίν ἰδέαι. ἡ μὲν γνησίη ἡ δὲ σκοτίη· καὶ σκοτίης μὲν τάδε σύμπαντα, ὄψις ἀκοή ὀδήγης γεύσιςς ναιδίς, ἡ δὲ γνησίη, ἀποκεκριμένη δὲ ἀπότητας. ὅταν ἡ σκοτίη μηκέτι δύναται μήτε ὁρῆν ἐπὶ ἑκάστην μήτε ἀκούειν μήτε ὀδᾶσθαι μήτε γεύσθαι μήτε ἐν τῇ ναιδίς αἰσθάνεσθαι, ἀλλ’ ἐπὶ λεπτότερον

There are two forms of knowledge, genuine and bastard. To the bastard form belong all these, sight, hearing, smell, taste, touch, but the genuine is separate from this... When the bastard form can
no longer see anything smaller or hear or smell or taste or perceive by touch, but to a finer degree… (B11)

The fragment cuts off prematurely, but Democritus seems to differentiate here between sense perception and a more refined, “genuine” form of knowledge that goes beyond what is perceived or perceivable, perhaps something akin to speculation. The reality of atoms is imperceptible, yet a higher reason allows for a speculation about the existence of the fundamental features of reality. Given his repeated insistence that we “know nothing of reality” it is difficult to know how to piece these fragments together in a coherent theory of knowledge. The genuine knowledge may go beyond “each person’s opinion” in that it is “finer” and perhaps better substantiated, but the inescapable conclusion remains for Democritus that ἐτεή, as the fundamental “nature” or atomic structure of any individual thing, remains opaque to humans.

In sum then, rather than linking atoms with φύσις, Democritus deliberately describes his fundamental particles as “reality” (ἐτεή), in a way that channels the Parmenidean arguments in the Alētheia. Democritus’ atoms satisfy the metaphysical criteria Parmenides establishes for the real (ὄν), and maintains the Eleatic separation of this concept from the idea of nature as φύσις. Instead of linking φύσις with the ever-changing world of bodies or the physical structure of reality, however, Democritus’ single use of φύσις in fragments outside the ethical collections is connected much more closely with purposive human activity. And it is this notion of φύσις that appears repeatedly in his ethical fragments.

**PHYSIS IN THE ETHICAL FRAGMENTS**

The absence of φύσις in the fragments concerning his physical and epistemological theory makes its frequent presence and varied use in the ethical fragments more intriguing. If Democritus deliberately avoids using φύσις in conjunction with his theory of atoms, as I have argued, then the theoretical concept associated with φύσις has features that can only be
determined by closely reading his actual usage of the term in the appropriate context. The following section draws out the concept of φύσις that emerges in Democritus’ ethical fragments. While some commentators have expressed doubts regarding the authenticity of the ethical fragments, they are now generally accepted by most scholars.\textsuperscript{338} As a multi-faceted concept absolutely vital to living the good life, φύσις cannot be reduced to atomic composition. Further, while the reality (ἐτεή) of atoms is such that they are unknowable and utterly non-purposive in their random movements, the idea of φύσις that emerges in his ethical fragments is both knowable and purposive in its prescriptiveness. Although some scholars, most notably Bailey, suggest otherwise, Democritus is certainly philosophically adept enough to understand the implications of his apparently competing claims.\textsuperscript{339} The conclusion I argue for is thus that Democritus effects a similarly intentional distinction with Parmenides’ division between the use of what-is for the fixed, metaphysical reality and φύσις for the changing, dynamic world, with the twist that for Democritus it is not physical or celestial bodies that are governed by φύσις but human action.

In contrast to his contemporary Thucydides, who portrays social order as the defining norm in human life, Democritus “maintained that the way for the individual to secure his own good was to attend to his nature qua man.”\textsuperscript{340} The Abderan was thus the first thinker who “explicitly posited a supreme good or goal,” suggesting that each person strive to achieve

\textsuperscript{338} For a brief historical analysis of the authenticity of the ethical fragments, see Taylor, \textit{The Atomists: Leucippus and Democritus}, pp. 223-227. For a defense of the authenticity of the fragments, see R. Phillipson, “Demokritos Sittensprüche,” \textit{Hermes} 59 (1924): 369-419.

\textsuperscript{339} Bailey contends that Democritus fails to appreciate the “fundamental question of determinism” as he “proceeds to lay down his directions for the moral life with a simple naïveté, unconscious of the problem which he himself had raised by his insistence on the supremacy of ‘necessity’ in the physical world,” \textit{The Greek Atomists and Epicurus}, p. 188.

“cheerfulness” (εὐθυμίη). As a result, a historical caricature of the atomist as the “Laughing Philosopher” emerges and remains a popular image in art and literature through the Renaissance period, often portrayed in conjunction with Heraclitus, the “Weeping Philosopher.” The tradition of pairing Heraclitus and Democritus together among the Presocratics as the definitive philosophers of contrary dispositions dates back at least as far as Sotion in the 1st century who reports that “among the wise, instead of anger, Heraclitus was overtaken by tears, Democritus by laughter.” A century later, Lucian satirizes the pair in the *Sale of Creeds*, linking Democritus’ atomism with the cheery dismissal of human cares:

Democritus: “There is no taking [the affairs of men] seriously. All is vanity. Mere interchange of atoms and void.”

Heraclitus: “I weep to think that nothing abides. All things are whirled together in confusion. Pleasure and pain, knowledge and ignorance, great and small; up and down they go, the playthings of Time.”

Despite the satirical twists, however, Democritus’ notion of cheerfulness is nothing like the carefree picture Lucian paints, nor is there any explicit indication of the atomic theory in ethical fragments. Instead, cultivating a disposition of cheerfulness is a serious ethical goal that is intimately connected with the idea of one’s nature:

τὸν εὐθυμεῖσθαι μέλλοντα χρὴ μὴ πολλὰ πρήσσειν, μὴτε ἴδῃ μὴτε ξυνή, μηδὲ ἀσσ᾽ ἀν πρᾶσσῃ υπέρ τε δύναμιν αἱρεῖσθαι τὴν ἑωυτοῦ καὶ φύσιν· ἀλλὰ τοσαύτην ἐξείν φυλακήν, ὡστε καὶ τῆς τύχης ἐπιβαλλούσης καὶ ἐς τὸ πλέον ὑπηγεομένης τῷ δοκεῖν, κατατίθεσθαι, καὶ μὴ πλέω πορσάπτεσθαι τῶν δυνατῶν. ἡ γάρ εὐογκίη ἀσφαλέστερον τῆς μεγαλογκίης.

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342 Stobaeus, III 20.53.

343 The reading of Heraclitus is similarly misguided, since it rests “partly on Theophrastus’ well-known attribution to Heraclitus of μελαγχολία (Diog.L. IX, 6), by which, however, he meant ‘impulsiveness’ (see Aristotle’s description at Eth. Nic. H8, 1150b25) and not ‘melancholy’ in its later and its modern sense,” KRS, p. 183.
He who is going to be cheerful must not do many things, either in private or in public life, and in his choice of what he does must not exceed his own nature and capacity, but must be watchful, so that even when fortune seizes him and urges him further in his imagination, he sets it aside and does not attempt more than what is possible. For a good amount is safer than a great amount. (B3)

Democritus suggests that the key to living well is imposing limits set by one’s “own nature and capacity” on his activities. Prescribing what is possible for individuals in a way that is both knowable and applicable to particular choices, individual nature acts as a counter-balance to the temptations of fortune (τύχη) which entice us into unwise ventures beyond our means. A necessary step in being able to follow Democritus’ guidance, however, would be understanding one’s nature (φύσις) to the extent that the individual can use it to determine those endeavors which are actually possible and thus desirable. Without such knowledge, the path to cheerfulness is impossible to follow. Democritus reiterates the contrast between nature and fortune as guides for human action when he says: “Fortune gives great gifts, but is undependable, while nature is self-sufficient; so its dependable inferiority excels the greater advantage which one hopes for [sc. from fortune]” (τύχη μεγαλόδωρος, ἀλλ᾿ ἀβέβαιος, φύσις δὲ αὐτάρκης· διόπερ νικᾷ τῷ ἥσσονι καὶ βεβαιῶ τῷ μεῖζον τῆς ἐλπίδος, B176). Allowing fortune to guide one’s actions means being governed by hopes and urges. Nature, on the other hand, represents the moderate, steady approach that will never aim higher than it should. The contrast is one of imagination and capacity, the former resting on wishes for future possibilities, the latter grounded on knowledge of capabilities based on existing disposition, strengths, or character. In addition, one must wait on fortune, ever at its mercy for opportunity to present itself clearly, while nature provides a more durable, ever-present, dependable guide.344

344 Graham, TEGP, p. 683.
Elsewhere, instead of fortune, Democritus contrasts nature with habit or practice: “More people become good by practice than by nature” (πλέονες ἐξ ἀσκήσιος ἀγαθοὶ γίνονται ἢ ἀπὸ φύσιος, B242). Practice is the more dominant normative force in human life, but the comparative πλέονες indicates Democritus’ belief that φύσις does have the power to make some people good. In at least some cases, then, nature plays the dominant role in governing how individuals will turn out; that is to say, φύσις is inevitably partially responsible for change. In another passage, Democritus connects the pedagogical role for nature with the idea of development when he contends that “There is understanding among the young and lack of understanding among the old; for it is not time which teaches one to think, but mature development and nature (ἔστι που νέων ξύνεσις καὶ γερόντων ἀξυνεσίη· χρόνος γὰρ οὐ διδάσκει φρονεῖν, ἀλλ᾿ ὡραίη τροφὴ καὶ φῦσις, D48).”

The description of φύσις here as a capacity for learning is difficult to reconcile with the image of atomic composition as the φύσις of some entity. The connection of φύσις with “mature development” (ὡραίη τροφὴ) suggests a dynamic quality to φύσις in that it prescribes what is possible, rather than simply a descriptive account of individual identity. Nature has the capacity to make some people good, some people thinkers, and others neither of these things. For Democritus, nature as φύσις is causal in that it is at least partly responsible for who an individual becomes by helping people “become good” and “teaching one to think.”

But Democritus draws an odd parallel between teaching and nature elsewhere when he says: “Nature and teaching are similar. For teaching reshapes the man, and in reshaping makes his nature” (ἡ φύσις καὶ ἡ διδαχὴ παραπλήσιόν ἐστι. καὶ γὰρ ἡ διδαχὴ μεταρυθμίζει τὸν ἄνθρωπον, μεταρυθμούσα δὲ φυσιοποιεῖ, B33). Here we find another word invented by

345 Cf. Aristotle, Nicomachean Ethics 1095a2-11.
Democritus; the use of φυσιοποιεῖ, “unique in Greek literature,” suggests a deliberate understanding of φύσις as something that is constructed or shaped, in this case by teaching.\textsuperscript{346} This may have been an attempt by Democritus to correct the contrast Pindar established between innate nature and learning, but it also lends credence to the idea that Democritus may have been deliberately avoiding the word in other contexts.\textsuperscript{347} Rather than insert words that would have been commonly understood yet perhaps somewhat imprecise, Democritus goes to the trouble to fashion new words that more accurately convey his meaning. In this case, his use of φυσιοποιεῖ “suggests the force with which Democritus grasped the idea of ‘human nature in the making’.”\textsuperscript{348}

Conceiving of nature as “made,” especially through human art, inevitably presents difficulties for interpretations of Democritus’ notion of φύσις as atomic composition. Gregory Vlastos, the staunchest advocate of tying Democritean physics firmly together with the ethics, navigates the difficulties by arguing that Democritus means that teaching reconfigures a man’s soul atoms.\textsuperscript{349} Vlastos contends that the soul is “a specific atomic cluster, dependent for its integrity upon another cluster (the body),” and that εὐθυμίη is thus the “physical and moral state of the ‘cheerful’ soul” that is “defined positively as a healthful balance (krēsis), negatively as the absence of violent motion.”\textsuperscript{350} Although C.C.W. Taylor originally criticizes this view, he walks back his criticism in subsequent commentary many years later, specifically conceding that he does believe that B33 is correctly interpreted as saying “that teaching creates a new nature by altering the configuration of soul-atoms.”\textsuperscript{351} Taylor is not willing to go so far as Vlastos,

\begin{itemize}
\item \textsuperscript{346} Vlastos, “Ethics and Physics in Democritus,” p. 55.
\item \textsuperscript{347} Pindar, \textit{Olympian Odes}, 2.86.
\item \textsuperscript{348} Vlastos, “Ethics and Physics in Democritus,” p. 55.
\item \textsuperscript{349} For a succinct list of the “concepts which mark the main junctions between ethics and physics,” according to Vlastos, see “Ethics and Physics in Democritus,” p. 63.
\item \textsuperscript{350} Ibid.
\item \textsuperscript{351} For Taylor’s original assessment of this interpretation, see “Pleasure, Knowledge, and Sensation in Democritus,” and for a softening of his criticism of Vlastos’ claims, see \textit{The Atomists: Leucippus and Democritus}, p. 233.
\end{itemize}
However, contending only that “teaching, like thought and perception, is for Democritus a physical process,” and stopping short of “endorsing the thesis that Democritus sought to derive ethical conclusions from his physical theory.”

But the reconfiguration of φύσις need not be a physical reconstruction, but rather a kind of reorientation of one’s nature specifically as an activity. In fact, as we have seen, φύσις is never used in fragments authored by Democritus to apply to a physical reality nor even on the Aristotelian reading does φύσις apply to the atomic aggregate. At best, the individual atom is φύσις, but these are impossible to reconfigure or alter, so this cannot be what Democritus intends. A more plausible interpretation that fits better with the fragments is that for Democritus φύσις is a capacity tending toward activity. In short, φύσις is a normative set of tendencies to perform certain actions and as such it provides limitations for acceptable choices (B3) in a moderate, dependable way (B176) while simultaneously being shaped by teaching but also shaping by serving as a capacity for learning and guiding human action as a tendency (B48 and B33).

Democritus discusses the idea of individual nature in more traditional ways in several strange fragments, illustrating that while φύσις may sometimes be constructed, it is also innate:

> ὃτεω χρήμη τεά ἐστι παῖδα ποιήσασθαι, ἐκ τῶν φύλων τεύ μοι δοκεῖ ἄμεινον εἶναι. καὶ τῷ μὲν παῖς ἐστι τοιοῦτος, οἶδὸν ἂν βούληται· ἐστὶ γὰρ ἐκλέξασθαι ὡς ἐθέλει· καὶ ὃς ἄν δόκη ἐπιτήδειος εἶναι, κἂν μᾶλλον κατὰ φύσιν ἐποιεῖ. καὶ τούτῳ τοσοῦτον διφέρει, ὅσον ἐνταῦθα μὲν ἐστὶ τὸν παῖδα λαβεῖν καταθύμιον ἐκ πολλῶν, οἶδὸν ἂν δέη, ἢ ἢν τὸς ποιῆται ἢν δέηται ἐποίητο. πολλοὶ ένεισι κίνδυνοι· ἀνάγκη γὰρ, ὃς ἄν ἔργηται, τούτῳ χρήσθαι.

If anyone needs to have a child, it seems to me better that he should choose from his friends’ children. That way he will get the sort of child he wants, for he can choose the one he likes; and the one that seems suitable will follow his bidding as far as its nature allows. And this is a great difference, in that he can choose from

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352 Ibid.
many the one he prefers, according as he thinks it should be. But if he has one of his own, there are many dangers he has to make do with the one that is born to him. (B277)

Democritus displays great trust in the strength of friendship, or perhaps assumes that parents are over-burdened in their abundance of offspring, since he believes that parents will give away their children so easily, particularly the likable ones. Humorous though his suggestion may be when not taken too seriously, Democritus suggests several important features of his concept of nature in this passage. The direct association between the φύσις of the child and behavior illustrates that nature does dictate choices in some way, fitting with the idea of capacity. The nature of a child is largely unpredictable through genetic inheritance, Democritus implies, but is instead recognizable by means of observation. The idea of nature is also prescriptive, according to Democritus, in that it is φύσις that drives human beings to have children in the first place:

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\begin{align*}
\text{ἄνθρωποισι} \text{ τῶν ἀναγκαῖων δοκεῖ εἶναι παῖδας κτήσασθαι ἀπὸ φύσιος καὶ καταστάσιος τινος ἄρχαίης, δήλον δὲ καὶ τοῖς ἄλλοις ζώοισι· πάντα γὰρ ἀκέγονα κτάται κατὰ φύσιν ἐποφελείης γε οὐδεμιᾶς εἵνεκα· ἀλλ᾿ ὅταν γένηται, ταλαιπωρεῖ καὶ τρέφει ἕκαστον ὡς δύναται καὶ ὑπερδέδοικε, μέχρι σμικρά ἡ, καὶ ἢν τι πάθη ἀνιᾶται, ἢ μὲν φύσις τοιαύτη πάντων ἐστὶν ὄσσα ψυχὴν ἐχεί· τῷ δὲ δή ἀνθρώπῳ νομίζον ἡ ἀναγκαία, ὥστε καὶ ἐπαύρεισιν τινα γίγνεσθαι ἀπὸ τοῦ ἐκγόνου
\end{align*}
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People think of having children as necessary because of their nature and their long-established constitution. This is clear from the other animals too; they all have young in accordance with their nature, but not for any benefit. But when they are born each one takes trouble to rear them as best it can and fears for them when they are little and grieves if anything happens to them. The nature of all living things is like that. But as far as mankind are concerned the opinion has grown up that there is some advantage to be derived from one’s offspring. (B278)

Here again and in a different context, φύσις dictates likely pursuits or patterns of activities. In this specific case, nature is augmented by “long established constitution” (καταστάσιος τινος ἄρχαίης) that most men, Democritus himself a rare exception, do not attempt to challenge. And
yet in this context, φύσις as a normative concept that regulates behavior extends beyond human beings. For Democritus, “all living things” that produce offspring inevitably tend to be fearful, protective, and thus susceptible to grief. Human beings add to this natural tendency the misguided belief that “some advantage is to be derived from one’s offspring,” when in reality no such advantage exists. The implication seems to be that φύσις as a normative tendency to certain kinds of action ought to at times be questioned or mitigated by forethought and insight. And yet it is difficult to see how this conception of φύσις could be consistent with a deterministic, mechanical ethics based upon necessity. Although nature acts as a guide in certain ways to prescribe what is possible, it nevertheless cannot serve as an absolute guide for human life, making teaching, practice, and right thinking essential for the cheerful life.

CONCLUSION: DEMOCRITUS’ TWO NATURES

Democritus’ views mark a curious intersection in the development of the philosophical concept of nature. On the one hand, he is firmly entrenched in the tradition of Greek philosophers who are searching for ways to understand and explain the physical world. Relying on certain Eleatic principles and the resulting view of the nature of things in terms of “what-is,” Democritus nevertheless expands the explanatory power of the basic nature of things by providing an account for the existence of plurality. Yet he also acknowledges the inherently speculative quality of this endeavor, owing to the fact “that in reality we do not know what kind of thing each thing is or is not has been shown many times” (B10). The nature of specific things as their reality (ἐτεῆ) is, on some level, beyond our complete comprehension.

At the same time, Democritus is also attuned to what one might call the sophistic attitude toward nature, as reflected in the ethical fragments. Here nature (φύσις) is almost universally understood to mean human nature, or at the very least, it directly applies to and impacts human beings. Contrary to nature as the physical structure of reality that is atoms and void, the idea of
nature as φύσις operates as a normative guide, often (though not always) in ways that distinctly benefit mankind. Unlike ἐτεή, one can know the φύσις of things, both of themselves and more generally. This knowledge can then, in turn, be used to make more “fitting” decisions in the pursuit of the best life. The dual facet of nature goes beyond the ἐτεή-φύσις distinction, however, as Democritus also develops, roughly, the idea of “first” and “second” natures, or a φύσις that is innate and a φύσις that can be molded by teaching and practice.

Democritus sits at the crossroads of these two uses of nature as an intersection of past and future philosophical thought concerning nature in the mid-5th century. While Democritus’ predecessors worked to shape the idea of nature as it applied to the cosmos, a new breed of thinkers in the 5th century, often grouped together under the term “sophists,” turned almost exclusively to practical, human affairs. Their reactions to, and uses for, the idea of nature are markedly different both from the physiologoi and from one another. It is to these thinkers that we now turn.
Conclusion: The Concept of Nature after the Presocratics

“Keeping company with me, use [your] nature, leap, laugh, consider nothing shameful!”
—Aristophanes, Clouds

The precise origin of the debate remains unknown, but at some time during the middle of the 5th century B.C., interest in the conflict between the concepts of φύσις and νόμος explodes among intellectual circles in ancient Greece. Despite the rapid rise of the idea of φύσις among the physiologoi in the preceding century, the powerful influence of custom persists in a timeless way, as Herodotus famously illustrates with an anecdote:

When Darius was king, he summoned the Greeks who were with him and asked them what price would persuade them to eat their fathers’ dead bodies. They answered that there was no price for which they would do it. Then he summoned those Indians who are called Callatiae, who eat their parents, and asked them (the Greeks being present and understanding by interpretation what was said) what would make them willing to burn their fathers to death. The Indians cried aloud, that he should not speak of so horrid an act. So firmly rooted are these beliefs; and it is, I think, rightly said in Pindar’s poem that custom is lord of all. (III.38)

Herodotus’ point is well-taken: the pervasive influence of custom is impossible to deny. Stretching back to the Archaic period, νόμος both explains the “way” things are and serves as a normative guide for human action. The subsequent rise of philosophical investigation of the natural world is marked above all by the rise and development of a concept of nature that begins to rival νόμος. At least among some intellectuals, φύσις overtakes custom both as a means of explaining what things are and why they behave in particular ways; eventually this idea is extended in concrete ways to the idea of human nature, competing directly with custom or law as a superior guide for human endeavor. The prescriptive force of νόμος was always a fundamental

354 Strauss, Natural Right and History, p. 82.
feature of the idea of custom such that it must “give some kind of direction or command affecting the behavior and activities of persons and things.”

But as a viable alternative guide for how individuals live and how political communities should be organized, the prescriptive qualities of φύσις become ever more apparent and vital. In its broad complexity and sharply divergent conclusions regarding nature, however, the legacy of the earliest nature philosophers survives intact: the sophistical engagement with the scope and powers of φύσις is as varied as their Presocratic predecessors. Even among those sophists embroiled in the φύσις-νόμος debate, the basic features of the idea of nature remain highly contested, in effect illustrating yet another step in the continual process of reform and refinement of the idea of nature for the Greeks. In short, the broader intellectual interest in φύσις that arises in the fifth century, especially as part of the sophistical movement, only provides further compelling evidence for one of the central theses of this study: no consensus “Greek concept of nature” exists in early Greek philosophical thought. The stakes have risen considerably, however, in what is sometimes referred to as the Greek Enlightenment. Rather than pursuing answers to cosmological questions and theoretical explanations of the origins and development of the natural world, the Greek sophists are wrestling with the foundational principles of the Greek way of life.

Taking the normative facet of nature for granted whether defending φύσις or νόμος as the guide for human life, the sophists instead redefine φύσις in ways that depart significantly from the ideas of purposive nature that began to take shape in the natural philosophy of the Presocratics. The power of prescription without end leaves a dangerous void: nature as such a guide may be used to justify despicable acts of aggression and injustice. Understood in this way, the story of the idea of nature leads to a reading of the works of Plato and Aristotle as the

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deliberate expansion and clarification of the purposive features of nature found among their philosophical predecessors into more clearly defined teleological nature. In purifying and defending the concept of nature from the twists of the sophists, specifically by shoring up nature’s teleological features, Plato and Aristotle necessarily defend philosophy from charges of corruption.

In the concluding section of this study, I offer a brief summary of the development of the concept of nature among the early Greek physiologoi discussed in the preceding chapters. Emerging through intense debate over the course of a century, in general terms the idea of nature becomes both a descriptive concept that provides the foundation for grasping the mysteries of the cosmos, and the entities in it, as well as a normative concept that is used as a guide for human action. But the range of different interpretations is undeniable and of particular importance for the intellectual period following the age of the Presocratics. Inheriting an idea of nature that is not solidly established, the thinkers of the mid-5th century, known as the sophists, undertake their own clarification of the scope and powers of the concept of nature. No account of the early idea of nature would be complete without this part of the story. As a result, in the middle section of this conclusion, I offer a reading of some of the key sophists’ ideas of nature, including some thoughts concerning how specific Presocratic theories of nature may have led to the sophistical “corruption” of the idea of nature. Finally, I suggest the implications my account has for how the respective philosophies of Plato and Aristotle can be read as different approaches to the task of defending philosophy through the idea of purposive nature.

CONCEPTIONS OF PURPOSIVE NATURE

Through two centuries of thought and argument, those thinkers known as the Presocratic philosophers took a general idea on the periphery of Greek thought, and transformed it into a philosophical concept robust enough to explain a remarkable array of phenomena and central to
the Greek understanding of themselves and their place in the cosmos. As with other similar developments, one discovery spawned many more, and the “nature” of things began to be used to supply answers to all manner of new questions. The development of a more sophisticated and diverse conceptual framework among the Presocratics also opened up the ability of early Greek thinkers to pursue such answers through argumentation and dispute. The earliest conceptions of nature gave the Milesian thinkers a way to unite all phenomena under a universal concept—everything had a “nature,” and was connected to the origin of the cosmos. The first recorded physiologos, Thales, boldly asserted that everything was water, and by providing all things with a common nature, initiated the possibility of conceiving of nature as a series of transformations rather than births. Although Thales emphasized the idea of nature as a source, his fellow Milesians, Anaximander and Anaximenes, emphasized the process element of nature to a much greater extent. For Anaximander, the entities in nature exhibited fundamental relationships to one another, in particular an innate opposition that dictated specific kinds of behavior. The cosmos was, in effect, steered by these natural relationships, by a process of natural reciprocity for Anaximander. Anaximenes sought to combine Thales’ idea of material source as nature with Anaximander’s emphasis on process into a single material constituent imbued with a specific process of alteration. Air, for Anaximenes, is the source of all things, even the gods, and it becomes all things through the alternating processes of condensation and rarefaction. Although they think about nature in significantly different ways, the earliest philosophical conceptions of nature all assume a unified cosmos that is guided by means of natural processes.

But the idea of nature does not begin to classify different entities within the world until Xenophanes uses it in this way. The wandering poet from Colophon diversifies the universal quality of nature by frequent use in connection with “all things,” that is, nature begins to apply to
specific groups of entities, marking them out from others. Although he uses the idea of nature to classify natural things by the fact that they “come into being and grow,” his use of nature as a method of clarification is most readily apparent in his fragments on the divine. There he goes to considerable lengths to distinguish the features of divine nature from human nature. Broadly speaking, Xenophanes uses the idea of nature dynamically, sometimes aligning the “nature” of the thing by what it does, other times more simply with what it actually is. Eschewing the Homeric tendency to blur the lines by describing certain mortals as “godlike” and certain gods as behaving as humans do, Xenophanes holds that divine nature must be different from mortal nature because their activities are so different. The divine knows all and shakes all things by the thought of his mind, while man is constrained by the necessary processes of learning and discovery. Yet Xenophanes suggests hope for humanity, a “faith in progress” toward greater understanding and application of this knowledge to improve human life. Xenophanes uses the idea of nature to craft a theory of everything that weaves together natural philosophy, social commentary, theological questions, and epistemological considerations, that assigns a particular place to mankind but holds out the promise of something more.

Heraclitus, though no fan of Xenophanes’ polymathy, develops his own version of a theory of everything through a strong connection between the φύσις of things and his famous λόγος that “steers all things.” For Heraclitus, φύσις is a riddle that requires a new approach that embraces paradox, subtlety, and dogged investigation of what lies beneath the surface. Instead of a simple means of classification of natural things, Heraclitus develops a notion of φύσις as a ἁρμονίη of fundamental opposites. Ubiquitous throughout his fragments, φύσις as ἁρμονίη is what gives each individual thing its particular identity while also serving as a pattern that runs throughout the cosmos. Recognized only by those few who have taught themselves how to
“listen” to the riddle and see beyond the obvious conflict of opposites, φύσις as ἁρμονίη is the basic pattern underlying the λόγος, that divine plan by which the cosmos is steered. Thus it is that humans gain access to the divine through the idea of nature.

But nature as a principle of unity of opposites fails to really describe what something is, or so we can easily imagine Parmenides saying in response to Heraclitus. To reveal the connection between truth and reality in the cosmos, nature as a concept must “show forth” what-is. It must get to the heart of what is real not by guesswork or observation but through reason. Parmenides thus reconceives of the starting point of the study of nature from the entities in the world, as his predecessors suppose, to the basic metaphysical criteria for anything that exists. Only those things that possess these attributes have natures, properly speaking, and only these are “real.” Although some scholars interpret Parmenides as seeking to “purify” the idea of nature by removing its dynamic components, thus relegating φύσις to “mere opinion,” a better understanding is that Parmenides effects a division between the “being” and “becoming,” or the identity (τὸ ἔον) and activity (φύσις), facets of nature. Using the idea of limits and the recurring analogy of paths, Parmenides establishes a firmer foundation for cosmological inquiry by first establishing the metaphysical and epistemological criteria for what exists. Conceiving of nature and inquiry in terms of limits and paths illustrates the fundamental purposiveness in Parmenides’ theory.

A broadly typical reading of the Presocratic period is that the pluralists that follow him are, in various ways, responding to Parmenides. The reading I have presented here argues that this happens in an unusual respect. In separating what is “real” from what “becomes,” Parmenides effects a divide in the idea of nature that bears itself out in the subsequent pluralist theories. The structural aspects of real identity are separate from, but connected with, the motive
forces that shape the growth of entities. This basic bifurcation is replicated alternatively by Empedocles as roots and Love and Strife, by Anaxagoras as homeomerous ingredients and Nous, and by Philolaus as limiters, unlimiteds, and ἁρμονίη. In such theories, the latent purposiveness in earlier conceptions of nature is replaced by much more explicit discussions of the role of these forces in shaping the nature of things.

Finally, Democritus sits at the crossroads as both physiologos and humanist. Famous for advancing the physical theory of atomism, Democritus provides the most elaborate account of the physical structure of reality, largely consistent with the Parmenidean principles of the real. The true “nature” of reality is atoms and void and all events are subject only to necessity. And yet, whereas in many ways the earliest Greek philosophers understood man and cosmos to operate through the same principles, a new idea of nature as related to a specifically human nature comes upon the scene in the fifth century. Democritus, if he is not at the forefront of this new way of thinking, is at least swept along by it in certain characterizations he offers that depart significantly from nature reducible to atoms, void, and necessity. For Democritus, atoms and void are ἐτεή, a “reality” that is set apart from mankind, while φύσις is instead reserved by Democritus for descriptions of nature with recognizably purposive features. Rather than conceiving of these facets of nature as linked, Democritus seems poised to keep them largely distinct as two entirely different ways to think about the nature of things.

The idea of nature is thus far from a monolithic construction that is universally agreed upon by the earliest Greek philosophers who instead embrace a wide range of conceptions of what nature means and the implications for physical and metaphysical knowledge. Yet each conception bears the hallmarks of purposiveness, and it is this teleological undercurrent in the earliest strands of philosophy that helps give rise to the prescriptive concept of φύσις that plays
such a dominant role in subsequent philosophical debates in ancient Greek philosophy. The conceptions of nature among the sophists are in some ways just as diverse as those among the physiologoi, leading, in part, to the struggle of modern commentators to articulate what unifies these disparate thinkers in a cogent way. The void left by the lack of consensus among the Presocratics leads to the problematic, and possibly corrupted views of nature found in the sophistic movement. Nature may be interpreted in various directions that represent significant departures from the conceptions of nature offered by the physiologoi that center on notions of harmony or other various imminent ends in nature. Further still, the theories offered by the physiologoi lack a kind of tangible reality, perhaps leading the sophists to grasp at more tangible sources and definitions of nature. Easily identifiable aspects of the human experience like advantages and desires would have seemed far more real than elusive notions of natural ends. The route to understanding purpose in nature may have seemed much closer to home. As a result, many of the thinkers of the sophistic movement continue the trend of innovation by exploring the implications of the idea of nature in new ways. In Protagoras’ case, this amounts to an attack on previous notions but in others it is simply an expansion of the concept of nature in ways that are perhaps both more relevant and more readily identifiable. In the following section, I explore the notions of nature offered by key thinkers of the sophistical movement.

THE SOPHISTIC “CORRUPTION” OF PHYsis

The earliest member of the sophistical movement is Protagoras, a student of Democritus. Protagoras famously claims: “Of all things the measure is man, of things that are that they are, of things that are not that they are not” (πάντων χρημάτων εἶναι μέτρον τὸν ἄνθρωπον, τῶν μὲν

In the *Theaetetus*, Socrates clarifies this view by saying: “he means something like this: that as each thing appears to me, so it is to me” (152a). In the *Cratylus*, the relativism is expanded to include others in an obvious way: “as they seem to be to me, so they are to me; as they seem to you, so they are to you” (385e).

Reduced to mere appearance, the nature of any given thing is entirely relative to the perceiver. As a result, nature lacks the universal, prescriptive power attributed to it by most other early Greek thinkers. Rendering the concept of nature powerless and meaningless, Protagoras calls into question the entire project of early Greek philosophy. Seeking the “real” outside of ourselves, as something apart from the perceiver, is a waste of time.⁵⁵⁸ Such conclusions were derived from familiarity with the ideas of the early Greek *physiologoi* whose “contradictory speculations” neglected “the one thing that mattered, how to take care of one’s own affairs and the business of the state.”⁵⁵⁹ The natural philosophers “claim[ed] to possess the secret of the universe” but in reality were only “chasing chimeras” and “pitting one opinion against another, each more incredible than the last.”⁵⁶⁰

Beyond the diversity in conceptions of nature, however, the lack of a clear, determinate reality in the conceptions of nature offered by the *physiologoi* also contributed to this hostile reaction by the “practical men.” The portrayal by Empedocles and Anaxagoras of the nature of something as a shifting mixture of roots or homeomerous stuffs may have led Protagoras to draw the inference that things lacked a fixed and enduring nature. In a similar fashion, Protagoras may have been simply extending his teacher Democritus’ skepticism relative to the nature of things to

⁵⁵⁷ All translations from the Sophist thinkers included in this chapter come from Daniel W. Graham, *TEGP*, vol. 2.
⁵⁵⁸ Guthrie contends that Protagoras’ ideas constitute “a denial of the very meaning of *physis*” *HGP*, vol. 3, p. 186. For a view that contrasts Protagoras with Democritus, see Vlastos, “Ethics and Physics in Democritus (part I),” pp. 591-592.
⁵⁵⁹ *HGP*, p. 186.
its logical conclusion. If we cannot know the true nature of things, perhaps this is because no enduring nature in fact exists; the supposed division between the “real” and the perceptible collapses in on itself. Protagoras’ approach thus consists of “abandoning physiologia” and as a result he “knocks down the physical scaffolding of truth.” Richard McKirahan offers a different interpretation of Protagoras’ thought, based primarily on the myth in Plato’s Protagoras. He suggests that it is “possible that Protagoras intends aidōs and dikē [which Zeus has given to humans] as part of human nature and that if human nature lacked these moral qualities life as we know it would not be possible.” On this view, man is still the measure of all things, and “the nomoi of a community have some basis in human nature, that is, in (distinctively human) phusis.” Even if McKirahan’s tentatively offered thesis is correct, however, Protagoras is clearly rejecting the more substantial role Democritus suggests for φύσις in human affairs, in favor of the more significant roles for law as the primary source of proper action and justice. At best, on McKirahan’s reading, φύσις means a few generic traits that historically separated humans from other beasts, but offers little in the way of an ethical guide for current individual or communal decisions. In short, even if φύσις does “exist” for Protagoras, it is a relic of a previous age, an outmoded means of interpreting being and knowing. In establishing man as the “measure of all things” in fundamental opposition to the supposition by the Presocratics of natural principles which govern all things, Protagoras thereby sharpens the divide between justice “by nature” and justice “by law.”

The relationship between the concepts of nature and justice becomes far more central as the sophistical movement flourishes, and prominent sophists offer different accounts of which

361 See especially 68B7 and 68B10.
362 Vlastos, “Ethics and Physics in Democritus (part I),” p. 591
363 PBS, p. 419.
364 Ibid.
idea of justice is superior based upon different accounts of nature. While Protagoras dismisses the idea of φύσις, Antiphon staunchly defends nature in his stark presentation of the contrast between nature and law. Aristotle reports that Antiphon argues for the idea that the nature of physical things is their primary component (Physics 193a9-17). Of course, a primary component is more difficult to identify when it comes to human nature, but Antiphon defends the idea of human nature by using biological and behavioral commonalities that affect all members, stretching across communities: “For we all breathe the same air through our mouth and our nose, and we laugh when we are happy and cry when we are sad” (γὰρ εἰς τὸν ἀέρ[α] ἅπαντες κατὰ τὸ στόμ[α] [καὶ κατ[α] τάς ρίνας κ[αὶ γελώμεν]ν χ[αίροντες καὶ] δακρύομε[ν] λυπούμενοι, B44). Referring to the common traits of human nature, Antiphon claims that we are able to “learn from these things”; law and custom, on the other hand, are relative to location and community such that “[the laws and customs of those who live nearby] we know and respect; those of people dwelling far away we neither know nor respect” ([τοὺς νόμους τῶν ἐγγυτέ]ρων ἐπ[ιστάμε]θα τε κ[αὶ σέβομεν], τοὺς δὲ [τῶν τῆλο[ν] ὦ[ικ[ουν]]των οὔτε ἐπί[στ]άμεθα οὔτε σεβόμεν, B44). Placing too much value on custom leads us to “become barbarians to one another,” when instead humans ought to realize that “in all ways we are all equally fitted by nature, at least, to be both barbarians and Greeks” (ἐν τ[ο]ύτωι οὖν πρὸς ἀλλήλους βεβαρβαρόμεθα, ἐπεὶ φύσει γε πάντα πάντες ὁμοίως πεφύκ[α]μεν καὶ βάρπαροι καὶ Ἕλλην[εσ] εἶναι, B44).

Expanding on this idea, Antiphon suggests an essential difference between nature and law with respect to justice when he says, “Thus a man would use justice in a way most advantageous to himself if, in the presence of witnesses, he held the laws in esteem, whereas when he was alone, he valued the works of nature” (χρῶιτ᾿ ἄν οὖ ἄνθρωπος μάλιστα ἐαυτοί ξυμφ[ε]ρόντως δικαίω[σ]ύνη, εἰ μετὰ μὲν μαρτύρων τοὺς νόμους μεγάλους ἄγοι, μονούμενος δὲ
μαρτύρων τὰ τῆς φύσεως, B44). Juxtaposing the “factitious” laws with the “necessary” works of nature, Antiphon develops an idea of nature associated especially with the notion of advantages and disadvantages for human beings. While laws are to be observed, one only need to do so in order to avoid conflict with “those who agreed on them.” Any violations of the prescriptions of φύσις, on the other hand, will have adverse consequences since “even if he eludes all men, the evil that results is no less; even if all observe, it is no more” (ἐάν τε πάντας ἀνθρώπους λάθη, οὐδὲν ἔλαττον τὸ κακόν, ἐάν τε πάντες ἴδωσιν, οὔδὲν μεῖζον, B44). In the final analysis, he who violates the laws of nature “is harmed, not because of opinion, but in truth” (οὐ γὰρ διὰ δόξαν βλάπτεται, ἀλλὰ διὰ ἀλήθειαν, B44). Jonathan Barnes argues that “Antiphon means to urge the claims of phusis above those of nomos” but denies that the sophist is doing more than simply asserting a “statement of fact.”

There is, Barnes suggests, no indication of an “injunction or recommendation” on Antiphon’s part; he does not say, “follow nature when you can get away with it,” nor does he establish this as a view that he is “concerned to refute.” Alternatively, G.B. Kerferd believes Antiphon asserts a normative claim, though not one so simple as to suggest that φύσις is a better guide in all situations. The normative claim instead comes about since “it is what advantages man and his nature that is viewed as good”; as a result, since “laws and the norms of society” are instead “fetters and bonds imposed on [nature]” that fail to “contribute to what is required,” φύσις rather than νόμος provides the key to the best life. The “natural indicators” for what should be considered advantageous are pleasure and pain, thus Antiphon can be considered “the earliest advocate of hedonism in Greek philosophy.”

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365 PP, pp. 211-212.
366 Ibid.
368 PBS, pp. 410-411.
guides our choices by pleasure and pain, steering us toward what is advantageous and away from what is disadvantageous.

The essential link that Antiphon uncovers between φύσις and the advantageous is expanded by key sophists in some of Plato’s dialogues, particularly as they relate to political questions. Plato’s characterization of the sophists is remarkably varied, but could hardly be described as charitable. In the Sophist, he presents them as masters of a question and answer approach, while more characteristically in the Protagoras as dedicated speech-makers. But it is in the Gorgias and the Republic that Plato frames the sophists by their views rather than their methods. The two chief antagonists in those dialogues, Callicles and Thrasymachus, offer substantially different accounts of justice grounded in particular conceptions of φύσις and its relation to νόμος and δίκη. While Antiphon had suggested the basic hedonistic connection between nature and pleasure based on the idea of pleasure as advantageous, in the Gorgias, Callicles unabashedly expands the pleonectic component of human nature. In short, human nature necessitates that we “strive to have more (pleon echein) of the good, understood as wealth and power and the pleasures they can provide.” Collapsing the distinction between custom and nature, Callicles speaks of this striving as nomos physeos, the law of nature, in a way that invariably governs the behavior of all men. Some men are strong by nature and able to take more of what they want, others are unable to do so. Nevertheless, in seeking to ensure they at least have an equal amount of wealth and power, the weak inevitably resort to laws. The inescapable pursuit of advantage over others necessitates that the weak use νόμος as a tool in order to subjugate the strong and mitigate the advantage they enjoy by nature. Human nature as

370 Ibid., p. 83.
371 Gorgias 483e3; see especially Kerferd, The Sophistic Movement, p. 112, and PBS, p. 408.
an endless striving for more, for the satisfaction of particular desires, is an unprecedented view in
the history of the concept.\textsuperscript{372} Living well for humans means fulfilling φύσις as desires, and the
resulting view is that what is just by nature, that is, taking as much as one can for himself, is
declared unjust by law.

Thrasy medicines, the representative sophist in the Republic, presents a more intricate
position that extends the sophistical views of Antiphon and Callicles to their logical conclusion.
In so doing Thrasy medicines challenges the value of philosophy. Taking up the now familiar idea
that “the ultimate standard...is one’s own advantage,” Thrasy medicines confidently asserts that
“justice is nothing other than the advantage of the stronger” (Republic 338c).\textsuperscript{373} Pressured by
Socrates for clarity, Thrasy medicines retreats under the barrage of Socratic questions and departs
from Callicles’ stated view when he revises his position to suggest that it is actually injustice that
is “to one’s own profit and advantage” while justice bids us do what is better for others (Republic
343b-344c). Thrasy medicines draws the obvious implication: “Injustice, if it is on a large enough
scale, is stronger, freer, and more masterly than justice” (344c). Nature, in a way, sanctions
injustice and men delude and weaken themselves if they seek justice or spend much time at all
contemplating it. Presenting a more “general” depiction of human nature than the pleonectic
version offered by Callicles, Thrasy medicines avoids limiting advantages to satisfaction of desires
and thus “cannot be refuted just by attacking hedonism.”\textsuperscript{374} Although explicitly challenging

\textsuperscript{372} Although φύσις is generally understood to be universal and necessary, occasionally thinkers maintained the
opposite characterization. This view is perhaps best articulated in an account from Pseudo-Demosthenes in the
fourth century B.C., who claims that “phusis is without order and private to each individual but the nomoi are
common, in order, and the same for all,” PBS, p. 422. On such a view, there is no such thing as “human” nature;
nature as a theoretical concept that determines identity and actions applies only to individuals. While Pseudo-
Demosthenes does not elaborate in any real detail, it seems that the facets of individual nature are nevertheless
primarily affiliated with and recognized by the presence of particular desires, such that “phusis, if it is wicked, often
has low desires,” as cited in McKirahan, PBS, p. 422.
\textsuperscript{373} PBS, p. 413.
\textsuperscript{374} Ibid.
Socrates with showing that justice has greater value than injustice, Thrasymachus also issues an implicit challenge as his argument “calls for an answer to the question of what our interests and advantages really are.” This, I take it, is one of the reasons that φύσις plays such a prominent if underappreciated role in the Republic.

PLATO AND ARISTOTLE: DEFENDING AND EXPANDING PHYSIS

In this final section, I want to offer some tentative thoughts on the implications this account of the development of the idea of nature through the Presocratics and sophists has on subsequent Greek philosophy. One way to read Plato, in light of the foregoing account, is to understand certain dialogues and arguments contained therein as an attempt to safeguard philosophy, and the idea of φύσις, from relativistic impulses or corrupt accounts of nature that make the pursuit of wisdom a useless or childish endeavor. In response to Thrasymachus’ challenge in the Republic that injustice is superior to justice, Socrates grounds the idea of justice on an idea of purposive nature that goes beyond individual advantages. In doing so, he fashions an understanding of φύσις by expanding certain purposive features of the various concepts of nature among the physiologoi. The “best interests” for human beings extend beyond personal advantage with nature prescribing what is the “best” or just for all. Thus philosophy as the pursuit of wisdom in connection with what nature prescribes is more than worthwhile: it is vital to living the good life.

Plato’s attempt to defend and define φύσις thus pulls specific facets from both the sophists and the physiologoi. The idea that nature establishes advantageous norms is not a conception taken from the physiologoi; the source for this appears to be the sophists. In the

375 Ibid.
Phaedo, however, Plato recounts Socrates’ description of his initial encounter with the ideas of Anaxagoras. Presenting himself as a kind of self-confessed physiologos, fascinated by Anaxagoras’ suggestion that all things are arranged by Nous for the best, Socrates is inevitably disappointed when Anaxagoras does not follow through in providing accounts of how this is so. Instead of discussing salient features of the cosmos and clarifying why they are such instead of possible alternatives, and in particular elaborating on how this is “for the better,” Anaxagoras lapses into explanations that resort to minute physical causes. Socrates then describes the turn he made, suggesting a “second sailing” in which he abandons the study of the natural world through the use of his senses and turns instead to discussion and the investigation of truth through words (Phaedo 99d-e). In short, the aim of the project of the early Greek philosophers is right; it is the method that is flawed. While Plato’s Timaeus may deal with purposive features in the construction of the cosmos, the practical effect of a purposive φύσις that can serve as a model for human society is found in the Republic. In laying out the just city in the early parts of that dialogue, Plato returns time and again to what is best by nature. Oftentimes, in alarming fashion for his interlocutors, what is best by nature is in stark contrast to human desires. Plato seems to understand φύσις as it applies to humans, more in terms of capacity; that is, closely, but not exclusively, connected with desires and emotions. One striking example, and a likely application of Heraclitus’ notion of φύσις, is the discussion of the nature of the best soldiers in Republic II.

The discovery of justice in Plato’s Republic hinges on the determination of roles in the just city according to the idea of nature. Given the importance of the guardians’ role, Socrates contends, these soldiers should be free from other kinds of labor and possess “the greatest skill and devotion” (374e). Equally important, however, is that this kind of work “also requires a

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person whose nature is suited to that way of life” (374e). Comparing the guardian with a dog, Socrates makes the case that these guardians need an “invincible and unbeatable spirit” in addition to keen senses, notable speed, and superior strength. Such natures, however, may be far too savage toward the soldier’s own citizens. What is necessary, it seems, is to find a nature that is “both gentle and high-spirited at the same time” (375c). Laying out the problem, Socrates says that “a gentle nature is the opposite of a spirited one” and that since these natures cannot coexist in a single individual, it seems there can be no such thing as a good guardian. Socrates is not stalled long, however, referring back to the analogy of good soldiers with well-trained dogs, as he points out that seemingly paradoxical natures do exist “in which these opposites are indeed combined” (375d). The well-trained dog is “gentle as can be to those he is used to and knows, but the opposite to those he does not know” (375e). Thus, Socrates adds a philosophical component to the guardian’s nature because it guides the individual in judging well and distinguishing based on knowledge. Helpfully, Plato specifies the nature of a “fine and good guardian” for us: it contains the attributes of philosophy, spirit, speed, and strength (376c).

There is no conception of nature as the unification of opposites before Plato except in Heraclitus; the Ephesian sage is the source for this idea. Socrates here plays the role of a Heraclitean sage who is able to recognize the unity in opposites—the existence of an underlying “fitting-together” (ἁρμονίη) of opposite traits. Broadly speaking, the mark of the philosopher as a leader is the ability to recognize the logos that nature has laid out for a just society, but more specifically through the crucial ability to, in Heraclitus’ words, “distinguish each according to its

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377 One may attempt, as Seth Benardete has done, to tease such an idea out of the single use of φύσις regarding the Moly flower in the Homer’s Odyssey since the flower is white while the root is black and “to dig up the Moly is to expose to the light its flower and its root; they belong together regardless of the contrariety in their colors,” The Bow and the Lyre, p. 86. Benardete contends that it is this knowledge of nature as opposites specifically applied to the link between “the mind of man together with his build” that ultimately saves Odysseus from Circe, but this strikes me as straining the interpretation beyond plausibility for the sake of finding connections in the text.
nature and tell how it is” (22B1). Recognizing such natures and establishing an accompanying system of task assignment is essential to the establishment of a just society for Plato. Not only does nature operate in recognizable patterns, but these serve as prescriptive models for the best society. The idea of nature can be used to answer political questions.

Aristotle’s approach to defining and understanding φύσις is decidedly more systematic than Plato’s, beginning with the Physics. But Aristotle’s approach may be less about defending philosophy against corrupting influences by purifying central philosophical concepts like φύσις. Instead, Aristotle seeks to develop an appropriate philosophical method that can redefine philosophy as a way of life while achieving a more comprehensive understanding of the nature of things.378 Rather than broad theorizing or a priori generalizations in his attempt to give a comprehensive account, Aristotle’s derives his method from the careful study of natural beings.379 Philosophy as such becomes the study of natures since these are the “sources of change in natural things.”380 Aristotle’s understanding of the different “parts” of his “unitary project of investigation” is thus “strongly dependent upon a specific conception of the natural world.”381 Derived from close and careful observation of all manner of natural beings, Aristotle’s specific conception of the natural world is fundamentally defined by the teleological quality found in all things. Purposiveness is found not only in the large-scale construction of the cosmos, and the prescribed advantages, or what is “best” in human affairs, but within every natural being as final cause. Aristotle’s objection to the ideas of purposive nature offered by his

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predecessors center on poor understanding of the precise nature of final causes: “That for the sake of which actions and changes and movements take place, they assert to be a cause in a way, but not in this way, i.e. not in the way in which it is its nature to be a cause” (Metaphysics 988b6-8). Referring to Anaxagoras and Empedocles without naming them, he says, “For those who speak of reason or friendship class these causes as goods; they do not speak, however, as if anything that exists either existed or came into being for the sake of these, but as if the movements started from these” (986b8-10). As Aristotle makes clear, his conception of the natural world is framed in terms of causes. The error of his Presocratic predecessors is that they had not adequately conceived of, and clearly articulated, the precise idea of nature as a cause “for the sake of which.” As final causes, that is, as a truly teleological nature in Aristotle’s view, not only natures but their ends themselves become objects of study. Aristotle’s defense of φύσις and the pursuit of wisdom is in some ways a secondary effect of his quest for precision and clarity in explanations and understanding of the natural world. Reorienting φύσις to be understood more clearly through the lens of causality, and all that entails, provides a more comprehensive and reliable account of all things. How far one might extend the parallels is certainly debatable, as the relationship between Aristotle’s different works remains one of the more disputed points in recent scholarship, but his specific conception of nature and natural beings may shed light beyond the biological works to provide better answers to the role of nature in political and ethical questions.

This study has only engaged with the earliest conceptions of nature, but it should be clear that the range of possibilities for what nature means is vast and perhaps part of the charm of early intellectual pursuits. The various conceptions of nature at the outset only foreshadow the extent

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382 Emphasis in the translation by W.D. Ross.
to which the idea of nature will continue to evolve through theoretical study and debate throughout antiquity. Likewise, the connection between nature and purposiveness remains a prominent feature of philosophical discussion and debate over the centuries. Plato and Aristotle may write the next chapters in the story of nature, but the debate continues through the medieval period and into early modern philosophy. The Presocratic period marks a fascinating shift in epistemological framework; the shift is marked above by a willingness to offer new ideas grounded on radically new concepts. In the end, we should, as Nietzsche suggests, celebrate the “polyphony of nature” initiated first by the earliest Greek philosophers, but which also inevitably underlies and enriches contemporary philosophical and scientific debates.


———. “Theology and Philosophy in Early Greek Thought,” *Philosophical Quarterly* (1952): 97-123.


