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List of Abbreviations

Primary texts and collections of fragments

Cons. ad Marc.	Seneca, *Consolatio ad Marciam*
Disc.	Epictetus, *Discourses*
Dog.	Sextus Empiricus, *Adversus Dogmaticos*
DL	Diogenes Laërtius, *Lives of the Philosophers*
DRN	Lucretius, *De rerum natura*
DK	Diels and Krantz (eds.), *Fragmente der Vorsokratiker*
Ep.	Seneca, *Epistulae Morales*
EN	Aristotle, *Ethica Nicomachea*
Fin.	Cicero, *De finibus bonorum et malorum*
GA	Aristotle, *Generation of Animals*
Hdt.	Epicurus, *Letter to Herodotus*
HPP	Galen, *De Hippocratis et Platonis Placitis*
KD	Epicurus, *Kyriai Doxai*
LS	Long and Sedley (eds.), *The Hellenistic Philosophers*
Math.	Sextus Empiricus, *Adversus Mathematicos*
Met.	Aristotle, *Metaphysics*
Mem.	Xenophon, *Memorabilia*
ND	Cicero, *De natura deorum*
NH	Pliny the Elder, *Natural History*
NIV	Bible, New International Version
NQ	Seneca, *Naturales Quaestiones*
PA	Aristotle, *Parts of Animals*
PH	Sextus Empiricus, *Outlines of Pyrrhonism*
Pyth.	Epicurus, *Letter to Pythocles*
ST	Thomas Aquinas, *Summa Theologiae*
SVF	Von Arnim (ed.), *Stoicorum Veterum Fragmenta*
Symp.	Plato, *Symposium*
Tht.	Plato, *Theaetetus*
Tusc.	Cicero, *Tusculan Disputations*

Secondary texts

ANRW	*Aufstieg und Niedergang der Römischen Welt*

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Abstract

Philosophy begins in wonder, according to Plato and Aristotle. So what contribution does wonder make to a philosophical life? As a passion of inquiry, wonder is both a part of the intellectual pursuit of philosophy (a passion of *inquiry*), and a part of the ethical life of the philosopher (a *passion* of inquiry). The Hellenistic schools of philosophy problematized the relation between the intellectual and the ethical roles of wonder. In this dissertation, I map out the valences of wonder in the Aristotelian corpus, Stoicism, Epicureanism, and Pyrrhonian Skepticism.

In the first chapter, I briefly discuss Plato's statement that philosophy begins in wonder (from the *Theaetetus*) in the context of Diotima's account of philosophy in the *Symposium*. Then I give a reconstruction of Aristotle's account of the role of wonder in philosophy, both by analyzing the theory of wonder as presented in *Metaphysics* A2, and by looking at how he mobilizes wonder in actual inquiries.

The second chapter deals with Stoicism. Our sources suggest that wonder was important in Stoicism in two different domains. In theology, both Cicero (*De natura deorum* book 2) and Sextus Empiricus present Stoic arguments for the existence of the gods that rely on wonder. In ethics, wonder is a problem for Stoics, as wonder at the wrong objects can lead to greater emotional turmoil. I describe the basic outline of this

ethical challenge by a reading of Epictetus, and then turn to Seneca for a more robust account that accommodates both the appropriate theological wonder and the caution against ethical wonder.

I turn to Epicureanism in the third chapter. It appears from a passage from the *Letter to Herodotus* that Epicurus held that the wonder caused by inquiries into nature can be a reason to limit our curiosity for the sake of happiness. In particular, Epicurus is worried that wonder at natural phenomena can easily lead to fear of the gods. Lucretius shares this concern, and makes a point of dispelling particular marvels. As I demonstrate, Lucretius has a number of strategies to achieve this. Moreover, I argue that Lucretius mobilizes wonder through poetic effects to bolster his didactic aim: instilling wonder in the reader to debunk it right away.

The fourth chapter, on Pyrrhonian Skepticism, is based on evidence from Sextus Empiricus and Diogenes Laërtius. As far as we can tell, wonder shows up in two different but related places in the Pyrrhonist framework: it is one of the targets of the ninth mode of suspension, as well as one of the modes of persuasion. In both instances, wonder figures more as an obstacle to *ἀταραξία* than as a positive factor in inquiry.

Because wonder is located on the interface of inquiry and ethics, a philosophical school's attitude towards wonder is a valuable indicator of its metaphilosophy, or its vision of what philosophy is for and what a philosophical life demands of us.

Preface and acknowledgments

Like most (if not all) works of philosophy, this study is in a sense a footnote to Plato. Specifically, it is a footnote to an aside in the *Theaetetus* (155d), where Socrates states that 'this is very much the emotion of a philosopher, to wonder. The beginning of philosophy is nothing else than this.'[1] Wonder, as 'the emotion of a philosopher' and 'the beginning of philosophy', is central to the enterprise of defining the project of (Greco-Roman) philosophy, as well as the persona of the philosopher. At the same time, though, Plato introduces the concept in an aside, and hardly ever makes wonder the theme of philosophical reflection, either in the *Theaetetus* or elsewhere (see ch.1.1). Wonder is a central element of the philosophical life, yet only a marginal concern for philosophical reflection. This study is an attempt to unpack the meaning of the statement of the *Theaetetus* by looking at the generations after Plato — Aristotle and the Hellenistic philosophers — and analyzing their conceptions of wonder in relation to their self-understanding as philosophers.

First I discuss Aristotle, who develops the Socratic aside from the *Theaetetus* into something like a theory of the origins of philosophy. Then I turn to the different

[1] μάλα γὰρ φιλοσόφου τοῦτο τὸ πάθος, τὸ θαυμάζειν· οὐ γὰρ ἄλλη ἀρχὴ φιλοσοφίας ἢ αὕτη

philosophical schools of the Hellenistic period (Stoicism, Epicureanism, Skepticism), which all developed their own views on wonder: what it is, when it is and is not appropriate, and how it relates to the aims of philosophy, both theoretical and practical.

Although the structure of the dissertation is thus taxonomical, the aim is not merely to describe the particular conception of wonder of each particular philosophical school. The overarching aim is to study the emotional depth of the philosophical life. Wonder is 'very much the feeling of a philosopher', or, in Daston's terms, it is a 'passion of inquiry'.[2] To study the different permutations of this passion in its relation to philosophy is to explore the philosophical life itself, as it was conceived by the ancient Greek and Roman thinkers.

This dissertation would not have been possible without the support of a great number of people. This has partly taken the form of insightful feedback on my work (as always, any remaining mistakes are my own), but mostly I owe great debts of gratitude to a great number of people for their more intangible support in guiding me through the process of research and writing. That I have been fortunate enough to receive the generous support of so many brilliant people truly fills me with wonder and awe.

[2] Daston (2019)

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Introduction

> Pour cette fois, mon intention était de faire justice de la *haine du merveilleux* qui sévit chez certains hommes, de ce ridicule sous lequel ils veulent le faire tomber. Tranchons-en: le merveilleux est toujours beau, n'importe quel merveilleux est beau, il n'y a même que le merveilleux qui soit beau.
>
> —André Breton, *Manifeste du surréalisme*, 1924.

A bright Mediterranean afternoon. The deafening noise of cicadas fills the air, the blue sea reflects the blinding yellow sun, animals and humans alike look for shade and water, and await the relief of the evening cool. At once, an otherworldly dusk engulfs the whole landscape, leaving a dark hole where the sun had been just moments before. A silence falls over the land as insects and birds cease their songs. Humans first fall silent in astonishment, gasp out in amazement, shout in fear, and finally, just as panic starts to spread, the light returns; the sun shines once more, and nature awakens as if it is early morning again.

We have an early record of the impression that a solar eclipse might have made on a Greek in a fragment from a poem by Archilochus:

> χρημάτων ἄελπτον οὐδέν ἐστιν οὐδ' ἀπώμοτον
>
> οὐδὲ θαυμάσιον, ἐπειδὴ Ζεὺς πατὴρ Ὀλυμπίων

ἐκ μεσαμβρίης ἔθηκε νύκτ', ἀποκρύψας φάος

ἡλίου †λάμποντος, λυγρὸν† δ' ἦλθ' ἐπ' ἀνθρώπους δέος.

ἐκ δὲ τοῦ καὶ πιστὰ πάντα κἀπίελπτα γίνεται

ἀνδράσιν· μηδεὶς ἔθ' ὑμέων εἰσορέων θαυμαζέτω

μηδ' ἐὰν δελφῖσι θῆρες ἀνταμείψωνται νομὸν

ἐνάλιον, καί σφιν θαλάσσης ἠχέεντα κύματα

φίλτερ' ἠπείρου γένηται, τοῖσι δ' ὑλέειν ὄρος. (Fr. 122 West)[3]

Nothing is unexpected nor impossible,

nor wonderful, since Zeus, father of Olympians

created night from midday, hiding the light

of the shining sun, and grim fear came upon humans.

Henceforth everything is credible and expected

For men: none of you should look on in wonder anymore,

Even if beasts swap nautical habitat with dolphins

And the roaring waves of the sea become

Dearer to the former, and the woody mountains to the latter.[4]

---

[3] = fr. 74 Diehl. The source for the poem is Stobaeus 4.46.10.

[4] All translations mine unless noted otherwise.

This eclipse (which would have taken place either on June 27 660 BCE or April 6 648 BCE) astonished Archilochus' speaker to the point where he expected that nothing would ever be wonderful or surprising again.[5] After a marvel like this, what surprises could the gods have left?

A few generations after Archilochus, as tradition has it, another Greek reacted very differently to an eclipse. According to Herodotus, the total eclipse of 585 BCE, which took place on the day of a battle between the Lydians and the Medes, had been predicted by the 'first philosopher' Thales.[6] While Thales will certainly have been in awe at the sight of the eclipse, how would he react to his prediction coming true? Surely not with Archilochean astonishment: perhaps his response was something closer to the Archimedean 'eureka!', a triumph at getting it right rather than the shock of horror and surprise. It may also have bolstered Thales' confidence that there is nothing so wondrous that it cannot be explained. His philosophical attitude would have made a Thales deal with wonder very differently than the speaker in Archilochus.

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[5] These lines appear to be spoken by a character in the poem. We know from papyrus finds (*P.Oxy.* 2313) that the poem continues after this opening; Aristotle (*Rhetoric* 3.17, 1418b28) cites this poem (by its opening line) to illustrate the point that it may be helpful to put invective in the mouth of somebody else; in the full poem, these lines were apparently spoken by a father in invective against his daughter (very likely Neobule), and the eclipse presumably served as a backdrop to a description of the daughter's unbelievable behavior.

[6] On Thales predicting the eclipse: Herodotus 1.74, Pliny *NH* 2.9 (12).

But another tale is told about this same Thales. When he went out for a walk, he kept looking at the stars, and, not minding where he was walking, fell into a well.[7] This story is too good to be true, but it does reflect on two sides of the figure of Thales as later Greeks saw him: on the one hand, he was savvy enough not to be caught off guard by an eclipse. On the other hand, he was a starry-eyed dreamer with his head up in the clouds.

This ambivalence in the philosopher's attitude to wonder is the theme of this dissertation. In particular, I will discuss the conceptions of wonder in Greco-Roman philosophy, from Plato to Sextus Empiricus. What will become apparent is that wonder is in a sense a marginal theme in Greco-Roman philosophy, hardly ever taking center stage (as far as we know there are, for example, no books 'on wonder' like there are on friendship, or on anger).[8] Yet at the same time, when it *does* show up, wonder is located at the very heart of philosophical investigation: for Plato and Aristotle, wonder is the origin of philosophy; for the Stoics, wonder is an indicator of our relation to the cosmos, and for Epicurus and Lucretius, dispelling wonder is one of the key tasks of the

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[7] On Thales falling into a well: Plato, *Tht.* 174a; *DL* 1.34 (with the variation that he falls into a ditch, βόθρος); Aesop 40 (without naming Thales).

[8] On friendship, Plato's dialogue *Lysis* and Cicero's *Laelius* survive; other known titles include works *On Friendship* by Aristotle (1 book, *DL* 5.22), Speusippus (1 book, *DL* 4.4), Xenocrates (2 books, *DL* 4.12), Theophrastus (3 books, *DL* 5.45), Zeno of Citium (*DL* 7.175). On anger, Seneca's *De Ira* is the main surviving treatment; a treatise *On Anger* by Philodemus survives in part in the papyrus *PHerc.* 182 (see Armstrong and McOsker (eds.) (2020) for the most recent work on this treatise.) In addition, we know of works *On Anger* by Theophrastus, Antipater, Posidonius, and Sotion. See Monteleone (2014, 131) with references. We cannot exclude the possibility that wonder was an issue in one of the many books *On the Passions* produced in Greco-Roman antiquity, but we have no testimonies that indicate that any of these included discussions of wonder; and in any case, the absence of separate treatises on the topic shows that it was not a priority.

philosopher. For Pyrrhonian skepticism, meanwhile, a facility with arguments also implies a capacity to manipulate wonder at will, making it grow or dissipating it, depending on what the circumstances require.

Wonder figures at most incidentally as a concern in Greco-Roman philosophy, but its intimate connection to contemplation and knowledge makes philosophers' attitudes towards wonder instructive about the general ethos of their philosophical position. The study of wonder can thus illuminate the 'metaphilosophy' of the different schools, and their vision of what feelings a philosopher can and should have.

Metaphilosophy

Any philosophical work implies a metaphilosophical position, or a view of what philosophy is and what it should be. Sometimes this takes the form of explicit theorizing on the nature and task of philosophy, but often it is more implicit, apparent from the style and content of the work. In Greco-Roman antiquity, the metaphilosophical dimension also included a view of what kind of a person the philosopher is and should be (in fact, some ancient philosophical movements, like cynicism, consisted almost entirely of the pursuit of a certain persona).

While there are many paths that lead to an understanding of metaphilosophy, I have found that for Greek and Roman philosophy, the topic of wonder is a particularly

fruitful. In this period, philosophy is at the same time the desire for (theoretical) wisdom and the quest to become a certain kind of person. What is special about wonder is that, as a passion of inquiry, it straddles these two domains. As a response to natural phenomena and logical puzzles, wonder is a feature of theoretical-contemplative activity; as an emotion among others, it is a part of our lived experience, and thus potentially an ingredient in *eudaimonia* — or a challenge to it.

Philosophers' conceptions of wonder are thus a great window into their metaphilosophical views, both on theoretical and on practical matters. How should we respond to natural marvels and logical puzzles? To what extent should our emotions be under our control? Is wonder one of the emotions which are appropriate for an philosopher? If so, wonder at which objects? And if there are certain objects at which we should not wonder, are those also objects which we should refrain from contemplating?

When Plato and Aristotle call wonder the 'origin of philosophy', they also imply that it serves as a bridge between lived experience and theoretical activity: wonder is that feature of lived experience that first sparks theoretical activity. This claim that wonder is the origin of philosophy also inaugurates wonder as the heart of Greco-Roman metaphilosophical conceptions: to think about wonder is, in some way, to think about philosophy itself — both as a pursuit of theoretical wisdom and as the pursuit of a good life.

Previous scholarship

Until recently, wonder was as marginal a topic in scholarship as it had been in antiquity — showing up here and there, but almost never the sole locus of attention. This changed slowly towards the end of the 20th century. With the benefit of hindsight, we can point to the year 1998 as a watershed moment when wonder started to become a mainstream concern for scholarship: it saw the publication of Lorraine Daston and Katharine Park's *Wonders and the Order of Nature*, Philip Fisher's *Wonder, the Rainbow, and the Aesthetics of Rare Experiences*, and Richard Dawkins' *Unweaving the Rainbow: Science, Delusion, and the Appetite for Wonder*.[9] The first of these books presents an influential historical overview of different conceptual schemes for dealing with wonders and monsters in the European Middle Ages and Early Modern period; the second gives an incisive characterization of wonder in terms of 'the aesthetics of rare experiences'; the third defends the notion that science rather than poetry is the locus of true wonder for a mainstream audience. While these are three very different books, their publication in the same year shows that wonder

[9] But see Vasalou (2015) for an extensive review of scholarly work on wonder, including in theorists of the emotions. Notable contributions before 1998 include Heidegger (1989) (originally published in 1937); Verhoeven (1967; 1972); Prier (1989); Greenblatt (1991). My identification of 1998 as a watershed moment requires two important caveats (which Lorraine Daston pointed out to me). First, these three books were not entirely independent of one another, as Lorraine Daston and Philip Fisher were in contact while writing their respective works. Second, the identification of this watershed moment is only possible from hindsight; to those involved, wonder still felt like a marginal topic.

has, in a sense, become a mainstream concern. This raises the obvious question of why wonder had not been a central concern for scholarship before that time.

One reason must certainly be that the wonderful had been overshadowed by the sublime since the time of Burke, Kant and Schiller. Much of the interest in the encounters with the unusual, strange, and uncanny was couched in terms of sublimity, relegating wonder to a secondary place at best. As will become clear in this study, this tendency persists to this day — for instance, my reading of Lucretius' treatment of wonder in chapter 3 is largely in agreement with that of James Porter, of Glenn Most, and of Gian Biagio Conte, all of whom, however, conceptualize Lucretius' attitude in terms of 'the sublime'.

While there is much to be said for the sublime as a category of analysis, it is in some ways an etic, not an emic category: this study deals with a period *before* the sublime had been theorized as such — whenever (pseudo?)Longinus wrote his *peri hypsous*, it was certainly after the time of Aristotle, Epicurus, and Pyrrho, and likely also after Lucretius.[10] When these authors talk about what we now recognize as the sublime, they are at least as likely to use the emotional vocabulary of wonder (θαυμάζειν or *admirari*) as the vertical vocabulary of the sublime. Even Longinus often relies on the language of wonder

[10] On the dating of Longinus, see Russell (1964, xxii–xxx).

to illuminate the sublime.[11] We may be tempted to defuse some of the tensions in ancient philosophical texts by separating out 'happy' wonder from the 'scary' sublime; the fact, though, is that in Greek and Latin, the same words are used to designate both.[12] I will have more to say on the methodological choices around the sublime in the next section.

Why and how did wonder emerge out of the shadow of the sublime as a separate field of inquiry? This may largely have had to do with a renewed interest in the emotions in both philosophy and history.[13] Since wonder and the wonderful are much easier to analyze in terms of feeling and emotion than the sublime (while, conversely, the Kantian sublime better lends itself to a formalist or structuralist analysis) it seems likely that the wave of theorizing about the emotions cleared the ground for wonder as a separate field of inquiry.

More narrowly, in the study of Greco-Roman antiquity, work on wonder tends to concentrate on a single author, or even a single work — there are articles on wonder in Herodotus, in Polybius, in Seneca's *Naturales Quaestiones*, in Plutarch's *Quaestiones Naturales*, in Pliny the Elder, in Cassius Dio, and Vitruvius, to name just a few.[14]

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[11] See e.g. 9.2, 12.5, 15.2, 15.11, 22.3-5, 35.4-5, 36.1, 36.3.
[12] Fisher (1998) includes 'delight' in his definition of wonder; Vasalou (2015) problematizes this by reference to the history of discourse on wonder, a lesson she derives especially from Daston and Park (1998).
[13] Solomon (2004, 3) calls the philosophy of emotion 'quite recent'; Nussbaum (2001, 1–2) presents the inclusion of the emotions in moral philosophy as a controversial choice; Plamper (2015, 59ff) notes that the history of the emotions as a field of study only became viable in the 1990s, and especially after September 11th, 2001.
[14] On Herodotus: Barth (1968); Polybius: Hau (2018); Seneca's *NQ*: Toulze-Morisset (2004); Plutarch: Meeusen (2014); Pliny: Naas (2001; 2004a; 2004b; 2011a; 2011b); Cassius Dio: Coltelloni-Trannoy (2017); Vitruvius: Courrént (2004).

Scholarship on wonder in Plato and Aristotle is surprisingly scarce, for the importance wonder has in their thought.[15] The main field where wonder has been a topic of study is archaic poetry: Raymond Prier's 1989 book *Thauma Idesthai* treats wonder as a central term in the Homeric notion of perception; Richard Neer's *The Emergence of the Classical Style in Greek Sculpture* uncovers a pre-Platonic aesthetic where wonder rather than mimesis is the main criterion for successful art; and Christine Hunzinger has written a series of articles over decades that explore conceptions of wonder in pre-Platonic Greek writing. There is also a significant number of edited volumes that take wonder for their topic in one form or other — most famously, *Paradox and the Marvelous in Augustan Literature and Culture* (edited by Philip Hardie) and perhaps most recently the volume *Tacitus' Wonders*.[16]

However, in Classics as elsewhere in the humanities, wonder is still largely in the shadow of the sublime. James Porter's monumental 2016 book *The Sublime in Antiquity* is a good example of the enduring attraction of the sublime, but also of the ways in which a focus on the sublime obscures themes of wonder (see, again, the sections on Lucretius below, for a wonder-centric account of material that Porter treats as sublime). Moreover, to the extent that wonder *is* a theme, it is not often so on a larger scale — the monographs

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[15] Much of the literature that deals with wonder in Plato and Aristotle is not concerned with explicating what wonder does in Plato and Aristotle. Notable exceptions include Fair (2021), and Gabriel Lear's as of yet unpublished work.
[16] Hardie (ed.) (2009), McNamara and Pagán (eds.) (2022)

on particular authors rarely take a bird's-eye view to consider the larger landscape of wonder in antiquity.

With this study, then, I aim to contribute to a better understanding of wonder in antiquity, and in particular, of wonder in ancient philosophy. In doing this, I hope to fill a lacuna in the history of philosophy (where the discourse on wonder has not really been studied at this altitude before); I also contribute to a growing literature on wonder in particular authors and genres by mapping the permutations of this theme in philosophy. Moreover, the study is independently valuable, since questions about wonder are still relevant to philosophy today.[17] To give an overview of the theories and concerns about wonder in Greco-Roman philosophy is at the same time to provide fresh perspectives on this topic.

History, anachronism, and language

There are some methodological difficulties attached to this topic. A first issue that deserves some consideration is the question of whether emotions have a history.[18] To some extent, emotions are basic human ways of dealing with the world. Presumably, the

[17] See e.g. Bendik-Keymer (2023) and La Caze (2013) for work on wonder in ethics; Jesse Prinz is working on a wonder-centric account of art, to be synthesized in his (forthcoming).
[18] A question discussed in Plamper (2015).

neural and hormonal makeup of humans today is not significantly different from that of the ancient Greeks and Romans, so we might expect that our feelings feel more or less the same as theirs. However, emotions are never bare neuronal or endocrine responses: they are always embedded in a larger psychological, social, and cultural context — dependent on our sense of self, on our position in society, on the social pressures of our particular community, on symbolic associations, and a myriad of other factors. Something similar is true for colors: the human eye may not have changed much between the Renaissance and now, and the color ultramarine may have the same wavelength now as it did in Giotto's time, but contextual factors (like the scarcity of lapis lazuli, its exotic provenance, its high price, and the related practice of using blue for important figures like the Madonna) gave ultramarine a very different meaning for Giotto than it has for us.[19] Accordingly, there is such a thing as the history of the color ultramarine, just as there is a history of an emotion.

Even granting this, one might still be skeptical about a historical account of wonder that treats the feelings of the Greeks as different from ours. If our conception of wonder is different from that of a Plato or Aristotle, that may just mean that we have lost (or gained) an insight that they did (or did not) have. At least one writer on wonder makes

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[19] See, e.g., Ball (2002, 276–77) on the synthetic production of ultramarine and the initial reactions to it.

such a claim, assuming 'a common philosophical outlook, a *philosophia perennis*'[20] underlying the whole Western tradition; this *philosophia perennis* is 'real wonder', while other conceptions (including the suspicions of the Hellenistic era and the demystifications of modern science) are 'cheap substitutes' for wonder (xii), rather than evidence of historical mutations in the attitudes towards wonder. But this approach is obviously circular: by taking one strand in a rich history as 'authentic' and dismissing everything else as a 'cheap substitute', we do not learn anything about history, but merely cherry-pick examples to support our favorite account of wonder.

Emotions, then, have a history, if only because the self and society have a history. On the one hand, this raises the stakes for an investigation into Greco-Roman conceptions of wonder: rather than just pointing at places where Greeks and Romans talk about a feeling that we also have, we can uncover unfamiliar ways of feeling, and unfamiliar ways of thinking about feelings. On the other hand, it introduces the danger of anachronism. If the Greeks may have meant something different when they spoke about 'θαυμάζειν' than we do when we talk about 'wonder', how are we to interpret their utterances?

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[20] Quinn (2002, xi)

This is a serious problem at a theoretical level, but also in a practical sense: given a Greek or Roman text, how do you decide what is and is not relevant for a study of wonder? The temptation is to start from our intuitions about wonder, but it is clear from the lexica of even a small sample of European languages that semantic field covered by the Greek word θαυμάζειν can be cut up in a number of different ways:

Table 1: the vocabulary of wonder in different languages

English	marvel, wonder	admire	wonder (e.g. why)	be surprised
Dutch	zich verwonderen	bewonderen	zich afvragen	verbaasd zijn
German	sich wundern	bewundern	sich fragen	überrascht sein
Italian	maravigliarsi	ammirare	chiedersi	essere sorpreso/a
French	s'émerveiller	admirer	se demander	être surpris(e)
Spanish	maravillarse	admirar	preguntarse	estar sorprendido/a
Latin	admirari	admirari	quaerere	mirari
Greek	θαυμάζειν	θαυμάζειν	θαυμάζειν	θαυμάζειν

This table shows how capacious the Greek term is. To capture the meaning of only one Greek verb (θαυμάζειν), many modern languages need four different terms. Granted, many of these terms are etymologically related: in the languages of Northern Europe,

there is a cluster of words around the root 'wonder',[21] with Dutch and German distinguishing senses by different prefixes (*ver*wonderen vs. *be*wonderen), while romance languages tend to use derivates of the Latin (*ad*)*mirari* and its cognate *mirabilis*. But there are still differences between these etymologically related terms: *maravillarse* is not *admirar*, and *wundern* is not *bewundern*. Beyond this table, it is also worth noting that both Spanish and Italian have another common verb derived from *mirari*: the verbs *mirar* and *mirare*, respectively, meaning 'to watch' or 'look at'. So a derivation from the Latin word for wonder is by no means a guarantee that a modern word means 'wonder'. Moreover, English happens to share a feature with ancient Greek, that the idea of 'to ask oneself' can also be expressed by the same verb as 'to marvel'. From the comparisons in this chart, it is clear that this overlap is by no means universal. On the other hand, both Greek and Latin use the same word for 'to wonder' and 'to be surprised'. Once upon a time this particular polysemy also existed in English, but it is by now no longer in use.[22]

What all of this suggests is, first, that wonder not only has a history, but a highly localized history, where terms can shift, diverge, and morph in a variety of ways. Second, it shows that starting from our own intuitions about what 'wonder' means is a perilous

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[21] The OED gives the following related words: Old English *wundor*, Old Frisian *wunder*, Old Saxon *wundar*, Middle Dutch *wonder*, Old High German *wuntar*, Middle High German *wunder*, Old Norse *undr*.

[22] A random example, from chapter 2 of George Eliot's *Middlemarch*: 'Miss Brooke was clearly forgetting herself, and Celia thought so. "I wonder you show temper, Dorothea."'

choice. It makes a great difference which language our intuition starts from, since modern European languages cut up the domain in different ways. For example, in my experience, Dutch speakers tend to experience a greater contrast between wonder in the sense of 'marvel' and wonder in the sense of 'wonder why', and many Dutch friends and acquaintances have expressed their surprise at my study including both aspects — something that hardly ever seemed to puzzle native speakers of English. Conversely, Dutch and German make it much easier to see a connection between 'to marvel' and 'to admire' than English does.

Instead of starting from intuitions about the meaning of 'wonder' or 'verwondering', I have started with a semantic survey of the relevant words. The assumption was that by following the Greek and Latin terminology more closely, I would do more justice to the original texts than if I were to start from the English. To give one example: in Diogenes Laërtius' account of Pyrrhonian skepticism (on which see chapter 4 below), he introduces τὰ θαυμαζόμενα as one of the things that induce people to belief (*DL* 9.78). Later, he frames one of the ways of suspending belief by talking about what we do and do not wonder at (θαυμάζονται, *DL* 9.87). Some scholars have questioned whether these two instances of the verb θαυμάζειν are synonymous.[23] On my reading,

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[23] Barnes (1992, 4291), claiming that the occurrence in 9.78 means 'admired' rather than 'surprising'.

the synonymy is obvious. This does not mean that we cannot ask whether there is a conceptual slippage — after all, even for a Greek, there is a difference between being surprised at something and admiring that thing. But in instances such as this one, I have tried to start from the Greek rather than jump to distinctions in English.

The approach I have taken can be described as snowball hermeneutics: I started by collecting the instances of words of the root θαυμ- or *mir*- in different texts, authors and genres, and included the context of those instances in the understanding of what is meant by 'wonder'. This led to a broadening working understanding of the relevant concept beyond the mere words, which led me to include other Greek words like ἔκπληξις, θάμβος, παράδοξος, and τέρας, and to be extra alert for certain topics, like discussions of cosmic order, greatness of soul, and the fear of the gods. Put differently, I have followed the words to work towards understanding the meanings.

With this approach, it has proven an asset rather than a liability to have access to different and more differentiated vocabularies through modern languages. The availability of the English vocabulary allows me to differentiate between admiring, being puzzled, being in awe, and being surprised. We sometimes see Greek sources struggling with this polysemy — as, for instance, when Plutarch complains that people misunderstand the Pythagorean motto 'μηδὲν θαυμάζειν' (*Moralia* 44B): they take it to mean that you should never praise people. Plutarch's explanation amounts to this: they

understand θαυμάζειν as 'admire', but it means 'marvel'. The fact that there is this confusion, though, and that Plutarch has to spill some ink in explaining the confusion, is instructive: for Greeks, the senses of θαυμάζειν overlap strongly. For us, with access to a wide vocabulary, this kind of confusion is easy to dispel.

What this means, ultimately, is that we solve the problem of anachronism by first following the lead of the original text, but doing our best to understand where in the semantic field we are. I have decided not to start from our 21st century English-language intuitions, but I have made an effort to translate the nuances of the Greek into 21st century English. Thus, *pace* a Heideggerian school of thought,[24] I have assumed that the Greek is translatable into English without too much loss of meaning. And when in doubt, I have relied on the English word 'wonder' as the catch-all term to capture θαυμάζειν, though I have been careful to always indicate when a Greek or Latin phrase is in some way ill served by this translation.

In addition, I have always tried to remain sensitive to context and genre. When Epictetus makes an off-hand remark on tragedies being due to people wondering about external things (*Disc*. 1.4.26), this is quite different from Aristotle's claim that philosophy begins in wonder: Aristotle makes the statement in the context of a theoretical argument,

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[24] See especially Prier (1989), followed by Neer (2010).

Epictetus in a rhetorical mood. Aristotle is speaking *ex cathedra*, as it were, while Epictetus is speaking off the cuff. A very different value attaches to these two different utterances. Similarly, when Cicero or Seneca says 'it is no wonder that (xyz)' (the Latin adverb *nimirum*), this might be dismissed as a mere way of speaking, but when Lucretius does the same thing, he shows a keen awareness of the literal sense of that way of speaking. Different authors and different contexts require to be taken with different degrees of seriousness, different portions of salt.

There is another challenge related to anachronism. Given that our notions about wonder are likely to be different from those of 'the Greeks', we can ask whether there are not also differences between 'the Greeks' and 'the Romans', or within these groups. Does Aristotle mean the same thing by θαυμάζειν as Seneca means by *admirari*? And does Sextus Empiricus mean the same thing by θαυμάζειν as Aristotle does?

This study focuses on the discourse on wonder in a particular genre (philosophy) at a particular period of time (classical antiquity) in a particular region (the Greco-Roman Mediterranean). This is a closely knit domain, which can fruitfully be described as a 'language game'. The participants in this language game all share a frame of reference (Greek history and mythology, Homer, Socrates, Plato), either have a biographical or an

imaginative link with the same geographical location (Athens),[25] and are constantly negotiating their positions relative to one another. The only real break within this language game is that between Greek and Latin, but the relevant Latin authors (in particular, Lucretius, Cicero, and Seneca) all show a serious concern with the challenges of rendering Greek into Latin, showing that the same language game is continued across the linguistic barrier. Greco-Roman philosophy is a 'small world network', in the sense that the distance between any two authors is relatively short, and everyone can be assumed to know everything that went before (be it directly or indirectly). The assumption that we can treat the Hellenistic-philosophical discourse on wonder as a stable unity seems justified.

Although the token 'θαυμάζειν' may be used in several ways in the larger language game of ancient Greek prose, the philosophical vocabulary around the verb has a certain coherence: there are characteristic objects of the verb (stars and planets, earthquakes and volcanoes, gold and velvet, glory and power) that connect it to characteristic contexts (contemplation, physical investigation, ethics). This suggests that Aristotle, Lucretius, Epictetus and Sextus Empiricus, for all their many differences in

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[25] The authors who did not spend time in Athens (Seneca, Epictetus, probably Lucretius) all share an imaginative connection to Athens through their philosophical allegiance (Athens as the birth place of Epicureanism/Stoicism, as the home of Socrates, and as origin for a stock of historical examples). See Netz (2020, 323–48) for an explanation of this fact; the 'residual charisma of Socrates' (306) is a particularly important factor in philosophy's connection to Athens. Sextus Empiricus is an exception: he may or may not have been an Athenian himself, but his hero Pyrrho seems to have had little or no connection to Athens.

attitude, education, background, and historical environment, nevertheless talk about the same thing when they talk about wonder.

Definition

This preliminary research on the semantics of wonder leads me to propose the following definition of θαυμάζειν. This definition covers all of the different columns in Table 1 above, while not relying on the particularities of modern languages:

> θαυμάζειν is the feeling of a mismatch between your preconceived notions and a given experience, where the given experience exceeds the preconceived notion.

This definition covers all the bases: θαυμάζειν can mean 'to be surprised' when the mismatch is particularly jarring, sudden, or unexpected ('I did not expect the Spanish Inquisition!'). It can mean 'admire' when the preconceived notion is not a specific belief about this occurrence, but a general notion about how things usually go: e.g. we admire an athlete for performing feats that exceed what we consider normal for humans (but see below for a necessary qualification). It can mean 'to be puzzled' when the mismatch challenges your preconceived notions without providing an immediate resolution. ('I

thought I understood it, but this new information changes everything.') It can mean 'to wonder whether (if, when, who, how, etc.)' when an unresolved preconception is kept in suspense by a dearth of information. Finally, it captures the spirit of 'wonder', which Fisher defines as 'a sudden experience of an extraordinary object that produces delight.'[26] . The final clause, on the experience exceeding the preconceived notion, is required to exclude 'disappointment' from the list of possible translations, as well as to make sure that the definition can properly capture the evaluative moment in 'admiration'.

It is on the axis of 'admiration' that the English is farthest removed from the Greek θαυμάζειν. First, the English 'admiration' does not need to involve a mismatch of any kind. This is a point Adam Smith makes in his essay on the history of astronomy (§4). His exemplary objects of admiration are 'the beauty of a plain or the greatness of a mountain, […] though nothing appears to us in either, but what we had expected with certainty to see.' (*Astronomy* §4). This may be true for the English verb 'to admire', but does not necessarily translate to the Greek θαυμάζειν, which implies a degree of surprise by virtue of its polysemy: if the same verb can mean 'surprise' and 'admiration', it is no stretch to say that the admiration is generally tinged with surprise.[27]

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[26] Fisher (1998, 55).

[27] If we were to parse Smith's examples in terms of a mismatch, I would argue that the contrast between everyday experience and the beauty of a plain or the greatness of a mountain is a condition for admiration. Even if this mismatch is not exactly unexpected, it is nevertheless necessary for such admiration to take place. When I lived in Venice, my admiration for the beauty of the place slowly faded into a milder feeling of pleasant approval, but whenever I left Venice and came back, the wonder-like admiration would return.

Second, even if we assume (*pace* Smith) that a mismatch between conception and experience is a *condition for* admiration, the mismatch is not what admiration consists of: admiration is primarily a form of approval.[28] I think this is true of the English 'admiration', but not quite right for the Greek. If my definition of θαυμάζειν is right, the form of admiration contained in the Greek verb might be translated more precisely as 'to find yourself admiring': θαυμάζω tends to be involuntary, highlighting the moment of mismatch rather than that of approval (which Greek more aptly captures with verbs like τιμάω).

My definition has the benefit of being agnostic as to just how θαυμάζειν *feels*. Fisher's definition of wonder makes 'delight' a central feature, but it is not at all clear that θαυμάζειν is necessarily delightful. And although θαυμάζειν can sometimes imply fear, it does not always do so. In fact, we will see a number of authors (including Epictetus and Horace) linking θαυμάζειν / *admirari* to a number of different emotions.

This definition also allows us to make sense of a number of issues in our Greek sources. It explains why Aristotle, in *Metaphysics* A2, would confidently assert that wondering implies ignorance: there is a sense in which our existent system of cognitions falls short in θαυμάζειν. It explains why Greeks could use παράδοξον is a near-synonym

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[28] I am indebted to Gabriel Lear for pointing this out.

for θαῦμα: both involve something contrary-to-opinion (the literal meaning of παράδοξον). It explains why wonder can be tinged with fear: the experience of the unfamiliar or unknown can be frightening as well as spectacular. Finally, our definition already captures a key Greek conception about θαυμάζειν, which is that it is only aimed at objects we conceive to be greater than ourselves. (For this aspect, see especially sections 2.3 and 2.4.)

Scope of the work

In this study, I have aimed to cover the philosophical discourse on wonder from Plato to the imperial Roman age. This involves some limitations — matters I could have discussed, but did not. These include:

- Plato.

  While I include a discussion of Plato in section 1.1, this is really only a brief sketch that serves as a background for the longer discussion of Aristotle. A more in-depth study of wonder in the Platonic corpus could certainly be fruitful (see Fair (2021)), but it is not clear that it would better help us understand the discussion on wonder in the Hellenistic period. Since it is only in Aristotle that we find real reflection on wonder's position as the origin of philosophy and on its connection to learning, I

have chosen to discuss Plato only insofar as doing so illuminates the issue in Aristotle.

- Pre-Platonic philosophers.

  I have treated Plato as a convenient starting point, since his claim that philosophy begins in wonder is, in a sense, what sets up the whole problem of this study: there is an intimate connection between wonder and philosophy, which later generations of philosophers feel the need to work out. I have occasionally referred to earlier philosophers — whether to fragments (as with Democritus or Pythagoras) or anecdotes (as with Thales), partly to show that the Platonic connection between wonder and philosophy has its predecessors, and partly to illustrate common archaic Greek conceptions. But as I argue in section 1.1, Plato's claim that philosophy begins in wonder is itself a fresh start to the discourse on wonder.

- Neoplatonism.

  Although I do discuss Plotinus' view on the objects of wonder (in section 2.3), I have not discussed Neoplatonism at length. This is for simple reasons of space and time. Plotinus' engagement with Plato and Aristotle as well as Stoicism puts him in the same language game as the philosophers I have studied, making anything

he says about wonder a relevant addition to the present work. Moreover, the Neoplatonic predisposition towards mysticism and theurgy might open up a whole new approach to the relation between philosophy and wonder. But I have not had the time to delve into the rich corpus of Neoplatonism. This might be material for a follow-up study.

- Christian thought.

  Early Christian authors had some concerns about wonder, which partly derive from the discussions among pagan philosophers. I have on occasion found it useful to refer to early Christian authors (Augustine in particular) to illustrate points in theology. However, I have decided against including Christian thought as a topic in this study. First of all, it would have taken much more time. Second, the Church fathers, though they often engage with pagan philosophical thought, play a different language game, with different rules, different points of reference, and a different aesthetic. Wonder in early Christian thought is a promising topic of study, but material for another book.

- Paradoxography.

In the scholarly literature on wonder in antiquity, paradoxography is one of the most discussed genres.[29] However, the influence of this genre on philosophy seems negligible,[30] the influence of philosophy on paradoxography is questionable, and it is not at all clear that the paradoxographers are playing the same language game as the philosophers when it comes to wonder. In the paradoxographical corpus, we do not find the cross-references, demarcations, self-definitions, and explicit polemics that we find in the corpus of Greek and Roman philosophers. I have on occasion pointed out the difference between philosophical and paradoxographical priorities (e.g. with respect to Cicero's catalogue of marvels in section 2.2 and Seneca's *Naturales Quaestiones* in section 2.4.4.), but have not found it necessary to discuss paradoxography in its own right.

- The sublime.

In a sense this whole book is about the sublime. Contemporary commentators tend to make a lot of the *distinction* between 'the wonderful' and 'the sublime'[31]. But the

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[29] See e.g. Schepens and Delcroix (1996), Pajón Leyra (2011), Geus and King (2018), Shannon-Henderson (2020), Yu (2022).

[30] In the period under consideration, I know of only two points where the histories of the two genres overlap: the fact that the collection *On marvellous things heard* came to be included in the Aristotelian corpus (although it clearly a product of the Alexandrian tradition that began in the circle around Callimachus — see Fraser (1972, 454–55) and Schepens and Delcroix (1996, 383)), and the fact that Cicero apparently wrote a work of paradoxography (for which our source is Pliny the elder; See Schepens and Delcroix (1996): 429 (with note 184)). Augustine's discussion of hell in *De Civitate Dei* book 21 is a possible exception — he quotes Solinus at some length to show that God has created many strange things, and therefore an eternally burning fire is nothing out of the ordinary. But Augustine writes from a Christian context, and his use of Solinus is more rhetorical than philosophical.

[31] See, for instance, Fisher (1998).

distinction is not necessarily something that a 4th century BCE Greek or an early Imperial Roman would recognize. The vocabulary of 'sublime' (or the Greek ὕψος) is by no means the only way of talking about this effect.[32] Many of the ancient discussions of something like 'the sublime' (both pre- and post-'Longinus') are really discussions of a particular inflection of wonder. The discourse on wonder in Hellenistic philosophy is also concerned with the kind of reaction that Longinus describes in terms of literary theory, but for the philosophers, this reaction is existential rather than literary: a real fear to be dealt with rather than a dramatic effect to be pursued. In a sense, then, this investigation can be read as a contribution to a pre-history of the sublime: by following ambivalences about 'wonder', we can trace the points of fracture that would eventually widen to a real split between 'the wonderful' and 'the sublime'. But it bears emphasizing that for the authors I study, there is no such split — in fact, for many of them, it would make no sense to talk of 'the sublime' as something separate from wonder. (And as we will see throughout, the verticality implied in 'the sublime' is also a recurring feature of the discourse on wonder). If I have not discussed the treatise *On the Sublime*, it is because it does not contribute much to the philosophical

[32] In this respect, I believe James Porter does not go far enough in emancipating the sublime from Longinus (2016, 26): he still takes Longinian terminology as the central focus, rather than shifting the focus. As I will argue below, the 'Lucretian sublime' is really a particular use of wonder, and all of Lucretius' theorizations of our reactions to enormity are couched in terminology of *admiratio*.

discourse on wonder. But in dealing with the philosophical discourse on wonder, the sublime is a constant theme.

Another methodological decision that deserves some comment is my focus on *reflections on* wonder, rather than *expressions of* wonder. Wonder is, in a way, both the subject and the object of philosophical investigations: an object that philosophers can dissect and argue about, but also an emotion that can drive philosophers in their pursuit. These two sides — the theoretical conception of an emotion, and the feeling of the emotion — are often closely related; following Peter and Carol Stearns, we can call the former 'emotionology', while reserving the term 'emotion' for the latter. It is a well-documented fact that emotionology can and does influence emotion: our conceptions of feelings make a difference in how those feelings feel.[33]

In this study, I have tried to focus mostly on the emotionology of wonder — theoretical elaborations of what wonder is and does. I only occasionally deal with emotion proper, that is, with the expressions of wonder that sometimes show up in philosophical texts; and when I do so, it is in support of an emotionological inquiry.[34]

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[33] See Nussbaum (2001, 159–62) for a series of relevant examples, drawn in part from ethnography.
[34] Examples include Aristotle's biology (section 1.2.5), Lucretius' *divina voluptas … atque horror*' (section 3.3), and Balbus' exclamations in Cicero's *ND* (section 2.2.4).

This is, admittedly, not the only way to approach the topic. It might be very fruitful to look at the (kinds of) topics that philosophers do and do not express wonder about in their philosophical prose; for example, a study of (expressions of) wonder in the Platonic dialogues would undoubtedly be a valuable companion piece to the study of Plato's view of wonder as the origin of philosophy. But my focus has been on emotionology over expressions of emotion, as it seemed important to me to first get clear about what wonder means to Greek and Roman philosophers before interpreting how it would have made them feel.

The structure

As is typical for works dealing with Hellenistic philosophy, the different chapters of this work deal with the different philosophical schools (with Plato serving as the background for a discussion of Aristotle). This is not the only possible way to structure this material: a thematic ordering would have brought together in one chapter the material on wonder and contemplation we find in the different schools, in another one the material on wonder and greatness of soul, and in yet another the connection between wonder and theology. However, wonder serves as an indicator of metaphilosophical commitments: it plays a central role in discussions on the origin and aim of philosophy as well as on the emotions and attitudes proper to the philosopher or sage. Since the different philosophical schools

hold different views on these metaphilosophical questions, it seemed to me to be better to deal with each school in turn, so as to flesh out the different views of wonder in a number of coherent pictures of metaphilosophical outlooks. While I have done my best to indicate thematic continuities and divergences along the way, the book is thus taxonomical in its organization.

Within this organization by philosophical schools, this study is roughly chronological in its structure: I move from Aristotle to the Hellenistic schools of philosophy, where Pyrrhonian Skepticism comes last because our sources for it are relatively late. The choice to deal with Stoicism before Epicureanism was a matter of presentation rather than chronology: the best way to explain the Epicurean concern that wonder may make people believe in the divine rule of the cosmos is to first present the Stoic view, which makes precisely the connection that the Epicureans worry about.

In the first chapter, I introduce the Platonic idea that philosophy begins in wonder by embedding it in the context of the *Symposium*. Diotima's portrait of the lover in the *Symposium* is also a portrait of the lover of wisdom, or philosopher, which puts it in close proximity to the remarks on philosophy in the *Theaetetus*. This comparison shows that wonder is like love in occupying an important middle position between knowledge and ignorance. For Plato, the sight of the beautiful itself is an experience of wonder, which puts wonder both at the beginning and at the end of philosophical investigation.

Aristotle modifies this Platonic picture slightly: rather than as an ascent towards the beautiful, he characterizes philosophical investigation as a sort of circle. The initial impetus for investigation is wonder, but in the process of philosophical inquiry, we achieve knowledge, which dispels the initial wonder. However, this circle does not merely stay in place: the possession of new knowledge often opens up a new episode of wonder, which Aristotle sometimes qualifies as more reasonable wonder. This makes the circle of wonder into something like an upward spiral, that takes us from lower to higher forms of knowledge and of wonder. If particular instances of wonder are dispelled along the way, the overall sense of wonder remains intact. In fact, Aristotle suggests (in the 'invitation to science' in the *Parts of Animals*) that it is characteristic of natural things to cause wonder. His celebrated phrase that 'in all natural things there is something wonderful'[35] is not about the surface effects, but the deeper causes: insight into the causes of things is insight into the true wondrousness of nature. Nevertheless, the more characteristic tendency of wonder is to try to abolish itself: wonder involves a position between ignorance and knowledge and is a spur to pursue knowledge. To heed the call of wonder is thus to try to escape ignorance, and thereby to dispel wonder.

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[35] ἐν πᾶσι γὰρ τοῖς φυσικοῖς ἔνεστί τι θαυμαστόν, *PA* 1.5, 645a17.

Aristotle also introduces a number of considerations about wonder that will become important to the later schools of philosophy. First, Aristotle seems to have been the first to remark that greatness of soul is in a sense incompatible with wonder: to wonder at something is to consider that thing greater than yourself, while to a great-souled person, nothing is great. This is an insight that Aristotle does not connect to the notion that wonder is the origin of philosophy, but the Stoics (and especially Seneca) are very much concerned with connecting the sage's position above wonder to their role as contemplator of the world. Second, in the lost dialogue *On Philosophy*, Aristotle appears to have drawn a connection between wonder and the conviction that the world is ruled by divine providence — a thought that both Stoics and Epicureans will pick up on in their own ways.

When we turn to the Stoics in the second chapter, we see these Aristotelian insights worked out in more detail. After some considerations about the nature of our Stoic sources (2.1), we turn toward Cicero's *De Natura Deorum* (2.2). The second book of that work contains a Stoic argument for the providential rule of the universe, which he introduces as a 'topic which is drawn from wonder at heavenly and earthly matters' (*locus qui ducitur ex admiratione rerum caelestium atque terrestrium*, *ND* 2.75). This is actually a version of the argument from design. However, Cicero's Stoic spokesman puts wonder front and center in this argument, in order to show that the intelligence that has designed

the world is a divine intelligence — our wonder at the spectacle of the cosmos shows how far the intelligence of the creator outstrips merely human intelligence. Cicero's Stoic thus follows Plato and Aristotle in locating wonder between knowledge and ignorance, but applies this conception in a theological rather than a metaphilosophical context.

While wonder's importance to Stoic theology shows that there is a place for wonder even in the life of a pious Stoic, it is nevertheless an emotion. The Stoic aim of ἀπάθεια thus makes wonder suspect as well. Epictetus in particular is keen on warning us against wonder, as I show in section 2.3. In fact, he sometimes suggests that wonder is the mother of all emotions, as when he defines tragedy 'the emotions of humans who have wondered at external things, displayed in such-and-such a meter'.[36] His point is not that tragedies are depictions of wonder, but that the emotions of tragedy result from misapplied wonder. This is because wonder contains a moment of high valuation. When we wonder at external things, we attach a high value to those things, which are inherently without value. This mistaken value judgment makes wonder a gateway emotion that can cause us to lose control, to the point where Epictetus considers wonder as tantamount to mental slavery.

[36] τί γάϱ εἲσιν ἄλλο τϱαγῳδίαι ἢ ἀνθϱώπων πάθη τεθαυμακότων τὰ ἐκτὸς διὰ μέτϱου τοιοῦδ' ἐπιδεικνύμενα; *Discourses* 1.4.26.

Seneca largely agrees with Epictetus on the general theory of wonder, but devotes much more attention to drawing portraits of the sage, which include wonder in a number of ways (2.4). First, the spectacle of a sage, a virtuous person, or a great-souled person is a spectacle that should cause wonder in everyone. Second, one of the key reasons why the sage is worthy of wonder is that the sage looks down upon so many things. Seneca casts contempt as a mirror image of wonder: wonder looks up from a lower place, contempt looks down from a higher place. The contemptuous attitude of the *sapiens* is a reason why we should train ourselves to be above wonder, and it is at the same time a reason for us to wonder at the *sapiens*. Third, Seneca does consider the activity of contemplation as a pursuit worthy of a sage, and often describes contemplation in terms that include wonder. These different valences of wonder correspond to different objects and their position on the *scala naturae*: we should not wonder at merely external and indifferent matters, but should wonder at the mind of the sage, at the order of the cosmos, and at the totality of philosophy as the mirror of nature where mind and cosmos meet.

In the third chapter, we turn towards Epicureanism. The surviving writings of Epicurus himself only contain one hint to his conception of wonder, in the *Letter to Herodotus*. While ignorance of natural events can cause fear, Epicurus claims that an excessive pursuit of the knowledge of nature can cause even more fear, because 'the astonishment that arises from the additional contemplation of these [phenomena] cannot

find a resolution'.[37] We will parse this puzzling claim by unraveling its context: the ethical motivations for doing natural philosophy in general and meteorology in particular.

The connection between wonder and fear is even more pronounced in Lucretius' *De rerum natura*, where dispelling wonder at natural phenomena is one of the main concerns (especially in the last two books). Lucretius' remarks on wonder show that he considers it to be a path to fear because wonder leads to religious superstition. To wonder at natural phenomena can lead us to fear the gods, even when we know in theory that the gods are not concerned with human affairs.

In addition to this general view of wonder, we will look at specific strategies that Lucretius uses to neutralize wonder. His main strategy is consistent with the Aristotelian view of philosophy: giving explanations of phenomena makes us stop wondering at them. But Lucretius has other tools as well: pointing out the enormity of the universe can make implausible things sound plausible, thus helping us get rid of wonder; and in some cases, mere habituation can be the appropriate way to dispel wonder. For Lucretius, the fact that we do not wonder at things we see every day shows that we are capable of getting used to anything.

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[37] ὅταν τὸ θάμβος ἐκ τῆς τούτων προσκατανοήσεως μὴ δύνηται τὴν λύσιν λαμβάνειν, *Hdt.* 79.

However, Lucretius' resistance to wonder is only part of the story. The prevalence of effects of the literary sublime creates a tension in Lucretius: while devoted to debunking wonder, he is also a master at creating wonder. Following Monica Gail, I argue that this tension is part of Lucretius' didactic mission: by bunking before debunking, Lucretius makes his lessons maximally effective. This is both because he makes the material more exciting, and because inflating the wonder makes the act of deflating more impressive. The final effect of all this is that the mind of the philosopher and the skill of the poet are the truest objects of wonder.

In the fourth and final chapter, we turn towards Pyrrhonian skepticism. In our surviving sources for Pyrrhonian skepticism, there are two places where wonder plays a role. The basic tools in the skeptic's arsenal are the ten modes of suspension: patterns of argumentation that allow a skeptic to reach a suspension of judgment. The ninth of these modes is concerned with the common and the rare, and it involves considerations of wonder. We will see how the capacity to bunk and debunk wonder helps the skeptic reach her particular vision of happiness.

In addition to the modes of suspension, wonder is also included in another list of modes, the mysterious 'modes of persuasion' — mentioned without much explanation by Diogenes Laërtius, and absent from our other sources. It seems that the skeptics considered wonder to be one of the ways in which people come to hold beliefs. We will

see that this does not amount to the view that wonder is a reason for people to hold beliefs; instead, it is a causal factor in bringing about beliefs. If beliefs caused by wonder tend to be ungrounded, this is good news for the skeptic, as that may make these beliefs easier to dispel.

Finally, we will look at a short skeptical poem, appended to Sextus Empiricus' *Outlines of Pyrrhonism* (*PH*) in the manuscripts, though probably not written by Sextus himself. This short hymn to Pyrrho plays with the trope (familiar from Stoicism and Epicureanism) that the mind of the philosopher is the truest wonder; however, in its adherence to skeptical forms of thought, the poem presents Pyrrho's wondrousness in an odd way: it is a matter of appearing rather than being, and the poem presents Pyrrho's achievements in two conflicting ways, suggesting the need for a suspension of judgment about his true merits. However, the hymn's encomiastic tone undercuts a final suspension of judgment: although Pyrrho may merely *appear* to be a marvel, and there is an avowed possibility that his achievements were mere arrogance, the effect of the hymn is to reinforce the idea that the mind of a sage is a real object of wonder.

In the epilogue, we will first look at some ways in which non-philosophers engaged with the philosophical discourse on wonder. In particular, the sixth of Horace's *Epistles* gives something like an outsider's view of the *status quaestionis* by the Augustan age: it had become relatively mainstream to consider wonder as an obstacle to happiness.

In presenting this idea, Horace does not seem to rely on a particular school of thought, but to sum up the wisdom of the time. The way in which Horace departs from the philosophical tradition is not by his negative evaluation of wonder, but in his suggestion that not even wisdom itself is something to be wondered at.

Then, we will consider a possible 20th century parallel for the attitude of wonderlessness preached by Horace: the ideal of coolness. Coolness combines an absence of wonder with a general attractiveness, and this is close to what the Hellenistic schools imagined a philosopher to be. However, we will also see that Plato's portrait of the 'leaders' of philosophy in the *Theaetetus* and of Socrates in the *Symposium* portray him as uncool: from the point of view of the ordinary Athenian, Socrates is not an attractive figure, but an oddball. However, Plato manages to shift the relevant values in such a way as to make the philosopher into an attractive figure; we thus witness 'the birth of the cool'.

Chapter 1. Aristotle

> Do not all charms fly
> At the mere touch of cold philosophy?
>
> —John Keats, *Lamia*, part 2, vss. 229-230

1.1. The Platonic ascent

Philosophy begins in wonder — undoubtedly the most celebrated and influential statement about wonder and its relation to philosophy. The claim is first found in Plato's *Theaetetus*, but it is Aristotle who develops it into something like a theory of the origin of philosophy. In this chapter, we will take a brief look at Plato's formulation, and then lay out Aristotle's conception of wonder in its relationship to philosophy.

1.1.1. Theaetetus

It is beyond the scope of this study to give a full discussion of the role of wonder in the works of Plato. Moreover, doing so would be difficult since wonder is hardly ever thematized as such in the dialogues, which makes it challenging to figure out what a Platonic theory of wonder might look like. Most of the talk of wonder in Plato occurs in expressions of surprise by characters in the dialogue — are these to be taken as expressions of a systematic theory of wonder, or merely as dramatic touches? Rather than

doing a deep dive into Plato's works, I will briefly deal with two of his dialogues, the *Theaetetus* and *Symposium*, as representative of a possible Platonic conception. These are two dialogues in which wonder is thematized to an extent, and is thematized in relation to the task, the origin, and the nature of philosophy.[38] Our main aim in discussing them is to set up a background against which to make sense of Aristotle. Moreover, in considering the originality of Plato's connection between wonder and philosophy, we can appreciate the extent to which the Platonic and Aristotelian appropriation and problematization of wonder is shakes up traditional Greek notions.

While Plato's *Theaetetus* contains the original formulation of the slogan that philosophy begins in wonder, the passage where it occurs is really an aside. During a discussion of the paradoxes of Protagoras' relativism, young Theaetetus remarks that he is getting dizzy:

> ΘΕΑΙ. καὶ νὴ τοὺς θεούς γε, ὦ Σώκρατες, ὑπερφυῶς ὡς θαυμάζω τί ποτ' ἐστὶ ταῦτα, καὶ ἐνίοτε ὡς ἀληθῶς βλέπων εἰς αὐτὰ σκοτοδινιῶ.

[38] In taking the *Symposium* as a further elaboration of the aside in the *Theaetetus*, I follow Gabriel Lear's (unpublished) article (2016). For an alternative approach to the question of wonder in Plato and Aristotle, see Nightingale (2004). She starts from the cultural practice of *theôria* and reads Plato's and Aristotle's conception of philosophy through the lens of travel, highlighting the connection between 'wandering' and 'wondering' (the title of an article on the same material, Nightingale (2001)). Another approach, taken by Erler (2015), looks at the manipulation of emotions in Socrates' philosophical rhetoric, and takes wonder as a key instrument in this 'Verunsicherungsrhetorik' (p.119).

ΣΩ. Θεόδωρος γάρ, ὦ φίλε, φαίνεται οὐ κακῶς τοπάζειν περὶ τῆς φύσεώς σου. μάλα γὰρ φιλοσόφου τοῦτο τὸ πάθος, τὸ θαυμάζειν· οὐ γὰρ ἄλλη ἀρχὴ φιλοσοφίας ἢ αὕτη, καὶ ἔοικεν ὁ τὴν Ἶριν Θαύμαντος ἔκγονον φήσας οὐ κακῶς γενεαλογεῖν. (*Theaetetus* 155c8-d9)

Theaetetus. By the gods, Socrates, I wonder enormously why this is, and sometimes I really get dizzy when I look at it.

Socrates. My dear, it seems Theodorus made a pretty good guess about your nature. For this is very much the emotion of a philosopher, to wonder. The beginning of philosophy is nothing else than this, and it seems that the one who said Iris is a daughter of Thaumas was a pretty good genealogist.

While the connection between wonder and philosophy is attractive, the passage raises a number of questions. First, and most importantly, Socrates does not clarify why and how wonder is 'very much the emotion of a philosopher', or how and why wonder is 'the beginning of philosophy'. For us, who are familiar with Aristotle's more detailed account of the connection in the *Metaphysics*, these points may not seem particularly problematic, but Plato here forges a connection that there had not really been made before. In Greek discourse in general, wonder was usually related either to deception, blindness, and naïveté on the one hand, or to aesthetic pleasure on the other. As Christine Hunzinger

puts it, ‘texts oscillate around [the] dichotomy between unconditional acceptance of aesthetic wonder and caution against deceptive amazement.’[39] The connection with learning, knowledge, and discovery does not really come into view until this passage in the *Theaetetus*.[40] Pre-Platonic philosophers in particular only rarely talk of wonder, and when they do, they fall into the categories of Hunzinger’s dichotomy. In the aesthetic mode, for instance, Empedocles (fr. 35 DK, lines 33-34) describes the variety of mortal creatures (the ἔθνεα μυρία θνητῶν) as a θαῦμα ἰδέσθαι, a ‘wonder to behold’. In the mode of caution, Democritus casts ‘unastonishedness’ (ἀθαμβία) as one of the avatars for the highest good.[41] The Hippocratic corpus, too, mostly deals with wonder in a negative mode, as a mark of deceitful charlatans.[42] So what seems to be a casual remark on Socrates’ part is actually a significant intervention in the existing discourse on wonder — but one for which Socrates does not give much of an argument.

In addition to being abrupt, Socrates’ remark is somewhat ambiguous: it is not quite clear what ἀρχή here means.[43] The relevant options are that wonder is the *beginning* of philosophy, or that it is the *principle* of philosophy. The reference to the genealogy of

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[39] Hunzinger (2015, 431).
[40] Neer says of this text: ‘Wonder ceases to be a given of phenomenology and becomes a problem of ethics — of ethics, that is, defined as a domain of philosophical cognition’. Neer (2010, 65).
[41] Fr. 169DK, cited by Cicero, *De finibus* 5.23. On the relation between θάμβος and θαῦμα, see ch. 3.1 below.
[42] See Jouanna (1992).
[43] For a more Aristotelian consideration and taxonomy of the senses in which Theaetetus’ wonder is an ἀρχή, see Lev Kenaan (2011, 15–18).

Iris and Thaumas (from Hesiod's *Theogony*, 265-266) suggests that ἀρχή here means 'origin' or 'beginning' rather than 'principle': as Iris is the daughter of Thaumas, so philosophy is the daughter of *thauma*. But the fact that the emotion of wonder is 'very much that of the philosopher' shows that this origin stays relevant beyond the point of origin in the way that a principle does. It is not self-evident that this would be true for any 'beginning'. Consider the parallel scenario of gymnastics: in some sense, the weakness of the human body is the origin of gymnastics, but it would not make much sense to say that weakness is 'very much the feeling of a gymnast'. The case of philosophy is apparently different: the ἀρχή is not just the initial spark, but it puts its mark on the pursuit itself — it is the ἀρχή both in the sense of 'origin' and of 'principle'.[44]

The Hesiod citation raises the question of the relevance of Iris, the goddess of the rainbow. The point is surely not that philosophy is brightly colored, shaped like an arch, or appears only when it rains. Instead, Plato casts philosophy as the messenger of the gods, the role that Iris plays in the *Iliad*. Presumably, philosophy's 'messages' are the truths that Socrates imagined earlier in the *Theaetetus* as the offspring of a pregnant soul, and which Socrates-the-midwife helps to deliver.

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[44] It is presumably because of this ambiguity that Aristotle has to spell out the fact that ἀρχαί have a big impact on what follows (μεγάλην γὰρ ἔχουσι ῥοπὴν πρὸς τὰ ἑπόμενα. δοκεῖ γὰρ πλεῖον ἢ ἥμισυ τοῦ παντὸς εἶναι ἡ ἀρχή, καὶ πολλὰ συμφανῆ γίνεσθαι δι' αὐτῆς τῶν ζητουμένων, *EN* I 7, 1098b6-8). For principles, this is obvious; for beginnings, less so.

The midwife metaphor occurs about 5 Stephanus pages before the exchange about philosophy and wonder, in 148e-151d. For reasons of space, we will refrain from a longer discussion of that passage. What is important for us here is that the midwife passage, like the wonder passage, conceives of the origin of philosophy through the imagery of generation. The midwife passage does not thematize the first origins of philosophy, but focuses on the birth of ideas from a soul that is philosophically inclined. It is tempting to try to weave together the wonder passage and the midwife passage. If wonder is the ἀρχή of philosophy, and philosophy is a kind of giving birth to ideas, wonder might be the seed that first gives rise to ideas; or it might play the role of morning sickness or labor pains, merely registering the fact of pregnancy without contributing substantially to the outcome. The fact that Iris/philosophy is the daughter of Thaumas/wonder strongly suggests the former reading, where wonder is a generating principle, while Theaetetus' dizziness may point in the direction of the latter. But it is more likely that the two images are not meant to fit neatly together.

1.1.2. Symposium

We find a clearer connection between the aesthetic response of wonder and the physical state of pregnancy in Diotima's speech in the *Symposium*. Diotima, like Socrates in the *Theaetetus*, is concerned with the origin of philosophy; but she conceives of this origin not

principally in terms of wonder, but rather as the love of beauty, which can lead a person to love wisdom itself. The process by which we go from love of individual beautiful things to love of wisdom is an ascent.

One of the recurring themes of Diotima's speech is love's intermediate position between beauty and ugliness: since love desires what is beautiful, it cannot itself have beauty. On the other hand, it would be a mistake to conclude that love is therefore ugly. Instead, love is in between beauty and ugliness, as well as between mortality and immortality — and between wisdom and ignorance (203e-204a):

> θεῶν οὐδεὶς φιλοσοφεῖ οὐδ' ἐπιθυμεῖ σοφὸς γενέσθαι—ἔστι γάρ—οὐδ' εἴ τις ἄλλος σοφός, οὐ φιλοσοφεῖ. οὐδ' αὖ οἱ ἀμαθεῖς φιλοσοφοῦσιν οὐδ' ἐπιθυμοῦσι σοφοὶ γενέσθαι· αὐτὸ γὰρ τοῦτό ἐστι χαλεπὸν ἀμαθία, τὸ μὴ ὄντα καλὸν κἀγαθὸν μηδὲ φρόνιμον δοκεῖν αὑτῷ εἶναι ἱκανόν. οὔκουν ἐπιθυμεῖ ὁ μὴ οἰόμενος ἐνδεὴς εἶναι οὗ ἂν μὴ οἴηται ἐπιδεῖσθαι.
> τίνες οὖν, ἔφην ἐγώ, ὦ Διοτίμα, οἱ φιλοσοφοῦντες, εἰ μήτε οἱ σοφοὶ μήτε οἱ ἀμαθεῖς;
> δῆλον δή, ἔφη, τοῦτό γε ἤδη καὶ παιδί, ὅτι οἱ μεταξὺ τούτων ἀμφοτέρων.
> (*Symposium* 204a - b)

> 'None of the gods loves wisdom (philosophizes) or desires to become wise — for they *are* wise — and if anyone else is wise, he does not love wisdom. And, on the other hand, the

> ignorant also do not love wisdom or desire to become wise. It is exactly in this way that ignorance is difficult, that while you are not noble (καλὸν κἀγαθὸν) and not intelligent, you seem to yourself to be adequate. And the one who does not think he is lacking does not desire that which he does not think he needs.'
>
> I said: 'But Diotima, who are the lovers of wisdom, if it is neither the wise nor the ignorant?'
>
> She said: 'This is clear even to a child: it is the ones in between those two.'

The position of the lover is also the position of the philosopher, the lover of wisdom: in between beauty and ugliness, in between knowledge and ignorance. Indeed, it will turn out that the love of wisdom is just a developed form of the love of beauty. What love really aims at is not beauty, but reproduction in beauty, since reproduction is the closest humans can get to immortality (206e-207a). This is true of the soul as much as of the body, and there are different levels of beauty. Diotima outlines the trajectory of the lover as an ascent from the lower to the higher types of beauty. Starting with the love for the beauty of one body, the lover will realize that the beauty of all bodies is related, and will love bodily beauty in general. Next, the lover will realize that beauty of the soul is more valuable than beauty of bodies, and will ascend to loving higher beauty: first, beauty in activities, laws, and customs, and then the beauty of knowledge. Finally, the climax of the ascent is the sight of Beauty itself:

> ὃς γὰρ ἂν μέχρι ἐνταῦθα πρὸς τὰ ἐρωτικὰ παιδαγωγηθῇ, θεώμενος ἐφεξῆς τε καὶ ὀρθῶς τὰ καλά, πρὸς τέλος ἤδη ἰὼν τῶν ἐρωτικῶν ἐξαίφνης κατόψεταί τι θαυμαστὸν, τὴν φύσιν καλόν, τοῦτο ἐκεῖνο, ὦ Σώκρατες, οὗ δὴ ἕνεκεν καὶ οἱ ἔμπροσθεν πάντες πόνοι ἦσαν. (*Symposium* 210e2-6)

> Whoever has been led up to here in matters of love, looking at beautiful things in order and correctly, now coming to the goal of the matters of love will suddenly see something wonderful, beautiful in its nature; it was for the sake of this, Socrates, that he undertook all the earlier efforts.

The climactic sight of the highest Beauty is 'wonderful, beautiful in its nature'. This reminds us that in earlier Greek discourse, wonder was often the reaction to great beauty, with the phrase θαῦμα ἰδέσθαι being a favorite epithet for beautiful objects and persons.[45] The fact that the highest Beauty is wonderful strongly suggests that wonder has been an implied feature of love throughout the ascent. This links the *Symposium* back to the *Theaetetus*. Wonder at beauty, like wonder at paradoxes, places us in a state in between knowledge and ignorance: it registers our ignorance as well as the possibility of comprehension, and thus sets us on a path to inquiry. Plato envisages this path as an

[45] See Neer (2010, 57–63); Hunzinger (1994), passim; Hunzinger (2011).

ascent, from lower to higher forms of contemplation, culminating in the sight of the greatest beauty, which is accompanied by the greatest sense of wonder.[46]

1.2. The Aristotelian spiral

In a celebrated passage from the first book of the *Metaphysics*, Aristotle gives an elaborate rendition of the idea that philosophy begins in wonder:

> ὅτι δ' οὐ ποιητική, δῆλον καὶ ἐκ τῶν πρώτων φιλοσοφησάντων· διὰ γὰρ τὸ θαυμάζειν οἱ ἄνθρωποι καὶ νῦν καὶ τὸ πρῶτον ἤρξαντο φιλοσοφεῖν, ἐξ ἀρχῆς μὲν τὰ πρόχειρα τῶν ἀπόρων θαυμάσαντες, εἶτα κατὰ μικρὸν οὕτω προϊόντες καὶ περὶ τῶν μειζόνων διαπορήσαντες, οἷον περί τε τῶν τῆς σελήνης παθημάτων καὶ τῶν περὶ τὸν ἥλιον καὶ ἄστρα καὶ περὶ τῆς τοῦ παντὸς γενέσεως. ὁ δ' ἀπορῶν καὶ θαυμάζων οἴεται ἀγνοεῖν (διὸ καὶ φιλόμυθος ὁ φιλόσοφός πώς ἐστιν· ὁ γὰρ μῦθος σύγκειται ἐκ θαυμασίων)· ὥστ' εἴπερ διὰ τὸ φεύγειν τὴν ἄγνοιαν ἐφιλοσόφησαν, φανερὸν ὅτι διὰ τὸ εἰδέναι τὸ ἐπίστασθαι ἐδίωκον καὶ οὐ χρήσεώς τινος ἕνεκεν. μαρτυρεῖ δὲ αὐτὸ τὸ συμβεβηκός· σχεδὸν γὰρ πάντων ὑπαρχόντων τῶν ἀναγκαίων καὶ τῶν[47] πρὸς

[46] Fair (2021) distinguishes between aporetic wonder (the origin of philosophy, occasioned by elenchos) and contemplative wonder (the end of philosophy, occasioned by contemplation of the forms).

[47] I accept the addition of τῶν here (absent in all the MSS, but proposed by Jaeger on the basis of Asclepius' commentary, and accepted by Primavesi). As I discuss below, the passage picks up a thought from A1 (981b17-18, also cited by Primavesi as support), where Aristotle draws a sharp distinction between 'necessity' and 'entertainment'

ῥᾳστώνην καὶ διαγωγὴν ἡ τοιαύτη φρόνησις ἤρξατο ζητεῖσθαι. δῆλον οὖν ὡς δι' οὐδεμίαν αὐτὴν ζητοῦμεν χρείαν ἑτέραν, ἀλλ' ὥσπερ ἄνθρωπος, φαμέν, ἐλεύθερος ὁ αὑτοῦ ἕνεκα καὶ μὴ ἄλλου ὤν, οὕτω καὶ αὕτη μόνη ἐλευθέρα οὖσα τῶν ἐπιστημῶν· μόνη γὰρ αὕτη αὑτῆς ἕνεκέν ἐστιν. (*Metaphysica* A2, 982b11-28)[48]

That it is not a productive science is clear even from the first philosophizers: for it is through wonder that people begin to philosophize, both now and at first, initially wondering at the obvious difficulties, and then progressing in this way bit by bit and puzzling over larger matters, like about the phases of the moon and about the sun and stars and about the genesis of the universe. And the one who is in *aporia* and who wonders considers himself ignorant (which is why the lover of wisdom is in a sense also a lover of myth: for myth consists of wonderful occurrences); so that since they started to philosophize on account of the escape from ignorance, it is clear that they pursued knowledge on account of knowing, and not for the sake of some utility. The actual facts bear witness: for this kind of wisdom began to be pursued when pretty much all the necessities of life were in place, as well as comfort and entertainment. It is clear, then, that we do not seek it out for any other use, but just as a man, we say, is free who exists for his own sake and not for someone else's, so that is the only free one among kinds of knowledge, for it is the only one that exists for its own sake.

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[48] For the Greek text of *Metaphysics* A, I rely on Primavesi's critical edition in Steel (ed.) (2012), though I will note the important discrepancies with the texts of Ross and Jaeger.

The passage is both captivating and puzzling. The apparent aim is to establish that wisdom (σοφία) is pursued for its own sake and not for some utility outside it; but Aristotle substantiates this by giving a (speculative) account of the earliest history of philosophy, which at the same time reflects the reality in his own day. Although this passage is among the most famous in the Aristotelian corpus, interpreters have not done much to unpack it, or even to lay out the questions that it raises if we want to get a full understanding of wonder and the origin of philosophy.

For all its programmatic importance in Aristotle's view of philosophy, and for all the influence that the account had on subsequent thinkers, this passage has received remarkably little scholarly attention. This may be partly due to historical reasons (for instance, the Arabic translations of *Metaphysics* A started at 987a6, meaning that Averroes does not deal with the wonder argument in his commentary).[49] But overall, the metaphilosophical passages at the beginning of *Metaphysics* A seem to have been overshadowed by the more straightforward philosophical work of the rest of the *Metaphysics*, and even of the rest of *Metaphysics* A — for example, Michael Frede, in a 2004 article entitled 'Aristotle's Account of the Origins of Philosophy',[50] skips over A 2 entirely,

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[49] Walzer (1958, 221).
[50] Frede (2004).

focusing only on the doxography of A 3-6. Moreover, the wonder passage has very little connection to other parts of Aristotle's thought, meaning it is unlikely to show up in discussions of other issues. Whatever the reason may be, a closer look at the metaphilosophy of wonder is in order here.

1.2.1. The history of philosophy

The first question is a question of history. Aristotle claims that it is through wonder that people begin to philosophize, 'both now and at first' (καὶ νῦν καὶ τὸ πρῶτον). The 'now' part is relatively unproblematic — Aristotle, like Plato before him, would have had ample opportunity to meet aspiring philosophers and ask them what set them on their path. The addition of 'at first' raises more of a question. Aristotle may be foreshadowing the short history of philosophy he will go on to give in A3, where he introduces the Ionian materialists as τῶν πρώτων φιλοσοφησάντων (983b6— the same phrase as here in A2).[51]

[51] There is an additional puzzle about these 'first philosophizers' related to Aristotle's conception of history. There are occasional hints in Aristotle's writings (e.g. in *De Caelo* 1.3 and *Metaphysics* Lambda 8) of a cyclical conception of history, where the same concepts and ideas reoccur again and again, with only vague memories of previous cycles carrying over into later ones. This is what allows Aristotle to attribute a philosophical wisdom to Homer and the other poets — their conceptions of the gods contain traces of an earlier understanding of the gods. This is presumably related to Aristotle's belief that the world is eternal (see esp. *Physics* 8.1): if humans have been around forever and have been more or less the same forever, Aristotle needs to explain why attempts to understand the world are relatively young. If we take this to be Aristotle's view of the history of philosophy, it is not clear who the 'first philosophers' could be in an absolute sense: there is no first iteration in an eternally repeating cycle. The only way to then make sense of the phrase is to read it in a relative sense: the first philosophers *in the current cycle of history* — i.e., the Ionian materialists.

But it is not clear that the Ionians were guided by wonder.[52] Stories about Thales, for example, are far from unanimous in their assessment of his motives. Thales the wonderstruck star gazer who falls into a well seems to have been an invention by Plato (*Theaetetus* 174a), while Aristotle's own account of Thales' shrewd business dealings in acquiring a monopoly on olive presses (*Politics* 1.11, 1259a) may just as well be construed as an argument that philosophy *does* bring a practical benefit (despite Aristotle's protestations to the contrary).[53] Our fragments of the 'presocratic' philosophers, when they do mention wonder, often cast it as antithetical to their philosophy (as do Democritus and Pythagoras)[54] — even if there was a discourse on wonder among the early philosophers (which is doubtful enough), there would not have been a widespread agreement that philosophy begins in wonder.

On a different reading, the καὶ νῦν καὶ τὸ πρῶτον does not make a historical point about the Ionian materialists, but sets up a correspondence between ontogenesis and

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[52] One likely (but not very helpful) suggestion is that Aristotle took this notion from the works of Hippias, on which he seems to rely for the remainder of *Metaphysics* A (a hypothesis first proposed by Bruno Snell (1944)). While this may be true (and we have no way of confirming or falsifying this), it only shifts the question one step further: what made Hippias believe this, and what made Aristotle believe Hippias' account?

[53] Aristotle emphasizes in the *Politics* that Thales meant by this stunt to show 'that it is easy for philosophers to get rich if they want, but that this is not what they are after' (ἐπιδεῖξαι ὅτι ῥᾴδιόν ἐστι πλουτεῖν τοῖς φιλοσόφοις, ἂν βούλωνται, ἀλλ'οὐ τοῦτ' ἐστὶ περὶ ὃ σπουδάζουσιν, *Politics* 1.11.1259a16-18). Nevertheless, the anecdote shows that there may well be some material benefit to be had from pursuing philosophy, and it stands in sharp contrast with the remark on Thales' lack of φρόνησις in *Nicomachean Ethics*, VI.7, 1141b3-8, discussed below.

[54] The Pythagoras fragment (from Plutarch, *Moralia* 44B) is admittedly late, and was very likely attributed to Pythagoras only during the Hellenistic or Roman period. In that case, it would certainly have been influenced by post-Aristotelian valuations of wonder. But the fact that the slogan 'don't wonder at anything' (μηδὲν θαυμάζειν) could plausibly be attributed to Pythagoras shows that the sentiment on wonder among Aristotle's predecessors cannot have been overwhelmingly unanimous in favor of philosophy's origin in wonder.

phylogenesis — that is, wonder is both the origin of any single person's interest in philosophy and the origin of the pursuit of philosophy itself. The difference matters because any individual's intention in pursuing philosophy may be different from the original intent of the 'inventors' of philosophy. Consider the parallel of civil servants: the main motivation of any individual for entering civil service is likely to be a stable income; but the origin of the system of civil servants is a societal need for administration. In the case of philosophy, Aristotle claims, the two motivations are the same: wonder is at the origin both of individuals' interest in philosophy and of humanity's invention of philosophy. We can tie this back to the wonder passage in the *Theaetetus*, where there was some ambiguity about the sense in which wonder is the ἀρχή of philosophy. Aristotle's claim that wonder is the origin of philosophy both initially and now ties the two senses together: wonder is the *beginning* of philosophy because it was the spark that set humankind on the path to questioning the cosmos; and it is the *principle* of philosophy because any individual's interest in philosophy is still guided by wonder. In either case, wonder accompanies the development of philosophy because it guides the philosopher to greater and greater questions.

In his commentary to the *Metaphysics*, Thomas Aquinas gives yet another account of the phrase 'now and at first'. On Aquinas' view, the phrase introduces not a *parallelism* but a *contrast* between 'then' and 'now'. The difference is one between early philosophers'

initial wonder at obvious occurrences, and the later and more sophisticated wonder at greater and more hidden things:

> Quod autem ignorantiam fugere quaerant, patet ex hoc, quia illi, qui primo philosophati sunt, et qui nunc philosophantur, incipiunt philosophari propter admirationem alicuius causae: aliter tamen a principio, et modo: quia a principio admirabantur dubitabilia pauciora, quae magis erant in promptu, ut eorum causae cognoscerentur: sed postea ex cognitione manifestorum ad inquisitionem occultorum paulatim procedentes incoeperunt dubitare de maioribus et occultioribus. (*Sententia metaphysicae* lib. 1 l. 1 n 54)[55]

> However, that they seek to escape ignorance is clear from this: that they who first philosophized and those who now philosophize start to philosophize on account of wonder at some cause. But this happens differently at the beginning and now: at the beginning they wondered at smaller points of doubt, which were more accessible, so that their causes could be known; but later, proceeding slowly from the knowledge of manifest issues to the investigation of hidden things, they started to doubt about greater and more hidden things.

[55] Text accessed via https://www.corpusthomisticum.org/.

While it is attractive in at least tying the 'now and at first' clause in with the rest of the passage, Aquinas' reading ultimately overstates the contrast. What Aristotle describes is a gradual increase in the problems and obscurities encountered, not a sharp contrast between 'then' (easy and obvious problems) and 'now' (difficult and obscure problems). Nevertheless, the suggestion does tie in with the history of 'presocratic' philosophy, moving from the early Ionian speculations on matter to the later abstract puzzles of Parmenides and Heraclitus. If we take the 'at first' to refer to the Ionian materialists, Aristotle may be (plausibly) claiming that the wonder at visible phenomena that drove those philosophers of nature was different than the wonder at conceptual puzzles around change that occupied the later generations of thinkers. As it stands, though, the passage does not allow us a decisive answer: the only characterization of the first philosophers is that they dealt with 'more obvious' difficulties (τὰ πρόχειρα τῶν ἀπόρων), without specifying what those difficulties were about.

However we choose to read it, the introduction of 'now' and 'at first' also sets the stage for an additional consideration: philosophy could only have arisen when the necessities of life, 'as well as comfort and entertainment' were already in place. This is not obviously true in the life of an individual: philosophy is not just a leisurely activity for well-to-do retirees, but attracts people from all stations and of all ages (in Aristotle's

time as today).[56] But the idea is more appealing on the larger scale: for a human society to develop an interest in philosophical questions, it needs to have its other affairs in order.

Aristotle has already brought up this point in a different form just a little earlier in *Metaphysics* A (981b21-24). The context there is a discussion of different kinds of cognition, including sense-perception, experience, and craft (αἴσθησις, ἐμπειρία, τέχνη). The aim of this discussion seems to be to lay the groundwork for talking about the kind of cognition that the *Metaphysics* is about (wisdom / σοφία), as Aristotle considers which practitioners of craft acquire a reputation for wisdom. There, he claims that those who invent crafts that aim at leisure (πρὸς διαγωγὴν, 981b18) are considered wiser than those who aim to improve the necessities of life (πρὸς τἀναγκαῖα, ibid.), or, what is the same, aim at utility (πρὸς χρῆσιν, 981b20). But it is natural that the crafts for establishing the necessities of life are developed before leisure is refined. And this, Aristotle says, is why mathematics originated in Egypt: the priestly class was allowed leisure there (while, presumably, the other nations and peoples were still working on the necessities of life).[57]

Our passage in *Metaphysics* A2 picks up this idea, but pushes it one step further. In A1, Aristotle had established that someone who improves leisure (διαγωγή) is

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[56] According to Diogenes Laertius, for instance, Theophrastus was the son of a fuller. (*DL* 5.36)

[57] Modern scholarship on Egyptian mathematics has come to the opposite conclusion. Although Aristotle is right that mathematics was an affair of an elite class, 'the mathematical system developed in pharaonic Egypt was practically oriented, designed to satisfy the needs of bureaucracy.' Imhausen (2016, 2).

considered wiser than someone who improves the necessities (τἀναγκαῖα). Here, he is talking about wisdom itself,[58] which 'began to be pursued when pretty much all the necessities of life were in place, as well as comfort and leisure'.[59] In other words, there is an even higher wisdom than inventing crafts for leisure, but it is only pursued when both necessity and entertainment are already close to perfection.[60]

This suggests another layer of meaning in 'now and at first'. Although the phrase strictly speaking applies only to the claim that philosophy begins in wonder, we can also apply it to the notion that philosophy can only flourish in a context of leisurely entertainment. With respect to this idea, Aristotle spells out the 'at first' part by the related considerations on leisure and uselessness in A1 and A2. What is implicit, though, is the notion that any individual can only really pursue wisdom when both the necessities of life and the niceties of entertainment are in place for them. This is the aristocratic conception of philosophy that Andrea Nightingale calls the 'rhetoric of disinterest' or the 'rhetoric of uselessness',[61] and which Aristotle preaches elsewhere as well — including in

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[58] It is abundantly clear from the context that the phrase ἡ τοιαύτη φρόνησις picks out wisdom (σοφία). Indeed, the commentary tradition is unanimous in considering this use of φρόνησις non-technical. That is, φρόνησις here does not mean 'practical wisdom' in the sense of *EN* VI, but is simply a word for knowledge.

[59] σχεδὸν γὰρ πάντων ὑπαρχόντων τῶν ἀναγκαίων καὶ τῶν πρὸς ῥᾳστώνην καὶ διαγωγὴν ἡ τοιαύτη φρόνησις ἤρξατο ζητεῖσθαι, 292b22-24.

[60] Incidentally, this is related to one of the Medieval interpretations of Aristotle's political thought. Because at the end of the Nicomachean Ethics, it is the *contemplative* life that turns out to be the truly happy life, the goal of political activity was sometimes taken to be enabling the kind of peace and leisure that allows for people to focus on contemplation. This is, for instance, one of the ideas behind Dante's argument for universal imperial rule in *De Monarchia* (and especially 1.2-4): the aim of politics is to create the circumstances that allow for the free exercise of the human intellect.

[61] Nightingale (2004, 191).

the lost dialogue *Protrepticus*, at the end of the *Nicomachean Ethics*, and in the discussion of music in book 8 of the *Politics*.[62] Although *in fact* people from all walks of life could (and did) choose to engage in philosophy, Aristotle's conception of philosophy and of its purpose narrows the audience for philosophy down to a leisurely elite — and the suggested parallelism between phylogenesis ('at first') and ontogenesis ('now') allows him to make this point without saying it out loud.

1.2.2. Not a productive science

The considerations on wisdom being pursued for its own sake bring us to a second point: Aristotle's argument that the pursuit of wisdom is not a productive science (ποιητική). The concept of a 'productive science' (ποιητική) is introduced in book 6 of the *Nicomachean Ethics*. There, Aristotle contrasts production, ποίησις, with πρᾶξις, action (*NE* VI.4, 1140a). What the two activities have in common is that they are activities of the rational part of the soul, concerned with things that are capable of being otherwise. The difference is this: production has a goal outside itself —the aim of shipbuilding is the ship, not the act of building — while action has no such external goal, but has its own activity

[62] See Nightingale (2004, 187–262 (chapter 5)) for an extensive discussion of the theme of aristocratic uselessness in these texts.

as its goal. The prime examples of this are governing a state, and running a household. Now, since Aristotle says that wisdom is not productive, he could be implying that it is practical. But appears from the *Nicomachean Ethics* that this is not his position. There, he denies that earlier philosophers had the πρᾶξις-oriented intellectual virtue of φρόνησις:

> διὸ Ἀναξαγόραν καὶ Θαλῆν καὶ τοὺς τοιούτους σοφοὺς μὲν φρονίμους δ' οὔ φασιν εἶναι, ὅταν ἴδωσιν ἀγνοοῦντας τὰ συμφέροντα ἑαυτοῖς, καὶ περιττὰ μὲν καὶ θαυμαστὰ καὶ χαλεπὰ καὶ δαιμόνια εἰδέναι αὐτούς φασιν, ἄχρηστα δ', ὅτι οὐ τὰ ἀνθρώπινα ἀγαθὰ ζητοῦσιν. (*NE* VI.7, 1141b3-8.)

> This is why they do not say that Anaxagoras and Thales and similar wise men are practically-wise (φρονίμους), since they are seen to be ignorant of what is to their own advantage; and they are said to know remarkable and wonderful and difficult and miraculous things, but useless things, since they do not seek for human goods.

While the *Metaphysics* cautiously describes the search for (theoretical) wisdom as 'not productive' (οὐ ποιητική), the *Nicomachean Ethics* goes one step further in calling it 'useless' (ἄχρηστα).[63] But this is clearly also the gist of the passage in the *Metaphysics*: the

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[63] Although he hedges a bit by attributing the sentiment to an anynymous third-person plural 'they', Aristotle does not distance himself from the thought.

pursuit of wisdom is not only unproductive, but is pursued completely for its own sake, without any ordinary ('human') benefit attaching to this pursuit. So how does Aristotle establish this point?

The main contribution that wonder makes in this argument is to position the pursuit of knowledge in a position between knowledge and ignorance (recalling Diotima's account of love in Plato's *Symposium*). The feeling of wonder registers ignorance, as the one who wonders 'considers himself ignorant' (οἴεται ἀγνοεῖν). Wonder (and the concomitant *aporia*) thus bridges the gap between knowledge and ignorance, making us realize that we lack knowledge, and thus making us desire to escape from ignorance.[64] Without wonder, we would be in the position that Diotima warns about: too ignorant to realize our ignorance, and therefore not interested in pursuing knowledge. For Aristotle, philosophy's origin in wonder shows that the aim of philosophy is to escape from ignorance, which he takes to imply that we pursue knowledge for its own sake.[65]

Again, though, the origin in wonder is itself brought in without much justification. The account of the 'early philosophers' is questionable, and the argument about the socio-economical conditions for the emergence of philosophy is circular. This leaves only the

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[64] As Schaeffer (1999, 655) says, 'Wonder is not simply ignorance; it is a matter of *knowing* that you don't know'.

[65] The uselessness of contemplation was also a major theme in the lost work *Protrepticus*; see Nightingale (2004, 191–97) for a discussion of this 'rhetoric of uselessness'.

point that humans 'now' begin to philosophize because of wonder, and the plausibility of the progression from wondering at obvious difficulties to wondering at larger matters of astronomy, and finally at (meta)physical questions like the origin of the universe.

The parenthetical remark on the lover of myth raises another set of questions. There is a textual problem with the remark, as the manuscripts are divided between two readings. The point of difference is the position of the article. The manuscripts of the *Metaphysics* are divided into two families, *α* and β. The *α* manuscripts read φιλόμυθος ὁ φιλόσοφός πώς ἐστιν ('the lover of wisdom is in a sense a lover of myth'), while the β family reads ὁ φιλόμυθος φιλόσοφός πώς ἐστιν ('the lover of myth is in a sense a lover of wisdom'). There is no real consensus among modern editors as to which reading is preferable. Immanuel Bekker and Oliver Primavesi opt for the former, while W.D. Ross and Werner Jaeger prefer the latter.[66] Ross gives an influential reconstruction of the implied argument on the reading of β:

> Myth is full of things that excite wonder.
>
> He who wonders thinks he is ignorant.
>
> He who thinks he is ignorant desires knowledge.

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[66] Ross (1924), Bekker (1831). Primavesi's edition of *Metaphysics* A is included in Steel (ed) (1999, 655), and forthcoming as Oxford Classical Text.

Therefore the lover of myth is a lover of knowledge.[67]

This is *prima facie* a good reconstruction of Aristotle's terse formulation, and it is, in Broadie's words, 'the easier sense'.[68] However, this reading rests on an odd conception of 'myth'. While it may be true that myth is full of things that excite wonder, one of the key functions of myth is to render the world comprehensible.[69] The step from the first to the second premise of Ross' reconstruction is questionable: there may be different kinds of wonder, or different uses of wonder at play in both. There is a significant difference between wonder at the changing of the seasons and wonder at the story of Persephone's abduction by Hades and the subsequent joint custody arrangement with Demeter. It is not clear that the latter kind of wonder has anything to do with ignorance — rather, it seems that the wonder of myth lies in the charm of outlandish stories, rather than in the puzzling position between ignorance and knowledge. There may be a slippage between two senses of θαυμάζειν: on the one hand, it means 'to marvel', on the other hand, it is 'to wonder why'. The latter certainly implies ignorance, but the former need not do so.

The reading of α (preferred by Bekker and Primavesi) reverses this order and has Aristotle claim that the lover of wisdom, the philosopher, is in a sense also a lover of myth.

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[67] Ross (1924 (vol. 1), p.123).
[68] Broadie (2012, 63).
[69] For Aristotle's constructive use of myth, see Baghdassarian (2013), Vassilacou-Fassea (2002).

One way of understanding this is that 'philosophers often have reason to be grateful to myth for highlighting explananda':[70] the wonders of myths are food for philosophical explanation. Or perhaps the idea is that philosophers have an appetite for wonders of any kind, which also creates an appetite for myths. The *α* reading also fits nicely with a fragment of Aristotle, from a letter to Antipater, where Aristotle says 'the more of a "selfer" and a loner I am, the more of a lover of myth I become'[71] This suggests that in giving himself over to the contemplative life, Aristotle finds himself loving myths more. So while the reading of *α* may yield a less conspicuous argument, it has the benefits of relying on a better notion of 'myth', of not confusing two kinds of wonder, and of squaring with the only other place where Aristotle talks of the love of myth.

1.2.3. The opposite state

The emphasis on wisdom's existing only for its own sake and not for some external goal raises the question whether wisdom might be exclusively reserved for a god, and not accessible to humans. Aristotle considers this issue for a few lines (982b28-983a11) before coming back to the question of wonder:

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[70] Broadie (2012, 63).

[71] Fr. 668 Rose: ὅσῳ γὰρ αὐτίτης καὶ μονώτης εἰμί, φιλομυθότερος γέγονα. This fragment is cited by pseudo-Demetrius (*On Style*, 144) in order to highlight the charm of neologisms, and the author points out in particular that Aristotle invents αὐτίτης by adapting αὐτός to the pattern of μονώτης. I follow Reeve (2016) in translating αὐτίτης with the English neologism 'selfer', in parallel with 'loner'.

δεῖ μέντοι πως καταστῆναι τὴν κτῆσιν αὐτῆς εἰς τοὐναντίον ἡμῖν τῶν ἐξ ἀρχῆς ζητήσεων. ἄρχονται μὲν γάρ, ὥσπερ εἴπομεν, ἀπὸ τοῦ θαυμάζειν πάντες εἰ οὕτως ἔχει, καθάπερ περὶ[72] τῶν θαυμάτων ταὐτόματα τοῖς μήπω τεθεωρηκόσι τὴν αἰτίαν ἢ περὶ τὰς τοῦ ἡλίου τροπὰς ἢ τὴν τῆς διαμέτρου ἀσυμμετρίαν (θαυμαστὸν γὰρ εἶναι δοκεῖ πᾶσι εἴ τι τῶν οὐκ ἐλαχίστων[73] μὴ μετρεῖται)· δεῖ δὲ εἰς τοὐναντίον καὶ τὸ ἄμεινον κατὰ τὴν παροιμίαν ἀποτελευτῆσαι, καθάπερ καὶ ἐν τούτοις ὅταν μάθωσιν· οὐθὲν γὰρ ἂν θαυμάσειεν οὕτως ἀνὴρ γεωμετρικὸς ὡς εἰ γένοιτο ἡ διάμετρος μετρητή. (*Met.* A2, 983a11-21)

However, the possession of [wisdom] must come into the opposite state to the inquiries from the beginning. For as we said, everyone starts from wondering that it is so, as with the movements of automatic puppets for those who have not yet seen the cause or with the solstices or with the incommensurability of the diagonal (for it seems wonderful to everyone that something that is not the smallest cannot be measured). So it has to end in the opposite and, according to the proverb, the better state, just like in these cases when they do understand it: for a man trained in geometry would wonder at nothing so much as if the diameter became commensurable.

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[72] περὶ add. Jaeger.

[73] Some MSS. read εἴ τι τῷ ἐλαχίστῳ μὴ μετρεῖται, ‘that something is not measurable by the smallest [unit]’.

This passage adds a new note in Aristotle's thinking: while philosophy *begins* in wonder, it ends in the absence of wonder. A phenomenon incites wonder when we do not know the cause, but once we have attained knowledge about the phenomenon, the wonder is gone. Then, the really wonderful thing would be for our knowledge to turn out wrong: for the diagonal to turn out commensurable, or for the eclipse not to occur on the predicted date.

The tight connection between wonder and ignorance in the foregoing passage makes this twist all but inevitable: if wonder implies ignorance, the absence of ignorance may well herald an absence of wonder. What is not entirely clear here is whether this dissolution of wonder is to be considered as a loss, or as a victory. Since at least the Romantic movement in art and poetry, we consider wonder as such a valuable sensation that the loss of it strikes us as an impoverishment. This is, for example, what Keats meant when he asked 'Do not all charms fly / at the mere touch of cold philosophy?' (*Lamia*, 229-230). Aristotle's remark that the opposite state to wonder is also the better state according to the proverb suggests that Aristotle does not see it this way: whatever may be lost when wonder dissipates is compensated for by the acquisition of knowledge.

In this respect, Aristotle seems to be implicitly criticizing Plato. For Plato in the *Symposium*, the ascent of love and philosophy goes from smaller to greater beauty, and

appears to rise to ever greater wonder. Aristotle takes over the Platonic idea that wonder indicates a state in between knowledge and ignorance, but realizes that the movement of wonder has a definite direction: to escape ignorance and to attain knowledge. The movement thus points towards a release from this in-betweenness, and to the dissolution of wonder (or, at least, the dissolution of the wonder initially felt). To return to a metaphor we used before: gymnastics may begin in human weakness, but it is not right to say that weakness is 'very much the feeling of a gymnast'. Similarly, Aristotle's conception of philosophy is that it begins in wonder, but it is not clear that he would agree that wonder is 'very much the feeling of a philosopher'.

At the same time, we should not overstate the contrast between Aristotle and Plato. For in Aristotle's account, there is also an implicit ascent. He says that we begin by 'initially wondering at the obvious difficulties, and then progressing in this way bit by bit and puzzling over larger matters, like about the phases of the moon and about the sun and stars and about the genesis of the universe.' This path from smaller to larger difficulties mirrors, to some extent, the Platonic ascent, and suggests that the dissolution of wonder about any particular difficulty may well raise fresh wonder about more elaborate puzzles. The nature of the ascent is not exactly the same as in the *Symposium*, as there does not seem to be a progression from the singular to the general and from the material to the psychic. Moreover, while Plato envisages the ascent as a linear process

from smaller to greater beauty, Aristotle thinks of the path as a kind of upward spiral, which turns from wonder to its opposite, and then back around again to wonder — but not in the manner of a circle, since the end point is a greater difficulty than the initial starting point. Each solution raises a new problem, each dissolution of wonder opens up a new fount of wonder. Although the shape of the trajectory may differ between the two, the fact that there is a trajectory shows that Aristotle has not quite rejected the Platonic model of wonder's relation to philosophy.

1.2.4. From puzzlement to awe: the invitation to science

The account given so far may suggest that the whole enterprise of philosophy is to dispel wonder — 'to clip an angel's wings / Conquer all mysteries by rule and line / Empty the haunted air, and gnomèd mine / Unweave a rainbow'.[74] But what we have seen so far is only that any individual item of wonder can be dispelled, not that wonder as such has no place in a contemplative life.

If all wonder implies ignorance, it is hard to see how greater knowledge could leave any room for wonder. This is implicit in Plato's *Symposium* as well: while the lover and philosopher are in a state in between knowledge and ignorance, the gods are not in

[74] Keats, *Lamia*, part II, vss. 234-7.

this position. As Diotima says: ‘none of the gods loves wisdom [philosophizes] or desires to become wise — for they *are* wise’.[75][76] But as Plato states elsewhere, the aim of philosophy is ‘to become like God insofar as possible’.[77] This means that the characteristic tendency of the philosopher is to want to escape the position of the lover-of-wisdom and to want to come into possession of wisdom. The addition that this is the goal ‘insofar as possible’ indicates that fully becoming a god is not in the cards for us humans, but it is not clear whether the full possession of wisdom is beyond our capacity — in other words, whether we can achieve anything more than the position in between knowledge and ignorance. Interestingly, this is precisely the concern that Aristotle raises in between the two paragraphs on wonder: are we capable of acquiring wisdom, or is it such a divine thing that we are not capable of achieving it? Aristotle's discussion of the point is inconclusive: he maintains that it is not impious to pursue this divine asset, but says nothing about whether this is attainable.

To the extent that wonder is completely bound up with ignorance, it is hard to see how there is any place for wonder in the life of an omniscient being. But in English as in

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[75] θεῶν οὐδεὶς φιλοσοφεῖ οὐδ’ ἐπιθυμεῖ σοφὸς γενέσθαι—ἔστι γάρ. *Symposium* 204a.

[76] This is a problem that the Church fathers (and Augustine in particular) dealt with in interpreting Christ's response to the centurion in Matthew 8:10. If Christ is God, how can he wonder at the centurion's faith? Wouldn't God have already known this before the centurion spoke? Augustine's solution (*De Genesi contra Manichaeos*, 1.8.14) is that Christ is merely modelling for us the reaction that we ought to have at such faith — his wonder, like all his emotions, are ‘not signs of a troubled mind, but of a teacher at work’ (omnes ergo tales motus eius non perturbati animi sunt signa, sed docentis magistri, trans. Teske (1991, 62).

[77] The Platonic phrase ὁμοίωσις θεῷ κατὰ τὸ δυνατὸν is from Theaetetus, 176b. See also Sedley (1999), who gives the helpful reminder that this was considered the official *telos* of the Platonists in antiquity.

Greek, the word for 'wonder' covers a range of meaning. While it is hard to imagine an omniscient being feeling puzzlement or surprise, it is not hard to imagine an omniscient being feeling some kind of contemplative pleasure akin to amazement.[78] And indeed, it is quite possible that Aristotle does conceive of philosophy as leading to an increase in awe, even as it leads to a diminution of puzzlement and surprise.

The most important passage where this becomes apparent is the 'invitation to science' from *Parts of Animals* I.5. This set piece begins with a comparison between the pleasures of different areas of study: on the one hand, the study of imperishable and eternal things, and on the other, that of perishable things, including animals. The former's objects are farther away and therefore harder to study, but their divine excellence gives the student of heavenly phenomena a particular kind of pleasure. The study of perishable and earthly things lacks this loftiness, but makes up for it in the degree of exactitude and completeness we may reach because of the abundant evidence. Since the imperishable was dealt with elsewhere (*De Caelo*), Aristotle will continue talking about animals. After thus announcing of the theme of the work, he goes on to unpack the particular kind of pleasure that this investigation holds in store:

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[78] This appears to be Augustine's reading (*De Genesi contra Manichaeos*, 1.8.13) of the phrase 'and God saw the light, that it was good' (*Genesis* 1:4) — the point is not, Augustine argues, that God was surprised (but see 1.8.14 of Augustine's commentary and footnote 76 above for the argument that even surprise would not be out of place); instead, God knew in advance exactly how good it would be, but still took a moment to be pleased with the result.

λοιπὸν περὶ τῆς ζωϊκῆς φύσεως εἰπεῖν, μηδὲν παραλιπόντας εἰς δύναμιν μήτε ἀτιμότερον μήτε τιμιώτερον. καὶ γὰρ ἐν τοῖς μὴ κεχαρισμένοις αὐτῶν πρὸς τὴν αἴσθησιν κατὰ τὴν θεωρίαν ὅμως ἡ δημιουργήσασα φύσις ἀμηχάνους ἡδονὰς παρέχει τοῖς δυναμένοις τὰς αἰτίας γνωρίζειν καὶ φύσει φιλοσόφοις. καὶ γὰρ ἂν εἴη παράλογον καὶ ἄτοπον, εἰ τὰς μὲν εἰκόνας αὐτῶν θεωροῦντες χαίρομεν ὅτι τὴν δημιουργήσασαν τέχνην συνθεωροῦμεν, οἷον τὴν γραφικὴν ἢ τὴν πλαστικήν, αὐτῶν δὲ τῶν φύσει συνεστώτων μὴ μᾶλλον ἀγαπῷμεν τὴν θεωρίαν, δυνάμενοί γε τὰς αἰτίας καθορᾶν. διὸ δεῖ μὴ δυσχεραίνειν παιδικῶς τὴν περὶ τῶν ἀτιμοτέρων ζῴων ἐπίσκεψιν. ἐν πᾶσι γὰρ τοῖς φυσικοῖς ἔνεστί τι θαυμαστόν. (*PA* 1.5, 645a5-17)

It remains to speak of the nature of animals, without leaving out, as far as we can, either the more ignoble or the more noble. For even in those which have no charm for the senses, yet in contemplation, the nature which made them still provides enormous pleasures for those who are able to perceive the causes and for natural philosophers. Indeed, it would be unreasonable and strange if we are pleased when seeing images of them because we also contemplate the craft which made it, like painting or sculpture, but are not even more delighted at contemplating the things that exist by nature, if, that is, we are able to perceive the causes. That is why we should not be childishly disgusted with examining the more ignoble animals. For in all natural things there is something wonderful.

Aristotle here underlines the difference between perception and contemplation. Some animals may be unpleasant to see, but that does not make them unpleasant to study. In fact, in spite of their lack of charm, these animals, like all of nature have 'something wonderful'. Aristotle twice emphasizes that appreciation of this wonderful aspect can be unlocked by appreciating (γνωρίζειν / καθορᾶν) the underlying causes. The parallel with craftsmanship bears this out: we can appreciate a well-executed painting of an ugly subject for its *craft* (the contemplated cause) rather than for its surface appearance (the perceived thing).

The key point for us here is the statement that 'in all natural things there is something wonderful' (ἐν πᾶσι γὰρ τοῖς φυσικοῖς ἔνεστί τι θαυμαστόν). Given that this wonder is unveiled by some kind of knowledge or contemplation (γνωρίζειν / καθορᾶν) of causes, it is clearly not a wonder born of puzzlement and ignorance. The wonder we feel at the 'something wonderful' in nature is more like awe than like amazement — not in between knowledge and ignorance, but squarely on the side of knowledge, this is the kind of wonder that a god might be capable of.

1.2.5. The spiral in action

Now that we have laid out Aristotle's theory of the origin of philosophy in wonder and its development towards the opposite state, we are confronted with the question whether

Aristotle's own philosophical practice conforms to this model.[79] In his scientific writings, there is one passage where Aristotle explicitly marks the passage from an initial ignorance and wonder to knowledge and the absence of wonder. It occurs in a passage in book 4 of the *Generation of Animals*.[80] The context is a discussion of monstrous births, which may take the form of an excess (like being born with too many toes) or of a defect (like being born with too few toes). From a survey of examples (4.4, 770a5–771a13) a rule seems to emerge that animals which have more young are also more liable to produce monstrous births. Aristotle then turns to the question of how these phenomena — excessive and defective births, and having many or few young — are related, and goes on to frame the first question in terms of wonder:

> ἡ δὲ σκέψις ἐστὶν ἡ περὶ τούτων πότερον τὴν αὐτὴν αἰτίαν δεῖ νομίζειν τῆς μονοτοκίας καὶ τῆς ἐνδείας τῶν μερῶν καὶ τοῦ πλεονασμοῦ καὶ τῆς πολυτοκίας ἢ μὴ τὴν αὐτήν. πρῶτον μὲν οὖν διὰ τί τὰ μέν ἐστι πολυτόκα τὰ δὲ μονοτόκα, τοῦτ' ἄν τις δόξειεν εὐλόγως θαυμάζειν. τὰ γὰρ μέγιστα μονοτόκα τῶν ζῴων ἐστίν, οἷον ἐλέφας κάμηλος ἵππος καὶ τὰ μώνυχα· τούτων δὲ τὰ μὲν μείζω τῶν ἄλλων, τὰ δὲ πολὺ διαφέρει κατὰ

[79] The question of Aristotle's theory of philosophy and its relation to the scientific works is usually approached from the *Posterior Analytics*; see Barnes (1969) for an exposition of the problem, and section 2 of Gotthelf and Lennox (eds) (1987), 65-198 for considerations of the relationship. The question here is very different from that of the *Posterior Analytics*, since the question is not about the relation between the *logic* and practice of science, but between the phenomenology and the practice.

[80] For my reading of this passage and its relation to *Metaphysics* A2, I am indebted to Priestley (2014, 71–75). My account differs from hers in emphasizing that the progression in this passage is an upward spiral rather than a destructive circle.

τὸ μέγεθος. κύων δὲ καὶ λύκος καὶ τὰ πολυσχιδῆ πάντα πολυτόκα σχεδόν, καὶ τὰ μικρὰ τῶν τοιούτων οἷον τὸ τῶν μυῶν γένος. τὰ δὲ δίχηλα ὀλιγοτόκα πλὴν ὑός· αὕτη δὲ τῶν πολυτόκων ἐστίν.

εὔλογον γὰρ τὰ μὲν μεγάλα πλείω δύνασθαι γεννᾶν καὶ σπέρμα φέρειν πλεῖον. αἴτιον δ' αὐτὸ τὸ θαυμαζόμενον τοῦ μὴ θαυμάζειν· διὰ γὰρ τὸ μέγεθος οὐ πολυτοκοῦσιν· ἡ γὰρ τροφὴ καταναλίσκεται τοῖς τοιούτοις εἰς τὴν αὔξησιν τοῦ σώματος—τοῖς δ' ἐλάττοσιν ἀπὸ τοῦ μεγέθους ἡ φύσις ἀφελοῦσα πρὸς τὸ περίττωμα προστίθησι τὸ σπερματικὸν τὴν ὑπεροχήν. (*GA* 4.4, 771a17-31)

The question about these cases is whether we should consider the cause to be the same for having a single young and a defect of parts and of an excess of parts and having multiple young, or not the same cause.

First, why do some animals have multiple young and others one? Someone might reasonably wonder about this. For the largest animals have one young, like the elephant, the camel, the horse, and the [other] single-hoofed animals. And some of these are larger than others, and some are very different in their size. But the dog and the wolf and the [other] animals with toes almost all have many young, as do the small ones among them, like the family of the mouse. But cloven-hoofed animals have few young, except for the pig: it belongs to the ones that have many.

It makes sense for larger ones to be able to produce more offspring and to carry more semen. But the thing we wonder at is the very reason for not wondering: it is because of

> their size that they do not have many young. For nourishment in such animals is spent on increasing the body — but in smaller ones, their nature takes away from their size and adds the excess to the spermatic secretion.

Aristotle here lays out an entire cycle of investigation, moving from wonder to its opposite. The observation that sparks this particular wonder is the inverse correlation between the size of animals and the number of their offspring: smaller animals, more offspring. But it would make sense, or be reasonable (εὔλογον), for this correlation to work the other way around: one might expect larger animals that have more semen to produce more offspring. But the thing we wonder at, that larger animals do not have more young, is the very reason that we should not wonder — that is, the puzzle suggests its own solution. It is *because* they are large that they have only a single young, since their size requires them to nourish a large body and they do not have anything to spare for producing many young.

A little later on, we can see that this cycle does indeed form an upward spiral: the dispelling of wonder at one puzzle raises our wonder at the next puzzle:

> διὰ τί μὲν οὖν τῶν ζῴων τὰ μὲν πολυτόκα τὰ δ' ὀλιγοτόκα τὰ δὲ μονοτόκα τὴν φύσιν ἐστὶν εἴρηται—τῆς δὲ νῦν ῥηθείσης ἀπορίας μᾶλλον ἄν τις εὐλόγως θαυμάσειεν ἐπὶ

> τῶν πολυτοκούντων, ἐπειδὴ φαίνεται πολλάκις ἀπὸ μιᾶς ὀχείας κυϊσκόμενα τὰ τοιαῦτα τῶν ζῴων. (*GA*, 4.4, 771b14-18)

> So it has been explained why some animals have many young, some have few young, and some have one young by nature. But now that the difficulty has been stated one might more reasonably wonder at those who have many young, since it seems that such animals often conceive from a single copulation.

The explanation of a phenomenon raises a new question, and a new opportunity for inquiry presents itself. But rather than just moving in a repeating circle, Aristotle seems to be working his way towards a better understanding: the new puzzle is 'more reasonably' (μᾶλλον […] εὐλόγως) a cause for wonder. In this case the issue is that animals who have many young do not use their sperm to create one larger young, but rather create a plurality of offspring. The details of the case matter less than the general outline of the inquiry: the question of monstrous births raises questions about correlations with the size of animals, which in turn raises questions about correlations between the size of animals and the number of their young, which in turn raises questions about why animals who have several young use their generative resources is this particular way. At two points in this chain of reasoning, Aristotle flags that there is wonder involved. The first time, he indicates that the explanation should cause us not to

wonder at the thing we wondered about; the second time, he suggests that the wonder at the new difficulty is more reasonable. From this example, it seems that the phenomenology of inquiry of *Metaphysics* A2 can apply to the actual inquiries as well.

One thing that remains open is the question of whether the initial 'wonder' was really there. In this particular passage, Aristotle introduces wonder merely as a reasonable possibility: 'someone might reasonably wonder at this' (τοῦτ' ἄν τις δόξειεν εὐλόγως θαυμάζειν). But any individual reader may simply shrug and consider this a question that is not worth asking. By invoking wonder, Aristotle establishes that the question *is* worth asking. But Aristotle *in*vokes rather than *e*vokes it: we have to accept his claim that this puzzle is a cause for wonder, and if we do not, there is not much more to say.

In this context it is also worth pointing out that Aristotle sometimes justifies a direction of inquiry by pointing out the wonder it inspires. This is the case at the beginning of *De Anima*, for instance:

> τῶν καλῶν καὶ τιμίων τὴν εἴδησιν ὑπολαμβάνοντες, μᾶλλον δ' ἑτέραν ἑτέρας ἢ κατ' ἀκρίβειαν ἢ τῷ βελτιόνων τε καὶ θαυμασιωτέρων εἶναι, δι' ἀμφότερα ταῦτα τὴν περὶ τῆς ψυχῆς ἱστορίαν εὐλόγως ἂν ἐν πρώτοις τιθείημεν. (*De Anima* 402a1-4)

> When we consider the knowledge of beautiful and honorable things, and that one type of knowledge is better than another either because of its accuracy or by virtue of its being knowledge of better and more wonderful objects — for both of these reasons we could reasonably put the investigation into the soul in first class.

It is also part of the thrust of the 'invitation to science' discussed above (1.2.4), where 'in all natural things, there is something wonderful' shows that the investigation of 'lower' and unattractive animals is a worthwhile endeavor.

The strategy of invoking wonder to justify a direction of inquiry gets taken to a hyperbolic extreme in the *Mechanics*, which has been supposed in recent years to be a spurious work, written not by Aristotle himself but by one of his associates or successors at the Lyceum.[81] The treatise starts with a distinction between two kinds of wonder: 'We wonder at things that happen in accordance with nature and whose causes we do not know, and at those that happen against nature, when it occurs through craft for the benefit of humans.'[82] The *Mechanics* is concerned with the second kind. Right away, then, the treatise positions itself as dealing with (a particular class of) objects of wonder. In the

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[81] See Van Leeuwen (2016, 7–18) for an overview of the discussion on authorship. The main issues with authenticity are (a) the overall quality of the work is supposed to be below Aristotelian standards; (b) a piece of mathematical terminology appears to postdate Euclid, and is therefore unlikely to have been used by Aristotle; (c) the treatise applies the distinction between natural and unnatural motion in ways incompatible with Aristotle's theories on the distinction elsewhere in the corpus.

[82] *Mechanics*, praef., 847a11-13: θαυμάζεται τῶν μὲν κατὰ φύσιν συμβαινόντων, ὅσων ἀγνοεῖται τὸ αἴτιον, τῶν δὲ παρὰ φύσιν, ὅσα γίνεται διὰ τέχνην πρὸς τὸ συμφέρον τοῖς ἀνθρώποις.

course of the preface, the topic is defined more narrowly, while the connection with wonder is amplified. After introducing levers as a particular part of mechanics, the author continues:

> πάντων δὲ τῶν τοιούτων ἔχει τῆς αἰτίας τὴν ἀρχὴν ὁ κύκλος. καὶ τοῦτο εὐλόγως συμβέβηκεν· ἐκ μὲν γὰρ θαυμασιωτέρου συμβαίνειν τι θαυμαστὸν οὐδὲν ἄτοπον, θαυμασιώτατον δὲ τὸ τἀναντία γίνεσθαι μετ᾽ ἀλλήλων. ὁ δὲ κύκλος συνέστηκεν ἐκ τοιούτων· εὐθὺς γὰρ ἐκ κινουμένου τε γεγένηται καὶ μένοντος, ὧν ἡ φύσις ἐστὶν ὑπεναντία ἀλλήλοις. ὥστ᾽ ἐνταῦθα ἔστιν ἐπιβλέψασιν ἧττον θαυμάζειν τὰς συμβαινούσας ὑπεναντιώσεις περὶ αὐτόν. (*Mechanics*, praef., 847b14-23)

> Of all such phenomena [i.e. levers] the circle holds the causal principle. And it makes sense that this is how it is: for it is not strange for something wonderful to come forth out of something more wonderful, and the most wonderful thing is for contraries to be present together. The circle consists of such qualities: for instance, it is made up of motion and rest, whose natures are contraries of one another. So that when we consider that, there is less reason to wonder at the contradictions surrounding it.

Levers are wonderful because they move against nature; but they operate by virtue of something even more wonderful — the circle — which in turn derives from the greatest

wonder of all, the coincidence of contraries. Presumably, the coincidence of motion and rest refers to the fact that a circle spinning around its axis stays in place completely, making it a synthesis of motion and rest. The author goes on to add more contradictions: circles are both convex and concave at the same time, and a moving circle moves in two opposing directions at the same time. Finally, the lesson is summed up: 'as has been said before, there is nothing strange in the fact that the circle is the origin of all marvels'.[83]

Two things are worth noting here. First of all, the author of the *Mechanics* goes quite far in manufacturing the kind of wonder that will motivate and justify the inquiry into the behaviors of spinning gears. This passage really does try to *evoke* wonder, rather than merely invoking it. But we can also appreciate how this attempt at evoking can backfire. If the wonder in the *Generation of Animals* sometimes seems a bit contrived, this passage about circles may seem outlandish — is the circle really the origin of all marvels?[84]

Second, though, the *Mechanics* also suggests a spiral of wonder, where unpacking the initial cause for wonder (the coincidence of opposites in a circle) will dispel the wonder — after all, 'when we consider [it], there is less reason to wonder'. Yet this act of

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[83] διό, καθάπερ εἴρηται πρότερον, οὐδὲν ἄτοπον τὸ πάντων εἶναι τῶν θαυμάτων αὐτὸν ἀρχήν. (*Mechanics*, praef., 848a10-11)

[84] The passage reminds me of a cartoon by Jim Benton (2016, 6), where three teachers explain their subject to a student. The first says: 'The whole world is math!' The second: 'The entire universe is chemistry!' The third: 'The very essence of reality is beginner's Spanish!'

dispelling is also the impetus behind a more detailed consideration of the properties of spinning gears.

1.3. The pleasure of wonder

The connection between wonder and learning is central to the metaphilosophical considerations of *Metaphysics* A2. In another context, Aristotle returns briefly to this link. This passage, which contains more valuable hints about Aristotle's conception of wonder, is from the discussion of pleasure in the first book of the *Rhetoric* (ch. 11). His (admittedly imprecise)[85] definition of pleasure here is as follows:

> ὑποκείσθω δὴ ἡμῖν εἶναι τὴν ἡδονὴν κίνησίν τινα τῆς ψυχῆς καὶ κατάστασιν ἀθρόαν καὶ αἰσθητὴν εἰς τὴν ὑπάρχουσαν φύσιν, λύπην δὲ τοὐναντίον. εἰ δ' ἐστὶν ἡδονὴ τὸ τοιοῦτον, δῆλον ὅτι καὶ ἡδύ ἐστι τὸ ποιητικὸν τῆς εἰρημένης διαθέσεως, τὸ δὲ φθαρτικὸν ἢ τῆς ἐναντίας καταστάσεως ποιητικὸν λυπηρόν. ἀνάγκη οὖν ἡδὺ εἶναί τό τε εἰς τὸ κατὰ φύσιν ἰέναι ὡς ἐπὶ τὸ πολύ. (*Rhetoric* 1.11, 1369b33-1370a4)

[85] See 1369b30-31: 'we should consider definitions adequate in particular cases if they are neither unclear nor accurate' (δεῖ δὲ νομίζειν ἱκανοὺς εἶναι τοὺς ὅρους ἐὰν ὦσι περὶ ἑκάστου μήτε ἀσαφεῖς μήτε ἀκριβεῖς). The sense seems to be that clarity without accuracy is acceptable.

Let us consider pleasure to be a certain movement of the soul and a complete and perceptible settling into the proper nature; and pain is the opposite. And if pleasure is like this, it is clear that the pleasant is that which produces the aforementioned condition, and that which destroys it or produces the opposite settling is painful. Necessarily, then, it is for the most part pleasant to enter into the natural state.

According to this general definition of pleasure, all pleasure derives from settling into a natural condition.[86] Aristotle goes on to unpack this definition and list different circumstances, activities and processes that are associated with pleasure, in order to derive rhetorical tropes from this consideration. It is in this context that he mentions the pleasure associated with learning and wonder:

καὶ τὸ μανθάνειν καὶ τὸ θαυμάζειν ἡδὺ ὡς ἐπὶ τὸ πολύ· ἐν μὲν γὰρ τῷ θαυμάζειν τὸ ἐπιθυμεῖν μαθεῖν ἐστιν, ὥστε τὸ θαυμαστὸν ἐπιθυμητόν, ἐν δὲ τῷ μανθάνειν <τὸ> εἰς τὸ κατὰ φύσιν καθίστασθαι. (*Rhetoric* 1371a30-33)

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[86] This definition of pleasure agrees with that in book VII of the *Nicomachean Ethics*, which is somewhat different from that in book X. There is a rich literature on these accounts of pleasure (See, e.g. Urmson (1967), Owen (1971), Rorty (1974), Wolfsdorf (2013, 103–43), but the details need not concern us here.

> Both learning and wondering are usually pleasant: for in wondering there is the desire to understand, so that the wonderful is desirable, and in learning there is the [or: a] settling into the natural state.

Here, as in the *Metaphysics*, the value of wonder is entangled with the value of learning.[87] Wonder is desirable because wonder implies the desire to understand. In order to unpack this brief statement, it is worthwhile to look at two of its key components: that of desire, and that of the settling into the natural state.

First, Aristotle has already established earlier in the chapter (at 1370b14-16) that desire usually brings some kind of pleasure because it comes with memory or anticipation. This suggests that it might be possible to disconnect the pleasure of wonder from the pleasure of learning: perhaps wonder is pleasurable only because it involves a desire (which just so happens to be the desire to understand), and desires are pleasurable. However, it is surely relevant what that desire aims at, since desire only gives pleasure because it aims at something pleasurable. In this case, it aims at *understanding*. And understanding is, it seems, also the goal of learning (in fact, the Greek words for learning

[87] See also *Poetics* 24, 1460a17 for the claim that wonder is pleasant. There, Aristotle illustrates it by noting that people tell stories with fancy additions because they think that this will be pleasing. (τὸ δὲ θαυμαστὸν ἡδύ· σημεῖον δέ, πάντες γὰρ προστιθέντες ἀπαγγέλλουσιν ὡς χαριζόμενοι)

and understanding here are different forms of the same verb[88]) so that the two pleasures are related after all: if wonder is pleasurable because the desire to understand is pleasant, the desire to understand itself is pleasurable because it anticipates a pleasurable goal, that of understanding.[89]

A second important phrase is that 'in learning there is the/a settling into the natural state' (ἐν δὲ τῷ μανθάνειν <τὸ> εἰς τὸ κατὰ φύσιν καθίστασθαι). It is not quite obvious what this means, or why it is true. Are we to think of knowledge as the natural state of the soul? Or is the exercise of the capacity for learning the natural state? The verb καθίστασθαι ('settling') suggests the former: as Aristotle says in the *Physics*, 'it is by our intellect resting and coming to a standstill that we are said to know and to understand'.[90] In the acquisition of knowledge, our active pursuit of knowledge comes to a rest, which can be described as a 'settling'. The natural state, then, would be the possession of knowledge. But other passages in Aristotle's surviving writings throw doubt on this claim. At the beginning of the *Metaphysics*, Aristotle ascribes the desire to know to all humans *by nature* (πάντες ἄνθρωποι τοῦ εἰδέναι ὀρέγονται φύσει, *Met.* A1, 980a21). Moreover, the same passage in the *Physics* where Aristotle describes knowledge as a

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[88] μαθεῖν, translated here as 'understanding', is the aorist of μανθάνειν, learning. The distinction is one of aspect rather than of tense, so that μανθάνειν amounts to an ongoing process of coming to an understanding, while μαθεῖν implies the moment of insight. This justifies the respective translations 'learning' and 'understanding'.

[89] In a passage from *EN* X.7 (1177b) that I discuss at greater length later in this section, Aristotle says that those who possess knowledge spend their time more pleasurably than those who are seeking for it.

[90] τῷ γὰρ ἠρεμῆσαι καὶ στῆναι τὴν διάνοιαν ἐπίστασθαι καὶ φρονεῖν λεγόμεθα, *Physics* VII.3, 247b10-12.

resting of the intellect contains another claim: 'it is by the soul's coming to a standstill *from its natural restlessness* that something becomes understanding and knowing'[91] If the soul has a natural restlessness, and humans by nature desire to know, is the 'settling into the natural state' really the *possession* of knowledge, or rather the *active pursuit* and/or active contemplation of knowledge? It is unclear, then, to what extent the characterization of learning as 'settling into the natural state' is something that Aristotle unqualifiedly stands by.

In the passage on wonder and learning in the *Rhetoric*, Aristotle continues drawing some consequences from the earlier statement:[92]

> ἐπεὶ δὲ τὸ μανθάνειν τε ἡδὺ καὶ τὸ θαυμάζειν, καὶ τὰ τοιάδε ἀνάγκη ἡδέα εἶναι, οἷον τό τε μιμούμενον, ὥσπερ γραφικὴ καὶ ἀνδριαντοποιία καὶ ποιητική, καὶ πᾶν ὃ ἂν εὖ μεμιμημένον ᾖ, κἂν ᾖ μὴ ἡδὺ αὐτὸ τὸ μεμιμημένον· οὐ γὰρ ἐπὶ τούτῳ χαίρει, ἀλλὰ συλλογισμὸς ἔστιν ὅτι τοῦτο ἐκεῖνο, ὥστε μανθάνειν τι συμβαίνει. (*Rhetoric* I.11, 1371b4-10)

[91] τῷ γὰρ καθίστασθαι τὴν ψυχὴν ἐκ τῆς φυσικῆς ταραχῆς φρόνιμόν τι γίγνεται καὶ ἐπιστῆμον, *Physics* VII.3, 247b17-18.

[92] In the manuscripts, the two sentences on wonder and learning of 1371a31-34 and 1371b4-10 are separated by an unrelated consideration on the pleasure of conferring and receiving benefits. Kassel (1976), following Spengel, suspects that there is something amiss in the text (e.g. a later addition by Aristotle, or a transposition from another part of the chapter), and that the two parts on wonder and learning should follow one another.

> Since learning and wondering are pleasurable, it is necessary that such things as imitations are also pleasant, e.g. painting and sculpture and poetry, and whatever is well imitated, even if the thing imitated itself is not pleasant: one is not pleased on that basis, but there is an inference that 'this is that', so that some learning takes place.

The pleasure of seeing imitations, like the pleasure of wonder, derives from the pleasure of learning. Although the pleasure of seeing imitation seems at first glance only to be linked to learning, it is clear from other passages that wonder is very much a part of this nexus. In fact, this connection explains much of Aristotle's use of wonder in the *Poetics*. There, Aristotle says, for instance,

> ἐπεὶ δὲ οὐ μόνον τελείας ἐστὶ πράξεως ἡ μίμησις ἀλλὰ καὶ φοβερῶν καὶ ἐλεεινῶν, ταῦτα δὲ γίνεται καὶ μάλιστα[93] ὅταν γένηται παρὰ τὴν δόξαν δι᾽ ἄλληλα· τὸ γὰρ θαυμαστὸν οὕτως ἕξει μᾶλλον ἢ εἰ ἀπὸ τοῦ αὐτομάτου καὶ τῆς τύχης, ἐπεὶ καὶ τῶν ἀπὸ τύχης ταῦτα θαυμασιώτατα δοκεῖ ὅσα ὥσπερ ἐπίτηδες φαίνεται γεγονέναι, οἷον ὡς ὁ ἀνδριὰς ὁ τοῦ Μίτυος ἐν Ἄργει ἀπέκτεινεν τὸν αἴτιον τοῦ θανάτου τῷ Μίτυι, θεωροῦντι ἐμπεσών. (*Poetics* 9, 1452a1-6)

[93] Accepting Spengel's omission of καὶ μᾶλλον here.

> Tragedy is an imitation not just of a complete action but also of fearful and pitiable events, and this happens most of all when events happen against expectations [but] by reason of one another: for this way it will be more wonderful than if it happens spontaneously and by chance, since even in chance events those appear most wonderful which seem to have happened on purpose, like when the statue of Mitys at Argos killed the man responsible for Mitys' death by falling on him when he was visiting.

That which causes wonder is, again, in a position between knowledge and ignorance: the unexpectedness means that we could not have known about the events, while the interconnectedness means that there is a fundamental comprehensibility.[94] This type of wonder is pleasant because it connects to a feeling of learning.

The pleasure of wonder, then, is of a derivative nature, and is based on the pleasure of understanding. This sets Aristotle apart from the tradition of aesthetic thought implicit in archaic poetry, where wonder is a principal source of aesthetic pleasure.[95] Moreover, this argument suggests that wonder is not a natural state of the soul, but rather a movement that aims at its own abolition. If we act on the desire to know, we pursue a state in which wonder no longer plays a part.

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[94] Later on in the *Poetics* (24, 1460a11-17), Aristotle will emphasize the aspect of ignorance by highlighting that the wonderful most often results from τὸ ἄλογον. The exact interpretation of this is disputed, with different translations opting for different nuances: e.g. 'irrationality' Lear (1988, 311), the 'inexplicable' (Fyfe in the Loeb (1927)), or the 'improbable' (Bywater in the Revised Oxford Translation (2014) as well as Janko (1987)).

[95] See especially Hunzinger (1994).

This state may be what Aristotle has in mind when describing the μεγαλόψυχος, the 'great-souled person' in the *Nicomachean Ethics*. Aristotle says of this person that he is 'not prone to wonder, since nothing is great for him' (οὐδὲ θαυμαστικός· οὐδὲν γὰρ μέγα αὐτῷ ἐστίν, *EN* 4.3 1125a2-3). The idea is that someone with a 'great soul' would not be easily impressed. To the extent that greatness of soul goes hand in hand with knowledge and/or wisdom, we can see how it would be incompatible with wonder: someone with more knowledge might well be less prone to wonder. However, in Aristotle's account of the μεγαλόψυχος, the issue does not seem to be with wonder in the sense of puzzlement: the addition of 'nothing is great for him' suggests that we are talking here about awe, not puzzlement. It is quite obvious that puzzlement would be alien to a person who possesses wisdom; but the hint about the μεγαλόψυχος suggests that the same holds for awe. As we will see in the next chapters, this idea will be taken up by the schools of Hellenistic philosophy, which marry wisdom to virtue in such a way as to make wonder a problem of ethics as much as of epistemology and metaphilosophy. In imagining what a sage would look like, the Stoics and Epicureans (and possibly even the skeptics, see section 4.3) confront the tension: a sage would be above feeling wonder, yet would also be a supremely wondrous spectacle.

Whether or not the sage feels wonder, it does not mean that the possession of knowledge cannot be pleasant. In the final book of the *Nicomachean Ethics*, Aristotle discusses the contemplative life, and indicates that it is a life of maximum pleasure:

> οἰόμεθά τε δεῖν ἡδονὴν παραμεμῖχθαι τῇ εὐδαιμονίᾳ, ἡδίστη δὲ τῶν κατ' ἀρετὴν ἐνεργειῶν ἡ κατὰ τὴν σοφίαν ὁμολογουμένως ἐστίν· δοκεῖ γοῦν ἡ φιλοσοφία θαυμαστὰς ἡδονὰς ἔχειν καθαρειότητι καὶ τῷ βεβαίῳ, εὔλογον δὲ τοῖς εἰδόσι τῶν ζητούντων ἡδίω τὴν διαγωγὴν εἶναι. (*EN* X.7, 1177a 22-27)

> We think pleasure must be mixed in with happiness, and the most pleasurable of the activities in accordance with virtue is agreed to be the one in accordance with wisdom; at any rate, philosophy seems to hold pleasures that are wonderful for their purity and stability, and it is reasonable that those who have knowledge spend their time more pleasantly than those who are searching.

The possession of knowledge is probably even more pleasant than the search for knowledge — so although strictly speaking the pleasure of learning and wonder tends towards its own cancellation, it does so because it tends towards an even greater pleasure. It is not clear, though, that this greater pleasure involves wonder at all — other than our

wonder at contemplating the pleasure. The only things Aristotle says about the pleasure of wonder are about wonder's relation to learning.

1.4. Wondrousness is next to Godliness

The idea that the pleasure of knowledge is itself a wonderful thing is echoed in the passage on the unmoved mover in *Metaphysics* Lambda, ch. 7. Having established that the prime mover is pure activity, Aristotle goes on to describe the existence of this principle as a life of supreme pleasure, consisting of thought thinking itself.[96] He connects the life of this divine principle back to our human existence twice: first, saying that the life of the prime mover is 'like the best life for a short while for us (for it is always in that state, but for us that is impossible)'[97] — in other words, the life of the unmoved mover is permanently in the best possible state that we can only occasionally and briefly reach. Next, after some considerations on thought thinking itself, Aristotle comes back to this idea (by now, he has taken to calling the principle 'god'), noting how curious this is: 'Now if the god is *always* in such a good state as we are *sometimes*, that is wonderful; but if he is in an even better state, that is even more wonderful; and that is how it is.'[98] The life of the

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[96] The passage is notoriously terse and tangled, so I remain agnostic about the precise relation between pleasure and thought thinking itself, as well as about the precise nature of thought thinking itself.
[97] διαγωγὴ δ᾽ ἐστὶν οἵα ἡ ἀρίστη μικρὸν χρόνον ἡμῖν (οὕτω γὰρ ἀεὶ ἐκεῖνο· ἡμῖν μὲν γὰρ ἀδύνατον), 1072b14-16.
[98] εἰ οὖν οὕτως εὖ ἔχει, ὡς ἡμεῖς ποτέ, ὁ θεὸς ἀεί, θαυμαστόν· εἰ δὲ μᾶλλον, ἔτι θαυμασιώτερον. ἔχει δὲ ὧδε. (1072b24-26)

unmoved mover is a life of the most amazing well-being, activity and pleasure. This makes it a prime object of our amazement and wonder. But the prime mover itself could not feel any wonder, since wondering at something implies being moved by that thing — a being who is moved by wonder cannot be an unmoved mover.

The unmoved mover's wondrousness points towards another dynamic that sometimes shows up in Aristotle's treatment of wonder: wonder is also a response to divinity. As we shall see, this becomes an important issue for both the Stoics and the Epicureans. The idea is not unique to Aristotle — as early as the Homeric epics, wonder tends to be the first emotion people feel when encountering a god.[99]

In Aristotle, the connection between wonder and divinity is more often implicit than explicit. We have seen that the 'invitation to science' from the *Parts of Animals* culminates in the statement that 'in all natural things, there is something wonderful' (645a17). Right after this phrase, Aristotle goes on to recount an anecdote about Heraclitus: when guests arrived, the philosopher was warming himself by the stove. But he told the guests to take courage and come in, 'for there are gods here too' (εἶναι γὰρ καὶ ἐνταῦθα θεούς, 645a21). This anecdote highlights the unexpected wondrousness to be found in biology. The sight of a philosopher warming himself by the stove is not very

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[99] E.g. the reaction of the Pylians and Nestor in *Od*. 3.372/373, when Athena drops her disguise as Mentor and flies away in the form of a bird; or Helen in *Il*. 3.398 on recognizing Aphrodite.

spectacular, yet there are gods even there. Similarly, the sight of lower animals, body parts and bodily fluids is not very promising, but there is wonder even there. Aristotle's association clearly draws a connection between wonder and the gods.

The place where this connection may be most explicit is in the lost dialogue *On Philosophy*. That dialogue appears to have had some thematic overlap with the first book of the *Metaphysics*: many of the fragments and testimonies show that Aristotle gave an account of the origins of philosophy, discussing, among other things, the (pre-philosophical?)[100] religious wisdom of Egyptians, Magi, and Orphics.[101] It is likely that the reference to 'now and at first' in the *Metaphysics* would be easier to understand if we had more of *On Philosophy*. However, our fragments of the dialogue do not mention wonder.

What they do mention, and at length, is theology. A part of the *On Philosophy* appears to have been concerned with explaining where our ideas about the gods come from.[102] We have testimony from Sextus Empiricus (*On Philosophy* fr. 10, adv. dogm. 3, 20–22) that Aristotle posited two sources for our conception of the gods: we get it from the soul (through dreams), and from the 'things on high' (ἀπὸ τῶν μετεώρων). Here is Sextus' account of the second source:

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[100] Cf. the claim that Thales is the 'founder of philosophy', ἀρχηγὸς φιλοσοφίας, in *Met.* 983b20. If there was no philosophy before Thales, we are justified in considering this religious wisdom 'pre-philosophical'.
[101] Frr. 6-7.
[102] Some scholars have hypothesized that the theological material from the fragments belongs to book 3 of *On Philosophy* (Chroust 1975). I am agnostic about the possibility of a detailed book-by-book reconstruction, and will only discuss themes that show up in surviving fragments, without attempting to reconstruct the structure of the dialogue from this.

> ἀλλὰ δὴ καὶ ἀπὸ τῶν μετεώρων· θεασάμενοι γὰρ μεθ' ἡμέραν μὲν ἥλιον περιπολοῦντα, νύκτωρ δὲ τὴν εὔτακτον τῶν ἄλλων ἀστέρων κίνησιν, ἐνόμισαν εἶναί τινα θεὸν τὸν τῆς τοιαύτης κινήσεως καὶ εὐταξίας αἴτιον. (*Dog.* 3.22)

> But [the notion of the gods] also comes from things on high: when people have seen the sun turning by day, and by night the well-ordered motion of the other stars, they thought that there was some god who was the cause of this great motion and order.

When we look up to the sky, the thing that makes us think that there are gods is not irregularities like lightning, comets, and eclipses, but is the orderly regularity of day and night.[103] Compare this with the examples of phenomena that cause philosophical wonder in *Metaphysics* A2: the happenings of the moon, the sun and the stars, and the origin of the universe.[104] Again, although our fragments of *On Philosophy* do not mention wonder, the parallel with *Metaphysics* A2 is suggestive.[105]

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[103] Compare this with Cleanthes' fourfold account of the origin of our notions: 1. The practice of divination; 2. The benefits we draw from the earth; 3. Fear of unusual events (including lightning, storms, earthquakes, rains of blood, landslides, monstrous births, comets, and parhelia); 4. The regularity of the heavenly motions. Unlike Aristotle, it seems, Cleanthes included portentous marvels. (See Cicero *ND* 2.13-15 for Cleanthes' fourfold cause.)

[104] οἷον περί τε τῶν τῆς σελήνης παθημάτων καὶ τῶν περὶ τὸν ἥλιον καὶ ἄστρα καὶ περὶ τῆς τοῦ παντὸς γενέσεως. 982b15-17.

[105] See Chroust (1972) for a reading of the fragments of the lost dialogues against the background of the wonder passage in the *Metaphysics*.

Even more suggestive is the fact that a thought experiment from Aristotle's *On Philosophy* is used by both Cicero and Lucretius to make a point about wonder. This is Aristotle's take on Plato's Cave.[106]

> Praeclare ergo Aristoteles 'Si essent' inquit 'qui sub terra semper habitavissent bonis et inlustribus domiciliis, quae essent ornata signis atque picturis instructaque rebus his omnibus, quibus abundant ii qui beati putantur, nec tamen exissent umquam supra terram, accepissent autem fama et auditione esse quoddam numen et vim deorum, deinde aliquo tempore patefactis terrae faucibus ex illis abditis sedibus evadere in haec loca, quae nos incolimus, atque exire potuissent: cum repente terram et maria caelumque vidissent, nubium magnitudinem ventorumque vim cognovissent aspexissentque solem eiusque cum magnitudinem pulchritudinemque, tum etiam efficientiam cognovissent, quod is diem efficeret toto caelo luce diffusa, cum autem terras nox opacasset, tum caelum totum cernerent astris distinctum et ornatum lunaeque luminum varietatem tum crescentis, tum senescentis, eorumque omnium ortus et occasus atque in omni aeternitate ratos inmutabilesque cursus — quae cum viderent, profecto et esse deos et haec tanta opera deorum esse arbitrarentur.' (Cicero, *ND* 2.95 = Aristotle *Phil.* Fr. 12 Rose)

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[106] Jason Rheins (2018) argues that the designation of 'cave' is misleading; he prefers to talk about the 'subterraneans argument'. The reason is that Aristotle appears goes out of his way to frame the thought experiment in such a way as to make the persons as much like us as possible. The term 'cave' suggests miserable troglodytes (relevant enough for Plato's cave), but Aristotle's thought experiment is about people living comfortable lives in well-lit underground dwellings. While I appreciate the caveat, I nevertheless stick with the designation of 'cave' because the thought experiment does seem to me to be an extension of Plato's cave. See Nightingale (2017) for a discussion of Aristotle's cave against the background of Plato.

> Aristotle says well: 'Suppose there were people who lived under the earth in comfortable and well-lit habitations, decorated with statues and paintings and furnished with everything which those who are considered happy enjoy. They have, however, never gone out above the ground, but have heard by rumor and hearsay that there was some deity and divine power. Then at some moment the mouth of the earth opens up and they can exit from their hidden dwellings and escape to the places that we inhabit. When they would suddenly see the earth and the sea and the sky, the size of the clouds and the force of the wind, and they would see the sun with its size and its beauty, and then they would get to know its power, that it can create day by spreading light through the whole heaven; but when night has darkened the earth, then they would see the whole sky decorated and adorned with stars, and the variety of lights in the moon that now waxes and now wanes, and the risings and fallings of each of these and the immutable paths decided for all eternity — when they see this, they surely judge that there are gods and that these great things are the works of gods.

Aristotle's cave is different from Plato's in a few crucial ways. First of all, the inhabitants of Aristotle's cave are not prisoners chained in the dark, but people living a comfortable life in a well-lit environment. Second, Plato's cave is meant to point beyond the visible and material reality towards the world of the forms — to exit the cave means to get an

education that allows you to 'see' beyond the material world. Aristotle's cave, by contrast, is about seeing our visible world itself. To exit the cave does not imply access to a higher form of reality, but simply access to a few more phenomena. In both Plato's and Aristotle's cave, we are supposed to identify with the cave dwellers. For Aristotle, though, the sense in which the subterraneans are us is that we do not pay proper attention to the visible phenomena that suggest a divine rule: for the subterraneans, access to these phenomena is a physical impossibility, while for us, it is a choice not to pay attention to them. In Plato, on the other hand, the subterraneans are actively misled into believing that appearances are realities.

The cave passage itself makes no mention of wonder, although it is not hard to read wonder in the description of the sight of the heavens. However, it is significant that Cicero introduces Aristotle's cave in the context of the argument 'which is drawn from wonder at heavenly and earthly matters' (*locus qui ducitur ex admiratione rerum caelestium atque terrestrium*, *ND* 2.75). We will discuss Cicero's account of this Stoic argument in section 2.2 below. Even more telling is the fact that Lucretius uses the same image of people who have never seen the sky to make a very different point about wonder.[107] The fact that the sky *would* be dazzling to someone seeing it for the first time, but is not quite

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[107] Chroust (1976) goes so far as to consider this passage from Lucretius an independent 'fragment' of *On Philosophy*, which seems overly inclusive: it is much more likely that Lucretius (or an earlier Epicurean) is re-working the image from Aristotle than that every re-working of that image is a more or less faithful rendering of Aristotle's thought.

so wondrous to us who see it every day suggests to Lucretius that ''nothing is so large or so wonderful that everyone does not slowly stop wondering.'[108] (*DRN* 2.1028-1029) For Lucretius, rather than illustrating the existence and providential rule of the gods, the image illustrates the possibility of dispelling wonder by habituation. We will come back to Lucretius' version of the cave in section 3.2.3.

Although it is impossible to tell if wonder as such was a theme in Aristotle's *On Philosophy*, it is clear that by the Roman period, the cave image at least was part and parcel of the philosophical discourse on wonder. What later generations took from Aristotle was not just the notion that philosophy begins in wonder, but also that (wonder at) the sight of the heavens suggests the existence of a divinity who rules the visible cosmos. At the same time, Aristotle's portrait of the μεγαλόψυχος introduces a note of caution about wonder, and the suggestion that the sage may be above wonder. We now turn to Stoicism, where wonder plays both a theological and ethical role.

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[108] nil adeo magnum neque tam mirabile quicquam / quod non paulatim minuant mirarier omnes.

Chapter 2. Stoic views

> Zwei Dinge erfüllen das Gemüt mit immer neuer und zunehmender Bewunderung und Ehrfurcht, je öfter und anhaltender sich das Nachdenken damit beschäftigt: *der bestirnte Himmel über mir und das moralische Gesetz in mir*.
>
> —Immanuel Kant, *Kritik der Praktischen Vernunft*.[1]

2.1. Stoicism and wonder

Since the Stoics considered the absence of emotion, or ἀπάθεια, as the hallmark of happiness, we might expect the Stoics to condemn wonder. Indeed, many of our Stoic sources express some distaste for wonder. For instance, in the litany of thanksgiving (book 1 of his *Meditations*), Marcus Aurelius is grateful that he has learned from the philosopher Maximus 'wonderlessness and unastonishedness' (τὸ ἀθαύμαστον καὶ ἀνέκπληκτον, 1.15).[2] Clearly, the absence of wonder is something for the Stoic-leaning Marcus to be proud of. Similarly, Seneca includes the following advice in his summary of the 'right way' (*rectum iter*, *Epistulae* 8.3): 'consider that nothing except the mind is wonderful, for when it is great, nothing is great for it.' (*Epistulae* 8.5).[3] Although Seneca leaves wonder at the mind itself intact, all other wonder is to be rejected. On the other

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[1] p. 288 in the original edition, p.162 in the *Akademien-Ausgabe*.
[2] On Claudius Maximus' Stoicism, see Gill (2013) *ad loc*.
[3] cogitate nihil praeter animum esse mirabile, cui magno nihil magnum est.

hand, the fact that wonder at the mind itself is not improper for Seneca suggests that Stoics did not reject wonder categorically, like they did many other emotions. And in fact, there is some evidence that wonder played a significant positive role in Stoic theology. Our aim in this chapter is to map out the different roles that wonder plays in Stoic thought.

These different roles for wonder correspond to different conceptions of what philosophy is about. On the one hand, the use of wonder in theology is entirely in line with the ideal of the contemplative life: looking up at the stars, wondering at the regularity of their motion, and experiencing a reverence for the divine providence that governs this spectacle is entirely consistent with a Platonic or Aristotelian outlook on the world. In fact, as in Plato and Aristotle, the experience of wonder is itself a part of philosophical thinking — a motivation behind inquiry as well as a premise in that inquiry. On the other hand, though, the Stoics introduce an ethical project where the management of emotions plays a key role. This introduces a marked ethical suspicion about wonder: for Epictetus and Seneca, while it may lead to inquiry and reverence, wonder at the wrong objects can have catastrophic consequences. In our Stoic sources, we can see that wonder starts to play a double role, as both a passion of inquiry and a manifestation of someone's ethical character.

One complication in the study of Stoicism is that wonder hardly shows up in our most reliable sources for the first generations of Stoics. In the two most authoritative

collections of fragments, Von Arnim's *Stoicum Veterorum Fragmenta* (*SVF*) and Long and Sedley's *The Hellenistic Philosophers* (*LS*), there are no clear doctrinal pronouncements on wonder (the way there are in Aristotle, Lucretius, and Sextus Empiricus).[4] Wonder as such does not show up in Stoic taxonomies of the emotions — only the related emotion of ἔκπληξις (astonishment) does, as a species of the *genus* fear.[5] It is only in the Roman era that wonder becomes a theme in Stoic texts, starting with Cicero's *De Natura Deorum*. Seneca and Epictetus both have strong views on wonder, but given the paucity of evidence for the views of earlier Stoics, we cannot be sure that they represent any kind of Stoic orthodoxy, rather than their own idiosyncratic views, or a broadly held Roman conception of wonder shared by philosophers and non-philosophers alike. In addition, there is enough room for variety and eclecticism within Stoicism that two Stoics can have different views on peripheral issues like wonder, and still both be adherents of the Stoa.[6] This is why I do not claim to present *the* Stoic doctrine of wonder. What I do claim to present are three different Stoic conceptions of wonder that may give some insight into

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[4] There are two possible exceptions: *SVF* 1.239, where Zeno says that avoiding the use of gold and silver promotes an attitude of 'wonderless and fearlessness' (ἀδεῆ καὶ ἀθαύμαστον … διάθεσιν τῆς ψυχῆς), and *SVF* 2.411 – supposedly a fragment of Chrysippus that defines fear as 'excessive wonderment' (θαυμασιότης ὑπερβάλλουσα). This latter fragment seems to me to be a misinterpretation on Von Arnim's part. The first half of *SVF* 2.411 gives a Stoic definition of reasonable fear as εὐλάβεια, but extending this identification with Stoicism to the definition of fear in the second half and treating it as Stoic doctrine is a bit of a stretch — especially since Clement (the source for this fragment) cites two different Gnostic sources (unnamed followers of Basilides and an epistle by Valentinus) between the first and the second part of the fragment.

[5] Diogenes Laërtius, 7.112.

[6] On the social dynamics of philosophical adherence in Hellenistic and Roman antiquity, see Sedley (1989).

the variety of possible roles that wonder can play in a Stoic life — both positive and negative.

First, I will present two Stoic arguments for the existence of God and the providential rule of the cosmos that rely (in different ways) on wonder. The first is from book 2 of Cicero's *De Natura Deorum*, presented by the Stoic spokesman Balbus as conventionally Stoic; the second is given by Sextus Empiricus in a barrage of arguments for the existence of the Gods.

Next, I will discuss the place of wonder in the thought of Epictetus and of Seneca (departing from the chronological order to facilitate a clearer presentation). For Epictetus, wonder is first and foremost an ethical challenge; a gateway emotion that can leave us vulnerable to a range of other, more problematic emotions. Seneca is in fundamental agreement with Epictetus, but is much more interested in imagining what a person free from the burden of wonder might be like.

2.2. The theology of wonder

The main use that Stoicism has for wonder is in theology: some of the Stoic arguments for the existence and providence of the gods rely on the wondrousness of the cosmic order. This is not necessarily a Stoic invention: Xenophon's Socrates makes similar arguments

in the *Memorabilia*,[7] and there is a distinct possibility that Aristotle's lost work *On Philosophy* was an important source for the Stoics — as we shall see, Cicero's Stoic spokesman quotes a passage of Aristotle in defense of his view. But it is in Stoic sources that we first find an extensive use of wonder in theological arguments.

The two key sources for all of Stoic theology (and also for this section) are the second book of Cicero's *De natura deorum*, and the ninth book of Sextus Empiricus' *Adversus Mathematicos*.[8] In this section, we will first discuss the role of wonder in Cicero's exposition of Stoic theology, before looking at a related passage in Sextus Empiricus (§2.2.4 below).

Since the argument about wonder is embedded in the larger framework of *De natura deorum*, and since Cicero's modus operandi is as much rhetorical as it is logical, we will also have to take the bigger picture of book 2 into consideration. Our discussion will move through three phases: first (§2.2.1), we will discuss the context in which Cicero introduces what he calls 'the topic drawn from wonder at heavenly and earthly matters' (*locus qui ducitur ex admiratione rerum caelestium atque terrestrium*, *ND* 2.75), which I will refer to as the 'argument *ex admiratione*'. In particular, we will trace how the theme of

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[7] 1.4 and 4.3. Wonder itself does not play a role in Xenophon's Socrates' arguments from design, but they are clear precursors to Cicero's argument from design in *ND* book 2. See Dorion (2016) for a discussion of Xenophon's influence on Cicero's account.

[8] Dragona-Monachou (1976) and Meijer (2007) are the best overviews of Stoic theology. Given the centrality of Cicero's *ND* for our understanding of Stoic theology, Pease's thorough commentary to that work (and especially the 1958 second volume) is also indispensable.

wonder is foreshadowed earlier in book 2 of *De natura deorum* to see how the argument *ex admiratione* is the climax (both rhetorical and logical) of a series of arguments which have played with wonder in various ways. Second (§2.2.2), I will discuss the exact place at which the argument *ex admiratione* begins: although the structure of book 2 of *De natura deorum* is clearly signposted, the boundary between the argument *ex admiratione* and what comes before it is blurry, and we need to establish this boundary before we can analyze the argument about wonder. Third and finally (2.2.3), we will analyze the argument itself: it is a version of the argument from design (and, in fact, the direct ancestor for modern arguments from design), but with the crucial addition that it is based on the emotion of wonder as well as on design.

2.2.1. Wonder in the second book of De natura deorum.

In the proem to *De natura deorum*, Cicero sets out the basic method of his Academic eclecticism: rather than hold a certain view on any issue, the Academic sets out the different cases that can be made for different views, and uses the plausibility of these cases as a guide for action. In the treatise on the nature of the gods, this means that Cicero sets out Epicurean and Stoic conceptions of the gods (books 1 and 2, respectively), as well as pointing out the flaws in both schools (the end of book 1 for Epicureanism, book 3 for

Stoicism).[9][10] The work has the form of a philosophical dialogue, with Velleius representing Epicureanism, Balbus representing Stoicism, Cotta representing Academic skepticism, and Cicero himself being an onlooker who disappears from view for most of the work, only speaking out in favor of Balbus at the very end of the dialogue.[11]

In book 2, Balbus follows the Stoics in dividing the inquiry up into four parts, which we will indicate with Roman numerals:[12]

I. Prove that the gods exist (2.4-44).

II. Prove what their nature is (2.45-77).

III. Prove that they govern the world providentially (2.73-153).

IV. Prove that they care about human affairs (2.154-167).

In the next sections we will focus on part III, which deals with divine providence and its action in the world, as that is where the argument *ex admiratione* occurs. But first we shall see how the theme of wonder already shows up in parts I and II.

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[9] The question of the sources Cicero used in composing the second book of *ND* is vexed, but the main suspects are Posidonius' περί θεών, and for the *tertius locus* that we focus on, Panaetius' περί προνοίας. It is also likely that Cicero would have consulted excerpts and handbooks, either of Stoic or of Academic provenance. For an overview of the discussion and the arguments, see Pease (1955, 45–48).

[10] Unfortunately, Cotta's reply to Balbus in book 3 is lacunose, and the response to the argument from wonder (if there was any) is missing. The lacuna is located at *ND* 3.65, just after Cotta announces that the arguments on divine providence and its rule over the universe are next on the agenda. When our text picks up again, it has already moved to the next topic, the divine providence in human affairs. Book 3 as we have it is thus of little value for understanding the argument from wonder.

[11] On Cicero's final verdict, see DeFilippo (2000). The curious thing is that Cicero the Academic does not concur with Cotta the Academic, but with Balbus the Stoic. This is a way of signaling his own independence as an Academic: even other Academics are subject to Academic skepticism.

[12] Throughout book 2, Cicero has Balbus stress the Stoic conventionality of his exposition by attributing the arguments and their organization to *nostri*, as is the case in this fourfold division at *ND* 2.3, as well as in the division of the third part at 2.75.

Balbus opens his speech (and part I) with a supposed knock-down argument for the existence of gods: the very sight of the heavens should be enough to convince us.

> ne egere quidem videtur (inquit) oratione prima pars. quid enim potest esse tam apertum tamque perspicuum, cum caelum suspeximus caelestiaque contemplati sumus, quam esse aliquod numen praestantissimae mentis, quo haec regantur? […] Quod qui dubitet, haud sane intellego cur non idem sol sit an nullus sit dubitare possit; qui enim est hoc illo evidentius? (*ND* 2.4)

> 'The first part,' Balbus said, 'seems not to even need an explanation. For when we look at the sky and contemplate the heavenly bodies,[13] what can be so obvious and so evident as that there is some divinity with an excellent mind who rules these things? […] If someone doubts this, I cannot understand why the same person could not also doubt whether the sun exists or not; for how is the one more evident than the other?'[14]

If we look up and contemplate the heavens, the conclusion that there are gods who rule them should be as obvious as the conclusion that the sun exists. Balbus here does not specify what it is about this contemplation that would force us to accept this conclusion,

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[13] I translate the perfects *suspeximus* and *contemplati sumus* as present to keep the English readable; the suggestion seems to be that the realization only hits after the contemplation, but the temporal lag does not seem to me to be essential.

[14] For the sake of brevity I omit two citations from Ennius.

but he will come back to the sight of the heavens a number of times to give this first argument more substance. In this way, the opening of the whole discussion anticipates the third part, on the divinely providential rule of the cosmos: contemplation of the cosmos itself suggests divine rule, which suggests the existence of a rational divinity. And once wonder does enter the picture in part II and part III, the sight of the heavens becomes a key example for how wonder can lead us to see the universe as a divinely ordered system.

In part II, where Balbus explains what the Stoics think the gods are like, the contemplation of the cosmic order again plays a crucial role. There, Balbus flags the sight of the heavens and the elaborate ballet of the celestial bodies as a source of great wonder. Balbus' contemplation of the heavens, alluded to in part I, turns out not to be a disinterested logical analysis, but rather an astonished gaze:

> maxume vero sunt admirabiles motus earum quinque stellarum quae falso vocantur errantes — nihil enim errat quod in omni aeternitate conservat progressus et regressus reliquosque motus constantis et ratos. quod eo est admirabilius in his stellis quas dicimus, quia tum occultantur tum rursus aperiuntur, tum adeunt tum recedunt, tum antecedent tum autem subsequuntur, tum celeries moventur tum tardius, tum omnino ne moventur quidem sed ad quoddam tempus insistent. […] hanc igitur in stellis constantiam, hanc tantam tam variis cursibus in omni aeternitate convenientiam temporum non possum

> intellegere sine mente ratione consilio. quae cum in sideribus inesse videamus, non possumus ea ipsa non in deorum numero reponere. (*ND* 2.51, 2.54).

> The most wonderful are the motions of those five stars which are falsely called 'wandering' — for nothing 'wanders' which maintains its constant and fixed forward and backward motions and its other movements. Which is all the more wonderful in the stars we are talking about, because they are now hidden, now uncovered again; now they approach, now recede; now precede, now follow; now move more quickly, now more slowly, now do not move at all but stand still for a certain while. […] So this regularity in the stars, this great consistency of periods in such varied paths through all eternity, I cannot understand without a mind, a reason, a plan. If we see this in the stars, we cannot but number them among the gods.[15]

While the stated aim of the passage is to establish that the stars are divinities, Cicero here mixes arguments together: this is at the same time an elaboration of the original knock-down argument for the existence of gods (adding that regularity and consistency are key), an argument about the nature of the gods (that they are stars), and an anticipation of the argument about the providential rule of the cosmos (because it highlights the *admirabilitas*

[15] For the sake of brevity I omit the detailed discussion of the different planets and their orbits.

of the heavens). Our wonder at the celestial dance is thus a thread that ties the different strands of Balbus' Stoic theology together. In part I, the mere sight of the the dance establishes the existence of a divine choreographer. In part II, our wonder at this same sight establishes that the dancers themselves (the stars and planets) are divine. And in part III, our wonder establishes that the ballet as a whole, including all its props, extras, and costumes, is governed by a divine intelligence.

2.2.2. Where does argument ex admiratione begin?

Even if Balbus/Cicero sometimes weaves arguments together, the intended structure of the text is generally plain to see, and the transitions between sections are clearly marked.[16] One point where the structure breaks down is within part III, the section on providence, and more particularly in the transition to the argument from wonder.[17] In this section I will propose a new way to divide the sections of part III. For reasons of space, my argument here presupposes familiarity with the text, since a full discussion of the

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[16] It is worth noting that book 2 of *De natura deorum* has been subject to intense philological work, in particular in the hands of Angelo Poliziano in the 15th century. As Auvray-Assayas (1997) shows, Poliziano made some significant revisions to the order of passages. In particular, the section that now runs from §87 to §156 (which includes the entire *tertius locus* IIIc, plus the first few lines of part IV) is placed after §16 in the MSS. Poliziano writes in his *Miscellanea* (L.1-3) that the second book of *ND* is, in the manuscripts, no less mutilated than Hippolytus was when trampled by horses. (*Ciceronis liber secundus de deorum natura non minus lacer in omnibus nouis, uetustis etiam exemplaribus reperitur quam olim fuerit Hippolytus turbatis distractus equis*, cited by Auvray-Assayas (1997: n36)). Poliziano's cure for this dismembered state includes the transposition of the argument from design and the catalogue of marvels from the beginning of the book to their current place. Poliziano's intervention has seemed justified to the centuries after him, with the lone dissenting voice being Auvray-Assayas (2005). In my view, the presence of the section markers in Cicero's prose (which Auvray-Assayas admits are present in the MSS) amply support Poliziano's order.

[17] See Pease *ad* 2.9 ('principio') for the different views on where the *tertius locus* begins.

contents of each relevant paragraph of *ND* would require extensive citations. The reader who does not have a copy of *ND* at hand, or who is not particularly concerned with the internal structure of *ND*, might skip this section.

Part III consists of three arguments, all meant to establish that the cosmos is ruled by divine providence. The argument *ex admiratione* is the third topic (*tertius locus*), so let's call it argument IIIc. The first argument on providence (IIIa) focuses on the nature of the gods: if they exist and are such as humans generally take them to be, they must also rule the universe, since that is the only activity consistent with their majesty (*ND* 2.76-80). The second argument (IIIb) focuses on the term 'nature': the proper natural development of each and every part of the world is interconnected, which implies that the cosmos as a whole has its proper natural development which guides all the parts. The transition from IIIa to IIIb is explicit: Cicero rounds off IIIa with '*ac de prima quidem parte satis dictum est*', and moves on to a new point with '*sequitur ut doceam…*'. But the transition to IIIc is much less clear-cut: it is unclear where exactly IIIb ends, and where IIIc starts. The reason for this seems to be that Cicero/Balbus is preoccupied with an anti-Epicurean polemic, which straddles the two sections.

Commentators have proposed a number of different points where the third topic might begin, all taking their cue from the indication in 2.75 that the third topic (*tertius locus*) is one *ex admiratione*. Three main candidates have been proposed for where the

transition happens, all of which seem to me to be unsatisfying. I will discuss them in 'reverse order' (that is, the latest option first), since my own proposal is to extend IIIc back all the way to 2.87.

A. Some hold that the *tertius locus* begins in 2.98 (Mayor).[18] The clearest transition in the text occurs in 2.98, when Balbus indicates that he moves from the 'subtleties of reasoning' to the contemplation of the beauty of the cosmic order. This is the point at which Balbus gets his groove back, no longer going back and forth between different arguments, thought experiments, citations, and polemics, but giving a concerted account of the marvels of nature. This is the point at which there is no more question that we are dealing with a topic *ex admiratione*.

   Against A: while it is true that 2.98 contains a clear transition to a different mode of speaking, I do not think that it signals a transition to a different topic. Wonder has been a prominent concern since at least 2.91, where Balbus first seems to embark on a catalogue of marvels. While that catalogue is cut short by an anti-Epicurean polemic in 2.93, it does make

[18] Mayor (1883, xiv).

clear that we are already well into IIIc by the time Balbus shifts gears from the argumentative to the rhetorical.

B. The *tertius locus* begins in 2.94.[19] The only explicit signpost for a transition to the topic *ex admiratione* is the remark *qui locus est proximus* ('this topic is next') in 2.94, following the mention of 'this wondrous decoration of the sky' (*hunc admirabilem caeli ornatum*).

Against B: this is not the point at which wonder first becomes a concern. As Pease says, by this point in the text 'much has already been said upon this theme'. If the phrase *qui locus est proximus* is authentic,[20] it would signal a return to the main point of IIIc (broached at least as early as 2.91), rather than a transition to a new topic.

C. The *tertius locus* begins in 2.91 (Schoemann, Pease, Dragona-Monachou). This is the first point after the initial division of part III where Balbus really zeroes in on wonder. Here, he gives a tagline that is relevant for almost everything that follows up until 2.153: 'But now they seem to me to not even suspect how

[19] I have not found any commentators who seriously hold this view, but it is the most obvious reading, and in many cases the other options are proposed against this *prima facie* plausible reading.
[20] Creuzer proposed that it may be a gloss, and Pease is sympathetic towards that suggestion.

great the wondrousness of heavenly and earthly things is'.[21] Moreover, the text here is clearly transitional, as marked by *nunc autem* in 2.90, then with *principio enim* in 2.91.

Against C: the biggest problem with placing the transition here is that there is a key continuity in the argumentation before and after the transition. The argument from design is first introduced in 2.87, but is taken up again *with explicit reference to wonder* in 2.97. On reading C, topics IIIb and IIIc would amount to the same argument. But IIIb begins with a rather different argument (2.83-86), based on the harmony between all natural processes.

My contention, then, is that the topic *ex admiratione* begins when Balbus brings in the analogy between craft and nature in 2.87. Argument IIIb is all about the concept of nature, while argument IIIc is about nature's analogy to craft. In other words: I contend that the argument *ex admiratione* is an argument from design.

The reason that the transitions in the text are not clearer is, I think, because Cicero/Balbus keeps moving back and forth between a polemical anti-Epicurean tone and an expository tone. This is what can create the impression that the *tertius locus* starts at

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[21] nunc autem mihi videntur ne suspicari quidem quanta sit admirabilitas caelestium rerum atque terrestrium

2.91, or at 2.94, or at 2.98: we have been primed at this point to expect explicit transition markers from Balbus, but the transition from IIIb to IIIc is overshadowed by transitions back and forth between polemics, exposition, and citations (from Accius in 2.89, from Aristotle in 2.95).[22] I propose that we pay more attention to the content of the argument than to the form of the discourse markers: the fact that Balbus presents the argument from design in terms of wonder in 2.97 strongly suggests that the argument from design is the whole point of IIIc — which is to say, IIIc begins as early as 2.87.

2.2.3. The argument from design as an argument from wonder

On the assumption that the argument from design and the argument from wonder amount to the same thing, we should make a distinction between the argumentative part (§§87-97) and the rhetorical part, or the catalogue of marvels (§§98-153). At the outset of the latter, Balbus makes this separation clear by announcing a shift away from logical argumentation and towards a contemplation of the beauty of the cosmos:

> licet enim iam remota subtilitate disputandi oculis quodam modo contemplari pulchritudinem rerum earum, quas divina providentia dicimus constitutas. (*ND* 2.98)

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[22] This is also what lends plausibility to the proposal that *qui locus est proximus* in 2.94 is a gloss: a reader on the look-out for a transition might scribble it in the margin.

> For now we may leave the subtleties of reasoning aside and gaze as it were with our eyes at the beauty of those things which we claim are designed by divine providence.

As we noted in the previous section, the argumentative part of the passage on wonder seems unfocused at a first glance. It is framed as an anti-Epicurean polemic, with the stated aim to inquire whether it is possible that the world came about by chance, rather than by providential, intelligent, and divine design.[23] In fact, Balbus goes back and forth between arguing against the Epicurean position (that the universe is the result of chance) and arguing in favor of the Stoic position (that it is ruled by providence). These two strands are intertwined, as the proof of the Stoic position would at the same time be a refutation of the Epicurean position, but the focus of different metaphors and arguments does shift between the two. Moreover, the passage is interrupted by what I consider a false start to the catalogue of marvels, at *ND* 2.90-92, where Balbus seems to embark on a description of the wonders of nature, only to come back to the anti-Epicurean polemic in 2.93. Given the variety of aims and focal points in the passage, some degree of

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[23] *ND* 2.87: videamus utrum ea fortuitate sint an eo statu quo cohaerere nullo modo potuerint nisi sensu moderante divinaque providentia. I consider the remarks on how the world could not be better in any of its parts as the ending of IIIb; the point that you could not change anything without making it worse follows from the arguments in IIIb on the coherence of all natural processes, but is not part of the exposition of the argument from design. The phrase just quoted makes the transition from the perfection of the parts to the intelligent design of the whole.

reconstruction is needed to get clear on the precise argument, and the role wonder plays in it.

The structure of the argumentative passage can be construed as a loose ring composition, beginning and ending with the argument from design, and framed around the false start to the catalogue of marvels. Here is a schematic overview, with levels of indentation indicating the ring composition. This is the argumentative part of section IIIc of book 2.

Exasperation at Epicureanism (2.87)

Argument from design, version one. Craft analogies suggesting a designer. Examples with increasing complexity: statues, paintings, ships, sun-dials, water-clocks, Posidonius' orrery (2.87)

> Imagining a Scythian or a Briton coming across Posidonius' orrery (2.88)
>
> Epicureans think more highly of Archimedes for making a model of the universe than of the craftsmanship of the real universe. (2.88)
>
> The amazement of the shepherd at seeing the Argo in Accius' *Medea*: baffled at first, but then inquires and guesses the real nature of the thing (2.89-90). The nature of philosophy.
>
> > False start of a catalogue of marvels (*admirabilitas caelestium rerum atque terrestrium*): on air as an element. (2.91-92).

Exasperation at the Epicureans — example of Ennius' *Annales*. It seems like the Epicureans never even looked up at the sky! (2.93)

Aristotle's Cave (2.94-95): on looking up at the sky.

Variation on Aristotle's Cave: darkness after an eruption of Etna. (2.96)

The argument from design, version two: orrery or clock (*sphaera*, *horae*); with *a fortiori* conclusion for the gods. (2.97)

If the passage is a ring composition, with the edges consisting of the argument from design and the center of the false start, the rest is a series of vivid images meant to evoke both the absurdity of the Epicurean view and the appropriateness of marvel at the cosmos. From a reconstruction of the argument, it appears that the vivid images do some argumentative work as well: they help to flesh out the premises for the argument from design.

Balbus gives two passes at the argument from design: the craft analogy is first introduced in *ND* 2.87, and the argument only really comes together in 2.97. He states the first pass at the argument from design rather tersely in 2.87:

> si igitur meliora sunt ea quae natura quam illa quae arte perfecta sunt, nec ars efficit quicquam sine ratione, ne natura quidem rationis expers est habenda.

> if the products of nature are better than the products of craft, and craft achieves nothing without reason, nature must also not be considered as devoid of reason. (*ND* 2.87)

This formulation anticipates two important features of the second pass at the argument. First, the products of nature are in some way 'better' (*meliora*) than the products of craft. This is just assumed as a hypothesis here (Balbus has just claimed that the world as it is could not be better in any way), but it will later turn out that wonder is a key indicator of this difference in degree. Second, the products of nature and those of craft are both guided by reason. Balbus establishes this point by a series of examples:

> Qui igitur convenit, signum aut tabulam pictam cum aspexeris, scire adhibitam esse artem, cumque procul cursum navigii videris, non dubitare, quin id ratione atque arte moveatur, aut cum solarium vel descriptum vel ex aqua contemplere, intellegere declarari horas arte, non casu, mundum autem, qui et has ipsas artes et earum artifices et cuncta conplectatur consilii et rationis esse expertem putare? (Cicero, *ND* 2.87)

> How is this fitting: when you see a statue or a painting, you know that craft was employed, and when you see the course of a ship from afar you do not doubt whether it moves by reason and craft, or when you consider a clock, either a sun-dial or a water-clock, you understand that it indicates the hours by craft, not by chance. But the world itself, which

> both contains these works of craft and their craftsmen and all else — do you consider it to lack a plan and reason?

Crucially, the products of craft display their design and reason just by being what they are. We do not need to see the craftsman and do not need to see the plan to know that there is a craftsman and a plan. The world itself is also of this nature: it shows its craftlikeness. One reason we might have for believing this is that the world itself contains both products of craft and craftsmen. Another is that models of the world, such as Posidonius' orrery and Archimedes' sphere (2.88) are immediately recognizable as products of craft. It would be wrong to acknowledge that Archimedes employed craft in creating his sphere, but deny that craft was involved in creating the original which Archimedes followed.

Balbus follows the examples of Posidonius and Archimedes with lines from a tragedy by Accius, where a shepherd sees a ship for the first time. At first, the shepherd is baffled, but then he realizes what kind of a thing he is looking at. Balbus says that this should also be how philosophers proceed:

> sic philosophi debuerunt, si forte eos primus aspectus mundi conturbaverat, postea, cum vidissent motus eius finitos et aequabiles omniaque ratis ordinibus moderata inmutabilique constantia, intellegere inesse aliquem non solum habitatorem in hac

caelesti ac divina domo, sed etiam rectorem et moderatorem et tamquam architectum tanti operis tantique muneris. (*ND* 2.90)

So philosophers must have done: if the first sight of the world had confused them, then, when they saw its definite and regular motions and everything regulated in fixed orders and with unchangeable consistency, they understand that there is in this heavenly and divine house not just some inhabitant, but a ruler and regulator and as it were an architect of this great work, this great gift.

If the sight of the heavens may be confusing at first, it would not have taken the original philosophers long to realize that they were looking at a well-governed and well-designed cosmos, rather than a random heap of atoms. This image, or people seeing the sky for the first time, anticipates Balbus' longer citation of Aristotle's cave argument (*ND* 2.95, see section 1.4 above), which he uses to make a similar point: if we see the heavens as they really are, we can only conclude that they are ruled by a divine intelligence.

Just as we can see that works of craft are products of rational design, so we can see that the world is the product of rational design, or so Balbus would have us believe. But we have not yet established what it is about the world that looks so design-like. And in what way are the products of nature 'better' than those of craft? The second pass at the argument from design comes closer to answering these questions:

quis enim hunc hominem dixerit, qui, cum tam certos caeli motus, tam ratos astrorum ordines tamque inter se omnia conexa et apta viderit, neget in his ullam inesse rationem eaque casu fieri dicat, quae, quanto consilio gerantur, nullo consilio adsequi possumus. An, cum machinatione quadam moveri aliquid videmus ut sphaeram, ut horas, ut alia permulta, non dubitamus, quin illa opera sint rationis, cum autem impetum caeli cum admirabili celeritate moveri vertique videamus constantissime conficientem vicissitudines anniversarias cum summa salute et conservatione rerum omnium, dubitamus, quin ea non solum ratione fiant, sed etiam excellenti divinaque ratione? (*ND* 2.97)

Who would call a person 'human' who sees that the heavenly motions are so regular, that the orders of the stars are so fixed and that everything is so interconnected and well-adapted, yet denies that there is any reason in these phenomena and claims that these things happen by chance, when our insight cannot fathom with how much insight they are ruled? When we see something moving by some machinery, like an orrery, a clock, or many other things, we do not doubt that these are the products of a reason. But when we see the rushing of the heavens moved and turned with wonderful speed, making annual rotations with great regularity and the conservation of all things — do we then doubt that this is done not just by a reason, but by an elevated and divine reason?

Here, the argument extends from the case of a human designer to a divine designer. Balbus makes this step by highlighting how much greater the design of nature is than that of craft, both in terms of its size (rushing with wonderful speed) and its impressive regularity. He reinforces this point by rhetorical means: the highly alliterative description of the celestial motions mimics the intentionality and orderliness of the heavens themselves, combining a rushing tempo with a predictable regularity. What the second version of the argument adds to the first version is a hyperbolic description of the spectacle of the heavens, suggesting a stronger sense of the difference between mere human craft and the design of the cosmos. The dazzling spectacle of the regular movements of the stars and planets suggest not just a rational creator, but a creator with a lofty and divine reason. We can start to see here what wonder contributes to the argument: it expands the scope from mere rational design to the design by a divine intelligence. The catalogue of marvels will perform this same operation again and again: highlighting how well-designed, how impressively regular, and how intricate the design of the cosmos is by going through its different parts.

The passage also gives a hint that this reason must be something more than human with the phrase *quae quanto consilio gerantur nullo consilio adsequi possumus* ('our insight cannot fathom with how much insight [the heavens] are ruled'). This may be read as a concession to the ignorance of the precise orbits of the planets — Balbus has already

admitted in 2.52 that the precise length of a 'great year' (the period after which all the stars and planets return to the same positions) is a matter of disagreement.[24] But it is also a concession that even just understanding the structure of the heavens is a very difficult thing to do, which suggests that coming up with the structure was an even greater (and, therefore, superhuman) feat. Balbus makes the same point later on, at the end of his discussion of the stars in the catalogue of marvels:

> quae non modo ut fierent ratione eguerunt sed intellegi qualia sint sine summa ratione non possunt. (*ND* 2.115)

> It not only required reason for them to come into existence but we cannot even understand their nature without great intelligence.

The fact that the regularity of the heavens requires great intelligence to understand suggests that it was created by an even greater intelligence. And the fact that Cicero's contemporaries have not managed to figure out the precise length of a great year suggests that this intelligence may even be superhuman — our insight cannot fathom with how much insight it is ruled.

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[24] quam longa sit magna quaestio est

What is important, though, is that the fundamental comprehensibility of the heavens is not up for discussion. The fact that we do not know every last detail of the heavenly ballet does not support the view that it is all just chance and chaos. Instead, it suggests that our insight is not (yet?) advanced enough to fathom the whole plan behind it. When Balbus invokes *admirabilitas* (as in the catalogue of marvels), he achieves two things at the same time. On the one hand, the wondrousness of the cosmos is a sign of its fundamental orderliness and comprehensibility — in fact, in much of the catalogue of marvels, orderliness is the very reason why the universe is so wondrous. At the same time, though, our wonder at the cosmos highlights the difficulty of comprehending this order: the exact rhythms of the regularity, and the exact way in which all the parts fit together, are to some extent beyond us. Our wonder shows both that there is an order, and that this order was designed by an intelligence that surpasses ours.

What wonder adds to the first pass at the argument for design, then, is a tangible *a fortiori*: if the products of nature are better than the products of craft, *how much better* must the producer of nature be than us humans, for making a cosmos so intricate yet orderly, dazzling yet comprehensible.[25] Our wonder at contemplating the structure of the

[25] I owe the observation that all arguments from design require a 'how much more' clause to Jason Rheins (2018).

cosmos gives us insight into its craftlike nature, while at the same time indicating that the system of nature goes beyond any human artificer.

Right after this second pass at the argument, Cicero's Balbus embarks on a long (and rhetorically turgid) tour of the marvels of nature, which really bring home the *a fortiori* argument. Throughout this long passage, Balbus not only excites our wonder at all these marvels, but often stops to comment on the wonder we ought to feel at the contemplation. This wonder turns out to be a multi-faceted affair. These are the topics he touches on in the catalogue:

1. The earth (with vegetation and rivers) — 2.98
2. The variety of animal species — 2.99
3. The sea — 2.100
4. The air (with day and night and the seasons) — 2.101
5. Sun and moon — 2.101-104
6. The constellations — 2.104-115
7. The stability and circularity of the world — 2.115-117
8. The stars and the world-conflagration — 2.118
9. The planets — 2.119
10. Plants — 2.120
11. Animals — 2.121-127

12. Procreation and child-rearing 2.127-129

13. Agriculture and the benevolence of nature 2.130-132

14. Transition to humanity: human as telos of nature 2.133

15. The human body 2.133-146

16. The mind 2.147-152

17. Our capacity for contemplation and religion 2.153

While this catalogue looks a bit like a paradoxographical collection, there are some significant differences.[26] First, rather than just *collect* marvels, Cicero/Balbus makes an effort to amplify our feeling of wonder in a way that is foreign to the stylistically sterile genre of paradoxography.[27] Balbus' catalogue is not an antiquarian exercise, but a rhetorical one. Second, most of the marvels included are not obscure and recondite facts about faraway places; the catalogue reads more like nature's 'greatest hits' than like a collection of B-sides and outtakes.[28] Third, the order of the material shows that the catalogue is fully infused with philosophical interest: it moves from the four elements (2.98-101) through the heavenly bodies (101-119) to terrestrial life, climbing the *scala*

[26] We know from Pliny that Cicero apparently wrote a paradoxographical work, but little is known about either its style or its contents. See Schepens and Delcroix (1996): 429 (with note 184).

[27] On the style of paradoxography, see Schepens and Delcroix (1996): 399.

[28] The exception are the discussions of animal physiology and behavior in 2.221-227, but see below for a possible theological motivation for these oddities.

naturae from plants to animals to humans, and finally from human reason to the gods. The principles of organization for paradoxographical collections, by contrast, are 'geographical, topical, alphabetical and biographical';[29] the only attested hierarchical order in paradoxography is a climax of more and more wonderful facts in Antigonus.[30] Rather than a collection of obscure marvels, Balbus' catalogue is a philosophically infused rhetorical exercise meant to evoke our wonder at creation, so as to really drive home the argument *ex admiratione*.[31]

Wonder takes on several different forms in the catalogue. First of all, it is a response to the dazzling beauty of the cosmos — as, for instance, in Balbus' comment on the courses of the planets: 'nothing can be more wondrous or more beautiful than this spectacle'.[32] In this connection, a recurring theme throughout the catalogue is variety in uniformity. This is perhaps best illustrated by the constellations. On the one hand, the constant rotation of the firmament is one of the most stable phenomena in the cosmos; on the other hand, the starry tapestry of the night sky is a thing of immense variety. It is fitting that Cicero's Balbus should describe the constellations using poetry, to really bring

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[29] Schepens and Delcroix (1996): 395.
[30] Schepens and Delcroix (1996): 397-398.
[31] Although the catalogue is already long, Cicero/Balbus indicates halfway through that it could have been even longer: 'many things must be passed over' (*multa praetereunda sunt*, 2.131). The manuscripts have what is 'doubtless the remark of a bored copyist or reader' (Pease 1955 *ad loc.*), 'and yet many things are said' (*et tamen multa dicuntur*). This is a good illustration of how exuberant the catalogue is.
[32] Quo spectaculo nihil potest admirabilius esse, nihil pulchrius. *ND* 2.104.

this variety to life: the stars may be the same every day, but no two constellations are alike.[33]

The second form of wonder is as a response to how well the whole universe fits together: the beauty of the cosmos is not mere visual splendor, but is due to a well laid-out design. For instance, Balbus expresses wonder at the way the different elements cohere in a spherical whole,[34] and at the way in which the whole system of copulation, procreation, and child rearing works.[35]

Third, and most surprising, Balbus sometimes expresses wonder at particular oddities. Examples include the fact that some aquatic animals are born on land,[36] and the triangular formation that cranes use when flying across the sea.[37] In his treatment of animal life, where Cicero relies on Aristotelian material, he comes closest to a paradoxographical interest in oddity for the sake of oddity. But I suspect that the inclusion of these minor marvels is also meant to drive home a theological point, namely that the richness of the cosmos extends to small details as well as to the grand structure. The world is so much more than an Archimedean sphere which follows certain well-defined regular paths. As C.S. Lewis said about the universe: 'it is not the sort of thing

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[33] Though it is perhaps less fitting for Cicero to have a character in his dialogue advertise Cicero's translations of Aratus.
[34] E.g. 'nec vero haec solum admirabilia, sed nihil maius quam quod ita stabilis est mundus atque ita cohaeret, ad permanendum ut nihil ne excogitari quidem possit aptius. *ND* 2.115.
[35] *ND* 2.128. See below for Epictetus' rendition of this same point.
[36] Est etiam admiratio nun nulla in bestiis aquatilibus iis quae gignuntur in terra, *ND* 2.124.
[37] *ND* 2.125

anyone would have made up. It has just that queer twist about it that real things have.'[38] Details like the flight patterns of cranes show that variety in uniformity extends even to the behaviors of particular kinds of animals.

All in all, the effect of the catalogue of marvels is to instill in us wonder at the cosmos, in its order and regularity as well as in its variety, in its splendor and beauty as well as in its quirky details. The rhetorical part of the argument *ex admiratione* thus rounds off the argumentative part, by illustrating how craftlike the cosmos is, as well as showing how much greater than human the intelligence behind it is.

The theological wonder of the Stoics is in some ways akin to Aristotelian wonder. First of all, its typical objects are natural phenomena, including astronomy, biology, and psychology. Second, this theological wonder suggests the fundamental comprehensibility of its object. It is, admittedly, different from Aristotelian wonder in that the comprehensibility here follows from the craft analogy, while for Aristotle, wonder is enough by itself to suggest comprehensibility. But it provokes a different response than Aristotelian wonder. For Balbus, our wonder at nature extends to us an invitation to a reverent spectatorship. This is not the kind of wonder that leads to detailed inquiry of the causes of particular phenomena; rather, it leads to the contemplation of the

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[38] Lewis (1952, 42)

causal system as a whole. It is a basic response to a cosmos that is created by a rationality that is like ours in kind, but that exceeds ours in degree by far. While the comprehensibility of the cosmos is guaranteed, wonder takes us to the limits of our actual comprehension, and affords us a glimpse at the immense superiority of the divine creator.

2.2.4. Another argument from wonder

In addition to Cicero's *De Natura Deorum*, we have one other source for a Stoic argument from wonder: Sextus Empiricus' catalogue of arguments for the existence of the gods (*Math.* 9.60-190), which contains the following passage:[39]

> τά γε μὴν αὐτομάτως κινούμενα τῶν κατασκευασμάτων θαυμαστότερά ἐστι τῶν μὴ τοιούτων. τὴν γοῦν Ἀρχιμήδειον σφαῖραν θεωροῦντες σφόδρα ἐκπληττόμεθα, ἐν ᾗ ἥλιός τε καὶ σελήνη κινεῖται καὶ τὰ λοιπὰ τῶν ἀστέρων, οὐ μὰ Δία ἐπὶ τοῖς ξύλοις οὐδ' ἐπὶ τῇ κινήσει τούτων τεθηπότες, ἀλλ' ἐπὶ τῷ τεχνίτῃ καὶ ταῖς κινούσαις αἰτίαις. ὅθεν ὅσῳ θαυμασιώτερά ἐστι τὰ αἰσθανόμενα τῶν αἰσθητῶν, τοσούτῳ θαυμασιώτεραί εἰσιν αἱ ταῦτα κινοῦσαι αἰτίαι. ἐπεὶ γὰρ ὁ ἵππος θαυμασιώτερος τοῦ φυτοῦ, καὶ ἡ κινητικὴ τοῦ ἵππου αἰτία θαυμασιωτέρα τῆς τοῦ φυτοῦ αἰτίας· καὶ ἐπεὶ ὁ ἐλέφας

[39] For an inconclusive but insightful discussion of Sextus' possible sources in this passage, see Meijer (2007, 112–13). Meijer gives very little commentary on the argument itself, other than mentioning that the notion that the whole is better than the part is also present in Zeno, and that the argument establishes the divinity of the cosmos, rather than of traditional gods. Meijer is silent on the relation between Cicero's and Sextus' argument as well (he does not discuss Cicero's argument *ex admiratione* at all).

θαυμασιώτερος ἵππου, καὶ ἡ κινητικὴ τοῦ ἐλέφαντος αἰτία, τηλικοῦτόν γε ὄγκον διαβαστάζουσα, θαυμασιωτέρα τῆς τοῦ ἵππου· τούτων δέ γε πασῶν κατὰ τὸν ἀνωτάτω λόγον καὶ ἡ τοῦ ἡλίου καὶ σελήνης καὶ ἀστέρων, καὶ πρὸ τούτων ἡ τοῦ κόσμου φύσις, ἥτις καὶ τούτων ἐστὶν αἰτία. ἡ μὲν γὰρ τοῦ μέρους αἰτία οὐ διατείνει ἐπὶ τὸ ὅλον, οὐδ᾽ ἔστι τούτου αἰτία, ἡ δὲ τοῦ ὅλου διατέτακεν εἰς τὰ μέρη· διὸ καὶ θαυμασιωτέρα ἐστὶ τῆς τοῦ μέρους αἰτίας. ὥστε ἐπεὶ ἡ τοῦ κόσμου φύσις ἐστὶν αἰτία τῆς τοῦ ὅλου κόσμου διακοσμήσεως, εἴη ἂν αἰτία καὶ τῶν μερῶν. εἰ δὲ τοῦτο, κρατίστη ἐστίν. εἰ δὲ κρατίστη ἐστί, λογική τέ ἐστι καὶ νοερά, προσέτι δὲ ἀίδιος ἂν εἴη. ἡ δὲ τοιαύτη φύσις ἡ αὐτή ἐστι θεῷ. ἔστι τοίνυν τι θεός. (Sextus Empiricus, *Math*. 9.115-118)

Among artefacts, those that move automatically are more wonderful than those which are not of this sort. We are greatly astonished when we observe the Archimedean sphere, in which the sun and the moon move and the rest of the stars; not, by Zeus, because we wonder at the pieces of wood or at their movement, but because we wonder at the craftsman and at the efficient causes. From this it follows (ὅθεν) that as perceiving things are more wonderful than perceptible things, so the causes which move them are more wonderful.

For since the horse is more wonderful than the plant, the horse's efficient cause too is more wonderful than the cause of the plant. And since the elephant is more wonderful than the horse, the elephant's efficient cause, which moves such an enormous weight of the elephant, is more wonderful than that of the horse. And more wonderful than all these,

> according to the same logic, are the cause of the sun and the moon and the stars, and more than these the nature of the cosmos, which is also the cause of all the previous things.
>
> For the cause of the part does not extend to the whole, and is not the cause of the whole; but the cause of the whole *does* extend to the parts. Therefore, the cause of the whole is also more wonderful than that of the part.
>
> So since the nature of the cosmos is the cause of the entire ordering of the cosmos, it will also be the cause of the parts. And if that is true, it is the greatest cause. But if it is the greatest, it is rational and intelligent, and it will also be eternal. But such a nature is the same as god. There is, then, some god.

Although both rely on wonder and both use the Archemedean sphere as an example, Sextus' argument from wonder is not the same as Cicero's *ex admiratione*. For one, the argument in Sextus is not really an argument from design (though it does hint at design in mentioning Archimedes as the craftsman). Moreover, Cicero's wonder is aimed at the complexity, regularity and intricateness of the cosmos, while Sextus' wonder is about force and size. Also, Sextus' aim is to argue for the existence of the gods; Cicero's aim is to argue that the cosmos is ruled providentially.

The passage in Sextus is part of a barrage of arguments 'from the orderly arrangement of the universe' (ἀπὸ τῆς τοῦ περιέχοντος διακοσμήσεως, 9.75), putting it in the same category as arguments from design. His goal in presenting it is to establish

the Pyrrhonian *epoche* or suspension of judgment (as he declares in *Math.* 9.194) by balancing arguments *pro* and *contra* the existence of the gods.[40] The material in the arguments *pro* is almost entirely Stoic, and the argument on wonder is clearly marked as Stoic both by its proximity to the argument *ex admiratione* in Cicero and by its pantheistic conclusion that the cosmos itself is a god.

Sextus' argument moves in three phases. First, the case of the Archimedean sphere establishes that causes are more wonderful than their effects, since we wonder not at the sphere itself but at the craftsman and at the causes that move the sphere. After this mention of the craftsman, Sextus moves away from the argument from design by shifting the focus from the relation between artificer and artefact to the relation between cause and effect, or between the principle of motion and motion itself.

The second phase establishes that causes that bring forth greater effects are more wonderful, in proportion to the greatness of the effect. Sextus here makes the implicit move from craft to nature. The case of the Archimedean sphere suggests that the wonderfulness of any work of craft is proportional to the magnitude of its moving cause. So if artefact x is more wonderful than artefact y, the cause of x is greater than the cause

[40] See chapter 4 below for the Pyrrhonist project, and the role of wonder in it.

of y — and therefore the cause of x is itself also more wonderful. The argument can be schematized as follows:

(1) Things are more wonderful in proportion as their causes are more wonderful. (suggested by Archimedean sphere)
(2) Causes are more wonderful in proportion as they are greater. (suggested by Archimedean sphere)

(3) Horses are more wonderful than plants (assumption).
(4) The causes of horses are more wonderful than the causes of plants (per (1), (2) and (3)).
(5) The causes of horses are greater than the causes of plants (per (2) and (4); confirmed by experience: the causes of horses move more mass around).

(6) Elephants are more wonderful than horses (assumption).
(7) The causes of elephants are more wonderful than the causes of horses (per (1), (2) and (6)).
(8) The causes of elephants are greater than the causes of horses (per (2) and (7); confirmed by experience: the causes of elephants move more mass around).

The argument repeats for the heavenly bodies, which are more wonderful than plants, horses or elephants, and have more wonderful causes, and therefore greater causes. Finally, the limiting case of the cosmos brings the argument to the third phase. The cause of the cosmos is greater than the causes of any things *within* the cosmos. Since the cosmos is that which includes all other causes, the argument here moves to the issue of parts and wholes.

The cosmos is more wonderful in a special way, as the whole of which all other things are parts. For the cause of the whole is also the cause of all its parts, so everything that is wonderful within the cosmos proves that the cause of the cosmos itself is exceedingly wonderful. At this point, the argument takes a turn that, from a Platonic or Christian perspective, is unexpected. We could easily imagine the cause of the cosmos to be a creator-god external to the cosmos, along the lines of the Biblical God or the Platonic demiurge. Instead, Sextus identifies the cause of the cosmos with the φύσις of the cosmos, leading to the pantheistic (and recognizably Stoic) conclusion that the supreme being and nature are one.[41] While this was implicit in the argument all along (after all, the cause of

[41] On Stoic pantheism, see Baltzly (2003). The main evidence for the Stoics' identification of the cosmos with god is found in *LS* 44E and F.

the elephant is not external to the elephant), it is nevertheless a view of the divinity that is markedly different from that of either the Platonic or the Biblical tradition.

Finally, Sextus wraps up the argument by endowing this supremely wonderful cause with the typical predicates of god: since it is the greatest cause, it is also rational, intelligent, and eternal, and therefore is none other than god. Presumably this move is warranted by the fact that a greatest cause would not be lacking in any respect, and therefore could not lack reason and could not fail to exist.

The argument in Sextus is less sketchy than that in Cicero (since at least the premises are mostly spelled out and the role of wonder is easily grasped), but it too is not unassailable. For one, it is not obvious that the case of the Archimedean sphere does what Sextus thinks it does: if our wonder at the sphere amounts to a wonder at the craftsman's intelligence, it does not follow that in wondering at an effect we *always* really wonder at the cause. Consequently, it is not so clear that wonder and greatness are correlated in the way Sextus suggests — one might argue that the capacity to play a difficult fugue on the piano is more wonderful than the capacity to push over an elephant, but it is not at all clear that by Sextus' logic, the cause of the fugue-playing is greater than that of the elephant-pushing. Sextus appears to assume that wonder is a simple response to an object, where greater degrees of intensity correspond linearly to greater causes. But if wonder is

related not just to its object, but also to the subject's prior conceptual framework, this correlation between wonder and the greatness of the object is much less straightforward.

Sextus' argument from wonder is quite different from that of Balbus, but it uses wonder in a similar way: as a means to get to an *a fortiori* conclusion. In Cicero, this takes the simple form of moving from our wonder at a human work of craft (Archimedes' sphere or Posidonius' orrery) to our wonder at the craftsman, and then from our greater wonder at the universe itself to the existence of an even greater craftsman. In Sextus, the movement is similar: from the wonderfulness of the effect to the wonderfulness of the cause (through the Archimedean sphere), and then up the ladder of being from the greater wonderfulness of effects to the greater wonderfulness of their causes, all the way up to the cosmos itself. In Cicero, our wonder at the beauty, complexity and intricacy pointed at the limits of our comprehension in a fundamentally comprehensible universe, while in Sextus, a comparison of the magnitude of different causes leads to the greatest cause of all. In both cases, though, wonder is sets us on a path to discover the greatest, most complicated and most intricate thing of all: the order of the universe, or god.

2.3. Epictetus: The Wonder of the Slave

In one passage in the *Discourses*, Epictetus appears to recapitulate the Stoic argument *ex admiratione*. He has just considered how artefacts display the ingenuity of their design by how well they fit together, then goes on to generalize from craft to nature:

> ἆρ' οὖν τούτων μὲν ἕκαστον ἐμφαίνειτὸν τεχνίτην, τὰ δ' ὁρατὰ καὶ ὅρασις καὶ φῶς οὐκ ἐμφαίνει; τὸ δ' ἄρρεν καὶ τὸ θῆλυ καὶ ἡ προθυμία ἡ πρὸς τὴν συνουσίαν ἑκατέρου καὶ δύναμις ἡ χρηστικὴ τοῖς μορίοις τοῖς κατεσκευασμένοις οὐδὲ ταῦτα ἐμφαίνει τὸν τεχνίτην; ἀλλὰ ταῦτα μέν· ἡ δὲ τοιαύτη τῆς διανοίας κατασκευή, καθ' ἣν οὐχ ἁπλῶς ὑποπίπτοντες τοῖς αἰσθητοῖς τυπούμεθα ὑπ' αὐτῶν, ἀλλὰ καὶ ἐκλαμβάνομέν τι καὶ ἀφαιροῦμεν καὶ προστίθεμεν καὶ συντίθεμεν τάδε τινὰ δι' αὐτῶν καὶ νὴ Δία μεταβαίνομεν ἀπ' ἄλλων ἐπ' ἄλλα τινὰ οὕτω πως παρακείμενα, οὐδὲ ταῦτα ἱκανὰ κινῆσαί τινας καὶ διατρέψαι πρὸς τὸ ἀπολιπεῖν τὸν τεχνίτην; ἢ ἐξηγησάσθωσαν ἡμῖν τί τὸ ποιοῦν ἐστιν ἕκαστον τούτων ἢ πῶς οἷόν τε τὰ οὕτω θαυμαστὰ καὶ τεχνικὰ εἰκῇ καὶ ἀπὸ ταὐτομάτου γίνεσθαι. (*Discourses* 1.6.8-11).
>
> Is the craftsman obvious for each of these [artefacts], but not for the visible objects and vision and light? And the male and female and their desire to copulate together, and their use of the constituted parts — does this not show the craftsman? Let us grant this; but the great constitution of the mind, by which we are not just stamped by objects of perception when we are exposed to them, but also select something and subtract and add and

> combine these with others on their own account and (by Zeus!) pass from certain things to others which are in some way related to them — is all this not enough to move certain people and deter them from leaving out the artificer? Well, let them explain to us what has made each of these things or how it is possible that such wonderful and craft-like things arise spontaneously and on their own.

As in Balbus' argument *ex admiratione* in Cicero, Epictetus here invokes (and evokes) wonder to bring home the argument from design.[42] However, unlike Cicero, Epictetus also emphasizes the limits of this wonder. It is one thing to wonder at the god, he implies elsewhere, but there is a risk that that wonder gets misdirected to secondary effects. In *Discourses* 1.17.19 (a passage we will discuss in greater length below), he emphasizes that 'we do not wonder at the crow or the raven, but at the god who gives signs through them.'[43] To wonder at the raven would be to miss the point of the cosmic system. In the surviving works, Epictetus often warns of the serious dangers of misdirected wonder. In this section, I will use Epictetus' writings as a window into the Stoic attitude towards wonder. Since emotions were a central concern in Stoic anthropology and ethics, we can expect the emotion of wonder to be an issue as well. And indeed, in Epictetus, it is.

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[42] Balbus touches on the same points (though with different emphasis) in the catalogue of marvels: the organs of procreation in *ND* 2.128, the organs of perception in *ND* 2.140-146, the mind's capacity to go beyond what is given in perception in *ND* 2.147.
[43] οὐδὲ τὸν κόρακα θαυμάζομεν ἢ τὴν κορώνην, ἀλλὰ τὸν θεὸν σημαίνοντα διὰ τούτων.

When dealing with Epictetus, we do well to remember the nature of his surviving works. Neither the *Discourses* nor the *Encheiridion* were written by Epictetus himself; instead, they were compiled by his pupil Arrian. This gives us good reason to be cautious about the formulations in Epictetus' works.[44] Moreover, Arrian admits in the prefatory letter to the *Discourses* that they are 'such as one person might spontaneously say to another, not such as one would write for people to read in posterity.'[45] This implies, among other things, that the language of the *Discourses* tends to be casual and imprecise. This is not the case everywhere — for example, Epictetus can be quite precise in passages where he discusses the arcana of Stoic terminology — but his use of the vocabulary of wonder certainly seems casual rather than technical, and Arrian's preface is a useful reminder not to read too much into the exact phrasing. With that said, Epictetus does talk about wonder in a consistent way; and in a way that is, moreover, consistent with Stoic ethics more broadly.

What is remarkable about Epictetus when compared to many other philosophical authors is the extent to which he makes wonder into a *social* and *ethical* concern. If Aristotle, Cicero, and Lucretius are mostly concerned with wonder at natural phenomena

[44] For simplicity's sake and to avoid tedious locutions I will refer to Epictetus rather than Arrian as the author of the *Discourses* and *Encheiridion*.

[45] ὁποῖα ἄν τις αὐτόθεν ὁρμηθεὶς εἴποι πρὸς ἕτερον, οὐχ ὁποῖα ἂν ἐπὶ τῷ ὕστερον ἐντυγχάνειν τινὰς αὐτοῖς συγγράφοι, Arrian, *Letter to Lucius Gellius*, §3.

— be it stars, volcanoes, or the sperm of large animals — Epictetus is far more often concerned with wonder at things like material possessions, social status, and the capacity to inflict pain. Moreover, he describes the effect of wonder not as inquiry or belief in the gods,[46] but as a condition of slavery or of emotional disturbance. For instance, when explaining the freedom that comes with not caring about death or exile, he says: 'If I wonder at my body, I have made myself a slave. If I wonder at my possessions, a slave.'[47]

One way to explain this difference of emphasis between Epictetus and Aristotle is to invoke the polysemy of the Greek word θαυμάζειν: in Epictetus' usage, it more typically means 'to admire' than 'to wonder at'.[48] But this is not consistently true throughout the *Discourses* and *Encheiridion*, and not even in passages where θαυμάζειν is connected to slavery. For Epictetus, the senses of 'admiration' and 'amazement' seem to blend over into one another — the admiration that Epictetus is concerned with is tinged with awe:

> δείκνυέ μοι τὰς μαχαίρας τῶν δορυφόρων. "ἰδοῦ, ἡλίκαι εἰσὶ καὶ πῶς ὀξεῖαι." τί οὖν ποιοῦσιν αἱ μεγάλαι αὗται μάχαιραι καὶ ὀξεῖαι; "ἀποκτιννύουσιν." πυρετὸς δὲ τί ποιεῖ;

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[46] With the notable exception of the small argument from design in *Discourses* 1.6.8-11 quoted at the beginning of this section (see also below).

[47] 1.25.23. ἂν δὲ τὸ σωμάτιον θαυμάσω, δοῦλον ἐμαυτὸν παραδέδωκα· ἂν τὸ κτησείδιον, δοῦλον.

[48] Robin Hard translates the above passage as 'if I attach value to my poor body, I have given myself up to slavery; if I attach value to my miserable possessions, I'm likewise a slave'. This eliminates the connection to wonder entirely.

"ἄλλο οὐδέν." κεραμὶς δὲ τί ποιεῖ; "ἄλλο οὐδέν." θέλεις οὖν πάντα ταῦτα θαυμάζω καὶ προσκυνῶ καὶ δοῦλος πάντων περιέρχωμαι; (*Discourses* 4.7.26-27)

Show me the swords of the body guards. 'Look how long and sharp they are!' What do these big and sharp swords do, then? 'They kill!' And what does fever do? 'The same.' And what does a roof tile do? 'The same.' So do you want me to wonder at all these things and to bow down to them and to go around as their slave?

What emotion, exactly, is captured in the exclamation 'look how long and sharp they are!' Admiration? Awe? One thing that is clear is that the feeling is at least understandable in relation to swords, while feeling θαῦμα at mundane objects like roof tiles and fevers would be absurd. But this does not help us decide between admiration and awe, as both are absurd responses to tiles and fevers. I will translate Epictetus' θαυμάζειν as 'wonder' throughout to maintain the ambiguity.

In addition to the semantics of θαυμάζειν, there is another probable reason why Epictetus focuses on a different aspect than Aristotle. In the imperial Roman world, shock and awe were the bread and butter of politics — much more so than in democratic Athens. The awe part is most obvious at the center of power: elaborate pageantry and spectacle was part of the function of the imperial court, especially under Nero, whom Miriam

Griffin calls 'the greatest showman of them all'.[49] But lavish displays of wealth and power were the rule more generally for the Roman elite — consider Epictetus' anecdote that Epaphroditus thought he was in a terrible state because he 'only' had a million and a half sesterces (*Disc.* 1.25.10-12). Generally speaking, Epictetus is more concerned with the shock than with the awe: his anecdotes about Roman emperors and their circle tend to focus not on their showmanship, but more on their absolute control over the life and death of their underlings. The favorites are anecdotes about the 'Stoic opposition' — like Thrasea and Agrippinus — who refused to play along with the games of intimidation.[50] However, as is apparent from the passage where he compares swords to fevers and roof tiles, Epictetus tends to frame both the shock and the awe in terms of θαυμάζειν. Bluntly put: in Epictetus' world, wonder at a senator being decapitated at the orders of an emperor is a more pressing concern than wonder at the regularity of the heavens.

There would be little point in going through all the passages where Epictetus warns about wonder. They follow a similar pattern — the objects are typically wealth, status, and violence, the effects are typically slavery or emotional disturbance.[51] Instead, I will highlight major themes and connect them to the broader Stoic theory of emotions.

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[49] Griffin (1985, 109). See 109-112 for Nero's use of spectacles.

[50] See 1.1.18-32 (Lateranus, Epaphroditus, Thrasea, Agrippinus), 1.2.12-18 (Agrippinus), 1.2.19-24 (Helvidius Priscus, under Vespasian), 4.1.123 (Helvidius Priscus). On the Stoic opposition, see Griffin (1985, 171–77).

[51] *Disc.* 1.25.23, 2.6.2, 2.16.11, 3.20.8, 3.22.50, 4.5.8, 4.7.10.

It is curious that the former slave Epictetus describes an emotion as seemingly innocent as wonder in terms of slavery — as if the mere feeling of wonder is enough to constitute enslavement, as if going 'wow' is the same as bowing down in *proskunesis*. Even within the framework of Stoicism, where most emotions are disastrous and all emotions are suspect, it seems like a stretch to single out *wonder* as a particular troublemaker. I think, however, that this is precisely why Epictetus comes back to wonder time and again. Feelings like anger, jealousy, fear, and grief are so obviously pernicious that there is arguably little point in warning people about them (*pace* Seneca) — the productive thing to do is to develop techniques to tame them. And part of the *prima facie* appeal of Stoicism is its promise to calm these tempestuous feelings. Wonder, on the other hand, is a sneaky feeling. Apparently pleasant, innocent, and inconsequential, [52] it seems like an unproblematic emotion that can remain untouched in a philosophical therapy.

What Epictetus reminds us of, though, is that wonder contains a value judgment that colors our perception of the world. The reason that wonder can make you a slave to your body, your possessions, or a sword, is that in wondering we put the object of wonder above ourselves. That which we wonder at is valuable or special, incomprehensible or captivating, enormous or complex — but always in a sense 'above' us. This (implicit)

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[52] And, perhaps uniquely among emotions, unconnected to your social relations and your existential projects, Nussbaum (2001, 53–55).

valuation of the object of wonder relative to the subject is behind much ancient Greek discourse about wonder. It is, for example, one of the assumptions behind Aristotle's statement that the μεγαλόψυχος is 'not prone to wonder, since nothing is great for him'.[53] To wonder at something is to consider it superior to you, but if your soul itself is great, it has no occasion for wonder. In other words, to wonder is *to consider something greater than yourself*. A good century after Epictetus, Plotinus makes this explicit (*Enneads* 5.1): 'as soon as one pursues something external and wonders at it, one agrees that the thing wondering and pursuing is inferior'.[54] The subject of wonder considers the object of wonder superior — this is part of what it means to wonder.

The real problem with wonder, then, is like the problem with any emotion: not that it makes you feel funny, but that it contains a false value judgment that skews your relation to the world. Indeed, on the standard reading of the Stoic theory of emotions, this is what an emotion amounts to: a false judgment of value.

The most basic Stoic definition of 'emotion' (πάθος) is that given by Zeno: emotion is 'the irrational and unnatural motion of the soul, or an excessive impulse.'[55] While it does not mention judgments (more on that later), it does introduce some other crucial

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[53] οὐδὲ θαυμαστικός· οὐδὲν γὰρ μέγα αὐτῷ ἐστίν, *EN* 4.3 1125a2-3.
[54] ἅμα γὰρ διώκεται ἄλλο καὶ θαυμάζεται, καὶ τὸ θαυμάζον καὶ διῶκον ὁμολογεῖ χεῖρον εἶναι·
[55] Diogenes Laërt. ἔστι δὲ αὐτὸ τὸ πάθος κατὰ Ζήνωνα ἡ ἄλογος καὶ παρὰ φύσιν ψυχῆς κίνησις, ἢ ὁρμὴ πλεονάζουσα. (*DL* 7.110, SVF 1.105, not in *LS*).

features: that emotions are *irrational* and *unnatural*. As we shall see later, feelings (motions of the soul) can also be rational and natural; in that case, they are not emotions (πάθη), but fall under the category of 'eupathic responses'. But it is by virtue of their unnaturalness and irrationality that emotions skew our relation to the world.

According to Diogenes Laertius' account, Chrysippus held the following conception of the emotions:

> δοκεῖ δ' αὐτοῖς τὰ πάθη κρίσεις εἶναι, καθά φησι Χρύσιππος ἐν τῷ Περὶ παθῶν· ἥ τε γὰρ φιλαργυρία ὑπόληψίς ἐστι τοῦ τὸ ἀργύριον καλὸν εἶναι, καὶ ἡ μέθη δὲ καὶ ἡ ἀκολασία ὁμοίως καὶ τὰ ἄλλα. (Diogenes Laertius, 7.111)

> They think that emotions are judgments, as Chrysippus says in his *On Emotions*: e.g. love of money is a supposition that money is good, and similarly for drunkenness and incontinence and so on.

The standard view of the Stoic emotions holds that this is the canonical Stoic view of emotions after Chrysippus, the 'second founder of Stoicism': emotions *are* judgments.[56] This is not unproblematic, though, since the 'first founder of Stoicism', Zeno of Citium,

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[56] See Nussbaum (1994, 366–401) for a vivid exposition and defense of this view.

appears to have held a different view of emotions. The fact that Zeno's definition of emotions does not mention judgments need not be a problem, but the situation gets more complicated when we consider the testimony about difference of opinion between Zeno and Chrysippus. Galen writes:

> Ζήνων οὐ τὰς κρίσεις αὐτὰς ἀλλὰ τὰς ἐπιγιγνομένας αὐταῖς συστολὰς καὶ διαχύσεις ἐπάρσεις τε καὶ[57] πτώσεις τῆς ψυχῆς ἐνόμιζεν εἶναι τὰ πάθη. (*HPP* V.I (§429K, *SVF* I.209 < *LS* 65K).

> Zeno considered the emotions to be not the judgments themselves but the supervening contractions and diffusions and risings and fallings of the soul.

It appears that Zeno and Chrysippus had different views on the emotions, with Chrysippus holding that emotions *are* judgments, and Zeno holding that emotions *result from* judgments.[58] This conflict between the original founder and the second founder of Stoicism has been a concern among scholars of Stoicism for a long time,[59] but the details of the debate need not concern us here. What all interpretations agree on is that emotions

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[57] Accepting Müller's deletion of τὰς before πτώσεις.
[58] I translate the Greek ἐπιγιγνομένας with 'supervening', highlighting the ontological dependence of the risings and fallings on the judgments; the Greek can also mean 'subsequent', which would imply a more ontologically agnostic temporal sequence.
[59] See Inwood (1985, 130, n14) for an overview of earlier work on the subject.

are somehow connected to *evaluative* judgments.[60] Emotions arise in step with our evaluative judgments that something is good or bad to a high degree — whether this is because emotions are identical with those judgments (Chrysippus) or because the judgments cause the emotions (Zeno).

In the case of wonder, the evaluative judgment is there in plain sight: wonder *is* an impassioned evaluative judgment. If it is to be an emotion (πάθος), wonder must also be irrational and/or unnatural. As Epictetus' examples show time and again, this is clearly the case when the relevant evaluative judgment is false.[61] If we wonder at a sword, our value judgment ('this sword is superior to me') is false — the sword is only a dumb piece of metal, while we are rational beings, the pinnacle of the cosmic teleology and equal to the gods. To wonder at a sword is thus unnatural (our evaluation subverts the natural order of things) as well as irrational (based on a wrong assessment of the situation and inconsistent with correct beliefs).

Against this theoretical background, we can make better sense of Epictetus' serious concern with the ethical impact of wonder. To wonder is not (merely) to feel a

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[60] The main options are (a) emotions just are evaluative judgments (Nussbaum), (b) emotions are non-evaluative judgments given in an evaluative way (Frede), or (c) emotions are judgments that take place against the background of previous evaluative judgments (Graver).

[61] Arguably, all false judgments are 'unnatural', because they are in conflict with the nature of the world. All false judgments are also irrational, since they can only come about by insufficient attention to reason. It is less clear that the contrary is true and that all unnatural and irrational judgments are false — we can imagine Gettier-like limit cases. But for the sake of this inquiry, we will grant the Stoics this equality.

certain feeling, but it is to allow a (false) judgment of high value to wash over you — and thus to open yourself up to any and all emotions. As Martha Nussbaum puts it, wonder 'responds to the pull of the object, and one might say that in it the subject is maximally aware of the value of the object, and only minimally aware, if at all, of its relationship to her own plans.'[62]

This also helps explain why, although the Stoics theorized extensively about the different emotions, wonder as such does not show up in the Stoic taxonomy of emotions. According to Stoic doctrine, there are four primary emotions, of which all the others are subspecies; these are desire (ἐπιθυμία), fear (φόβος), pain (λύπη), and pleasure (ἡδονή). If the Stoics did consider wonder to be a full πάθος in its own right, then it would have to fit into one of these pigeonholes. The only place where something like wonder shows up in lists of Stoic emotions is under the rubric of fear: both in Stobaeus (2.91, < *SVF* 3.394, *LS* 65E) and in Diogenes Laërtius (7.112-113, *SVF* 3.407), ἔκπληξις, astonishment, is mentioned as one of the emotions of the genus 'fear'.[63] Diogenes supplies a definition: 'astonishment is fear from an impression of an unfamiliar matter'.[64] But this cannot be the whole story about θαῦμα. For while ἔκπληξις is a relatively simple term, θαῦμα is much

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[62] Nussbaum (2001, 54).
[63] That ἔκπληξις is close to θαῦμα is apparent from the fact that they are often mentioned in the same breath (consider Marcus Aurelius thanking Maximus for τὸ ἀθαύμαστον καὶ ἀνέκπληκτον). Moreover, Aristotle gives us a more direct indication: in the *Topica*, he says that ἔκπληξις is a species of θαυμασιότης (*Topics* IV.5, 126b13-19).
[64] ἔκπληξις δὲ φόβος ἐκ φαντασίας ἀσυνήθους πράγματος.

more slippery. As we already noted, in Epictetus, θαῦμα is often something closer to our 'admiration', which has less to do with fear of an unfamiliar matter, and more with zeal or envy, which would put θαῦμα in the pigeonhole of desire. Moreover, θαῦμα in the sense of 'puzzlement' can be painful because of the uncertainty involved; and θαῦμα in the sense of 'awe' can be pleasurable, which is the reason why entertainers like magicians, puppeteers and jugglers were called θαυματοποιοί. In other words, the term θαῦμα can fall under all four Stoic emotions: astonishment can be frightening; puzzlement can be painful; awe can be pleasurable; and admiration can have a component of desire.[65]

What this suggests is that wonder is not just one emotion among others, but in a sense a gateway into the world of emotions: an impassioned valuation that can give rise to any of the passions, as well as be an ingredient in them.[66] This is why Epictetus can cast wonder in his 'definition' of tragedy: 'what are tragedies other than the emotions of humans who have wondered at external things, displayed in such-and-such a meter?'[67] Tragedies are certainly not *about* wonder: they are about the bigger emotions (πάθη) that can destroy people. But these emotions come about because people have *wondered* at

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[65] Thomas Aquinas considers wonder to be both a kind of fear (when its object is a great evil, *ST* I-II, q. 41, art. 4) and a kind of pleasure (*ST* I-II, q. 32, art. 8).

[66] We should be cautious not to overstate the case: all that Epictetus' writings allow us to conclude is that wonder *can* be a primordial ingredient in *many* emotions; not that it *always* is so in *all* emotions.

[67] τί γάρ εἰσιν ἄλλο τραγῳδίαι ἢ ἀνθρώπων πάθη τεθαυμακότων τὰ ἐκτὸς διὰ μέτρου τοιοῦδ' ἐπιδεικνύμενα; *Discourses* 1.4.26.

external things. All the the fire and fury, all the wailing and gnashing of teeth in tragedy goes back to the simple evaluative act implicit in the feeling of wonder.

Epictetus sometimes attributes the genesis of an emotion directly to wonder. For instance, in *Discourses* 1.18, he parses anger in this way:

> διὰ τί οὖν χαλεπαίνομεν; ὅτι τὰς ὕλας θαυμάζομεν, ὧν ἡμᾶς ἀφαιροῦνται. ἐπεί τοι μὴ θαύμαζέ σου τὰ ἱμάτια καὶ τῷ κλέπτῃ οὐ χαλεπαίνεις· μὴ θαύμαζε τὸ κάλλος τῆς γυναικὸς καὶ τῷ μοιχῷ οὐ χαλεπαίνεις. (*Disc.* 1.18.11)

> Why do we get angry [at people]? Because we wonder at the materials which they take away from us. So: do not wonder at your cloak and you do not get angry at the thief; do not wonder at your wife's beauty and you do not get angry at the adulterer.

Here, too, wonder is not just an emotion among others, but a valuation that opens us up to the throes of the passions.

This also explains why Epictetus can claim that not wondering at external things is the path to attaining the good:

> οὐσία τοῦ ἀγαθοῦ προαίρεσις ποιά, τοῦ κακοῦ προαίρεσις ποιά. τί οὖν τὰ ἐκτός; ὕλαι τῇ προαιρέσει, περὶ ἃς ἀναστρεφομένη τεύξεται τοῦ ἰδίου ἀγαθοῦ ἢ κακοῦ. πῶς τοῦ

ἀγαθοῦ τεύξεται; ἂν τὰς ὕλας μὴ θαυμάσῃ. τὰ γὰρ περὶ τῶν ὑλῶν δόγματα ὀρθὰ μὲν ὄντα ἀγαθὴν ποιεῖ τὴν προαίρεσιν, στρεβλὰ δὲ καὶ διεστραμμένα κακήν. (*Disc.* 1.29.1-3)

The essence of the good is a certain choice, that of the bad is a certain choice. So what are external things? Materials[68] for choice; and by dealing with them, choice attains its good or its evil. So how is the good attained? If choice does not wonder at the materials. Opinions on the materials make choice good when they are correct, but bad when they are twisted and warped.

It may seem bold to claim that the good can be achieved merely by not wondering at the materials, but this is what Epictetus claims. To wonder at materials would be to have a wrong evaluative opinion about them, which would open the door to a world of emotional trouble. Materials (ὕλαι) are, inherently and by definition, worth less than the

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[68] This passage gives us a good reason to translate the plural ὕλαι as 'materials' rather than as 'material things' — the point made here by calling external things ὕλαι is not that they are 'matter' (e.g. as opposed to form), but that they are *materials*, to be used for the sake of the soul. If we take the ὕλαι to be the equipment with which we 'play' the game of life, even something as immaterial and intangible as fame or reputation can be among the ὕλαι.

Epictetus uses the plural ὕλη a total of 15 times in the surviving works, against a total of 29 occurrences of the singular. This plural appears to be an idiosyncrasy of Epictetus' Greek. Other philosophical authors only very rarely use the plural of ὕλη; Plato and Plotinus never do; Theophrastus only in the context of talking about plants; Aristotle uses it 9 times, as opposed to 757 uses of the singular (and many of those are in counterfactual thought experiments about the unity of matter). Not even Epictetus' teacher Musonius uses this plural. It is also rare in his contemporary Plutarch, in whose corpus we find the plural 11 times, the singular 233 times. Arrian, Epictetus' student and the real author of the *Discourses* and *Encheiridion*, uses the plural 5 times, the singular 15 times in his other extant writings, but the plural always in the geographical meaning of 'woods'.

thing using them. For Epictetus, ὗλαι are opposed not to form, but to χρῆσις, 'use'.[69] He often uses the plural ὗλαι to refer to the equipment we use to play sports or games.[70] For example, in *Discourses* 2.5, he uses ball players as a metaphor for life: we should be invested in the game, but indifferent to the ball itself. Just so, we should hone our skills in using 'any of the external materials' (τινα τῶν ἐκτὸς ὑλῶν, 2.5.21), but without making these materials part of our identity.

This is important, because Epictetus' concern is not with wonder as such, but with wonder at inappropriate objects. Most often, he refers to those inappropriate objects either as 'the materials' (αἱ ὗλαι),[71] or as 'external things' (τὰ ἐκτός).[72] The words themselves show why these would be inappropriate objects for the high valuation inherent to wonder. The materials are mere means or even occasions, not ends, so for a rational being to consider them more valuable than herself is a mistake. Externals, on the other hand, are by definition out of our control, and therefore do not fall in the sphere of good and bad.[73] To wonder at them would be to attach value to something that is inherently without value.[74]

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[69] *Disc.* 2.5.1.
[70] This is the case in *Discourses* 2.5.1, 2.5.21, 2.5.9, and 4.7.5.
[71] We find τὰς ὕλας as object of the verb θαυμάζειν four times in Epictetus (*Disc.* 1.18.11, 1.29.3, 2.6.3, 3.20.8), and once as the subject of ἐκπλήττειν (4.4.10).
[72] As in the definition of tragedy in 1.4.26.
[73] Given that the nature of the good consists in rationality — see Diogenes Laertius 7.95, and Seneca, *Letters* 124.13-14 (*LS* 60H).
[74] In Stoic theory, the typical account of the origin of emotions includes 'assenting to a certain kind of false value-judgment' (in the formulation of Long and Sedley, vol. 1, p. 420)

In *Discourses* 1.17, Epictetus unpacks the issue of misdirected wonder in the context of admiration for philosophers. Those who pride themselves on their understanding of Chrysippus' difficult works are misguided: the 'great and wonderful achievement' (τὸ μέγα καὶ τὸ θαυμαστὸν, 1.17.13) of a philosopher is not to understand a difficult concept, but to live in accordance with nature. Even Chrysippus, for all that he brings to us humans, is really only a means to an end:

> οὐδὲ γὰρ Χρυσίππου χρείαν ἔχομεν δι' αὐτόν, ἀλλ' ἵνα παρακολουθήσωμεν τῇ φύσει. οὐδὲ γὰρ τοῦ θύτου δι' αὐτόν, ἀλλ' ὅτι δι' ἐκείνου κατανοήσειν οἰόμεθα τὰ μέλλοντα καὶ σημαινόμενα ὑπὸ τῶν θεῶν, οὐδὲ τῶν σπλάγχνων δι' αὐτά, ἀλλ' ὅτι δι' ἐκείνων σημαίνεται, οὐδὲ τὸν κόρακα θαυμάζομεν ἢ τὴν κορώνην, ἀλλὰ τὸν θεὸν σημαίνοντα διὰ τούτων. (*Disc.* 1.17.18-19)

> We have no use for Chrysippus on his own account, but in order that we may follow nature. Nor do we have use of the diviner for his own sake, but because we think that through him we can get to know the future and the signs from gods. Nor do we have use of entrails on their own account, but because signs are given through them. And we do not wonder at the crow or the raven, but at the god who gives signs through them.

Wonder at the signs instead of at the god who sends the signs is misdirected — it is not the mediators or materials that deserve our respect, but the gods themselves.[75] And we do not need these mediators or materials for their own sake, but for the real use we can make of them.

Wonder at the gods is, however, entirely justified. If we are not to wonder at materials, we are to wonder at the spectacle of the cosmos and the workmanship of the creator. This is something that Epictetus also emphasizes on several occasions. The most explicit passage is in *Discourses* 1.6, which we discussed at the start of this section. There, he presents the coherence of the parts of the cosmos as craft-like and wonderful, concluding that it must be the workmanship of a god.

This same attitude toward the cosmos and the divine workmanship is apparent in Epictetus' repeated use of the festival as a metaphor for life (and the world). Although the image is not originally Epictetean (Cicero attributes it to Pythagoras in *Tusc.* 5.9), Epictetus uses it to great effect to illustrate the right attitude to take towards the world: that of a spectator enjoying the ride. In *Disc.* 4.1.104, Epictetus suggests that the reason that the god has created humans is to have them join in his cosmic pageant:

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[75] Although from a historical point of view, we can appreciate that specific animals are considered divine messengers for particular reasons, which include wondrousness. Plutarch, in the life of Romulus (9.5-7), appears to give such an explanation of why Romans use vultures for soothsaying, underlining the ways in which vultures are unlike other birds.

οὐχ ὡς μετὰ ὀλίγου σαρκιδίου ζήσοντα ἐπὶ γῆς καὶ θεασόμενον τὴν διοίκησιν αὐτοῦ καὶ συμπομπεύσοντα αὐτῷ καὶ συνεορτάσοντα πρὸς ὀλίγον; οὐ θέλεις οὖν, ἕως δέδοταί σοι, θεασάμενος τὴν πομπὴν καὶ τὴν πανήγυριν εἶτα, ὅταν σ᾽ ἐξάγῃ, πορεύεσθαι προσκυνήσας καὶ εὐχαριστήσας ὑπὲρ ὧν ἤκουσας καὶ εἶδες; (*Disc*. 4.1.104-105)

[Did Zeus not bring you into the world] as one who would live with a little flesh on earth and who would behold his governance and join him in the parade and the festival for a little while? Do you not want to behold the parade and the festival as long as is granted to you, and then, when he leads you out, to go kneeling and thanking him for what you have seen and heard?

Although Epictetus does not mention wonder when talking about this festival, there is an important link here: while *Discourses* 4.7 cast wonder as undesirable and humiliating because it amounted to *proskunesis*, this passage recommends *proskunesis* as the appropriate response to the parade of life. This wonder is not based on false evaluations, but on an accurate, natural, and rational assessment of the cosmos and our place in it. Rather than a passion (πάθος), it is a 'good feeling' (εὐπάθεια).[76] It makes all the

[76] On eupathic responses, see Graver (2007, 51–53)

difference whether we prostrate ourselves in wonder at mere materials, or at the spectacle of the cosmos and at the god who created it all.

2.4. Seneca: Contempt and Contemplation

As we saw in the previous section, wonder is not simply a feeling, but implies taking a position in relation to an object: the subject of wonder makes herself subordinate to its object. Epictetus sometimes frames this in terms of socio-political subordination, using imagery of slavery and *proskunesis* to describe what happens when we wonder at the wrong objects. But Epictetus is hardly ever concerned with imagining what a perfect sage would be like. This is where Seneca comes in: in his descriptions of the philosophical-ethical ideal life, there is a pronounced dimension of wonder: wonder is the emotion we should feel towards this ideal person, while, conversely, the sage is to some extent immune to wonder. In Seneca we can see much more clearly what it would look like to be in control of your wonder, to be free from its subordination and humiliation.

In Seneca's philosophical writings, wonder has the same basic valence as in Epictetus: to wonder at things without value is to expose yourself to emotional danger, while wonder at things that are inherently valuable is almost a moral imperative. Unlike Epictetus, Seneca hardly ever warns against wonder; when he does preach against

wonder, it is in a dismissive tone — wonder is for fools, for children, for the crowd.[77] Always, though, the problem is wonder at the wrong object — at mere possessions (*Ep.* 41.6), at temporary goods (*Ep.* 98.1), at gold and silver (*Ep.* 115.11).[78] Seneca tends to see objects that are not worthy of wonder as objects worthy of contempt or disdain: for instance, he says that if we could look inside the mind of a good man, we would understand how we now wonder at what we should despise.[79] Indeed, as we shall see (2.4.2) contempt and wonder are two sides of the same coin for Seneca. But like Epictetus, Seneca does consider wonder to be a legitimate and appropriate reaction to certain kinds of objects, and is, for instance, happy to express his own wonder at great exemplars of virtue or wisdom, like Demetrius the Cynic (*Ep.* 62.2), Scipio (*Ep.* 86.3), or Fabricius (*Ep.* 120.6).

Seneca's attitude towards wonder is best summed up in this formula from *Ep.* 8.5: 'consider that nothing except the mind is wonderful, for when it is great, nothing is great for it.'[80] To wonder at anything that is not inherently great amounts to self-abasement; although Seneca does not use the language of *proskunesis* in this context, he clearly agrees with Epictetus on this point. But for Seneca, the greatest thing, the thing most worthy of

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[77] Fools: *Ep.* 41.6, 74.32; children: *Ep.* 104.13; the crowd (*vulgo*): *Ep.* 98.1.
[78] Possessions: *Ep.* 41.6; temporary goods: *Ep.* 98.1; gold and silver: *Ep.* 115.11.
[79] *Ep.* 115.8: intellegere nobis licebit quam contemnenda miremur
[80] cogitate nihil praeter animum esse mirabile, cui magno nihil magnum est.

wonder, is a great soul; and a great soul is precisely the kind of soul that is not prone to wonder. In his awe-filled descriptions of great, virtuous, and wise men, Seneca mobilizes the vocabulary of wonder to paint a maximally attractive picture of a person who is far above mere mortals. We will discuss this dynamic in section 2.4.1. Moreover, contempt is a key element in Seneca's sketch of the great-souled man, as we shall see in section 2.4.2. Finally, we will see how Seneca frames the contemplation of nature in terms of wonder (2.4.3), while also seeing contemplation as bringing ethical benefits (2.4.4).

2.4.1. The attraction of the sage

Compared to other Stoics authors like Epictetus, Musonius Rufus, and Marcus Aurelius, Seneca pays a lot of attention to detailed descriptions of the *sapiens*, the ideal Stoic sage. This is not a typical Stoic practice.[81] By way of contrast, we can quote Cicero, who in *De finibus bonorum et malorum* has the Stoic Cato give the following characterization of Stoic doctrine:

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[81] Asmis (2015, 233–34) states that Seneca 'resuscitates' the Stoic sage through his rhetoric, and presents this as one of the points of Seneca's originality.

> cum igitur hoc sit extremum, congruenter naturae convenienterque vivere, necessario sequitur omnes sapientes semper feliciter, absolute, fortunate vivere, nulla re impediri, nulla prohiberi, nulla egere. quod autem continet non magis eam disciplinam, de qua loquor, quam vitam fortunasque nostras, id est ut, quod honestum sit, id solum bonum iudicemus, potest id quidem fuse et copiose et omnibus electissimis verbis gravissimisque sententiis rhetorice et augeri et ornari, sed consectaria me Stoicorum brevia et acuta delectant. (*Fin.* 3.26)

> Since the goal is to live in harmony and accordance with nature, it follows with necessity that all sages always live happily, autonomously, and prosperously, that they are not impeded by anything, not hindered by anything, not lacking anything. This is contained just as much in the doctrine I speak of as in the lives and fortunes of the Stoics — that is, the doctrine that we should only consider that which is morally right (*honestum*) to be good. This can be rhetorically elaborated and embellished broadly and copiously with choice words and weighty phrases, but I prefer the brief and pointed arguments of the Stoics.

Cato's description of the sage is pithy and relatively unpretentious — just six qualifications in eleven words. Cato admits that this is the kind of material that could make for exciting rhetoric, but he refuses to play that game. The refusal to indulge in

exciting descriptions of Stoic doctrine and the persona of the sage is partly a feature of Cato as a character: Cato was legendary for his terseness and lack of pretention — as Sallust says of him, 'he preferred being good to appearing good'.[82] Cicero thus frames Cato's stylistic choice as a moral exemplum — *le style, c'est l'homme*. But Cato clearly contrasts the rhetorical way of speaking to the Stoic way of speaking, in brief and pointed arguments.

In this respect at least, Seneca is no Cato. Though there is a certain Catonic terseness to Seneca's aphoristic style, his elaborations of the character of the sage tend towards the effusive. This is because in most of his writings, Seneca's aim is protreptic rather than exegetical: he tries to motivate his addressees and readers to pursue a Stoic life rather than instruct them in the fine points of Stoic doctrine.[83] One of the tools in this protreptic is to make the Stoic life seem as appealing as possible — not necessarily an easy task, given the austerities involved in a Stoic lifestyle. A key way in which Seneca does this is by making the Stoic *sapiens* into an attractive figure; the kind of person you would want to be. For instance, in the 45th letter to Lucilius, Seneca complains about the useless hair-splitting that philosophers do, and proposes another, more instructive way of learning:

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[82] esse quam videri bonus malebat, *Bellum Catilinae* 54.6.
[83] On the way Seneca's protreptic aim motivates his rhetorical choices, see Costa (1995).

Si utique vis verborum ambiguitates diducere, hoc nos doce, beatum non eum esse quem vulgus appellat, ad quem pecunia magna confluxit, sed illum cui bonum omne in animo est, erectum et excelsum et mirabilia calcantem, qui neminem videt cum quo se commutatum velit, qui hominem ea sola parte aestimat qua homo est, qui natura magistra utitur, ad illius leges componitur, sic vivit quomodo illa praescripsit; cui bona sua nulla vis excutit, qui mala in bonum vertit, certus iudicii, inconcussus, intrepidus; quem aliqua vis movet, nulla perturbat; quem fortuna, cum quod habuit telum nocentissimum vi maxima intorsit, pungit, non vulnerat, et hoc raro; nam cetera eius tela, quibus genus humanum debellatur, grandinis more dissultant, quae incussa tectis sine ullo habitatoris incommodo crepitat ac solvitur. (*Ep*. 45.9)

If you really want to draw distinctions in the ambiguities of words, tell us us this: the happy person is not the one whom the crowd calls happy, to whom great wealth flows, but the one for whom all good is in the mind, upright and lofty and despising marvels, who does not see anyone with whom he would want to switch places, who only assesses a person by that part in which he is a human being, who uses nature as a mistress, follows her laws, lives as she prescribes; no force can take away his goods, he turns bad things into good, is certain of his judgement, unshaken, intrepid; some force may move him, but none alarms him; when fortune hurls the most harmful weapon it has with the greatest force at him, she pricks him without wounding him, and only rarely: for those other

weapons which subdue the human race bounce off him like hail which strikes roofs without any harm to the inhabitant, but just rattles and melts.

The contrast is clear: the subtle hair-splitting and logical paradoxes of philosophical texts are useless, while this portrait of the *sapiens* is worth your time. This shows that Seneca's aim is protreptic and motivational, rather than didactic or doctrinal: while Cicero's Cato would rather deal in distinctions and definitions, Seneca thinks there is more to be learned from rhetorically charged descriptions of great people. (There is some irony in the fact that Seneca's favorite example of a great *sapiens* is Cato himself.)

The portrait of the *sapiens*, here as elsewhere, is one of heroic proportions — though the entire picture is about mental disposition, the terms are suggestive of physical strength and prowess (*erectum et excelsum*), even of athletic or military skill (the response to fortune's weapons).[84] This picture is partly attractive because the sage is the kind of person we would want to be — this is particularly clear in the phrase 'who does not see anyone with whom he would want to switch places'. But the attraction invites not only emulation, but also excitement, of an almost erotic nature.

[84] On the military imagery in Seneca's descriptions of mental prowess, see Bartsch (2006, 175–76). Kroppen (2008) reads the same imagery in athletic terms. The gladiatorial arena is the place where these families of images (athletic and military) overlap.

Seneca has a problematic relation to eroticism. As Shadi Bartsch has shown, Seneca re-frames Roman tropes of masculinity to draw attention away from the body, and towards the soul.[85] One of the PR problems of philosophy in the Roman empire was its association with Greek pederasty, which had morphed (inexplicably, given the parameters of Socratic eros) into association with the sexually passive role that Romans considered disgraceful. Seneca deals with this problem by 'attempts to masculinize Stoic philosophy […] by the replacement of bodily impenetrability with mental fortitude'.[86] This is the background for Seneca's devaluation of the body when compared to earlier Stoics; it becomes a burden and a vessel rather than a part of the divine substance.

The body may be a problem for the *proficiens* and the philosophically inclined Roman gentleman, but in his descriptions of the *sapiens*, Seneca often relies on pseudo-physical descriptions, using bodily characteristics to make the philosophical soul exciting. Size, in particular, is an attribute that comes back time and again. Greatness of soul translates easily into greatness of body, and Seneca's prose slips back and forth between the physical and the mental characterizations, creating the impression that greatness of soul would automatically go hand in hand with physical attractiveness. In letter 111,

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[85] (Bartsch 2006, 164–83)
[86] (2006, 169)

Seneca again contrasts true philosophy with quibbles about words (the occasion for this letter is a discussion about the Latin translation of the Greek word σοφίσματα):

> At ille qui philosophiam in remedium suum exercuit ingens fit animo, plenus fiduciae, inexsuperabilis et maior adeunti. Quod in magnis evenit montibus, quorum proceritas minus apparet longe intuentibus: cum accesseris, tunc manifestum fit quam in arduo summa sint. Talis est, mi Lucili, verus et rebus, non artificiis philosophus. In edito stat, admirabilis, celsus, magnitudinis verae; non exsurgit in plantas nec summis ambulat digitis eorum more qui mendacio staturam adiuvant longioresque quam sunt videri volunt; contentus est magnitudine sua. (*Ep.* 111.2-3)

> But the one who employs philosophy for self-help becomes enormous in his mind, full of confidence, invincible and greater when you approach him. This happens with large mountains: their height is less apparent when you look from a distance; but when you come closer, it becomes obvious how high their summits are. Such, Lucilius, is the true philosopher, the one who is a philosopher in reality and not in tricks. He stands on high, wondrous, elevated, of true greatness; he does not stretch up on his soles or walk on tiptoe, like those who help their size with lies and want to appear taller than they are; he is content with his size.

Seneca's prose here creates two different images at the same time. On the one hand, the idea is that the true size of a philosopher only becomes apparent when you get close to them — like a high mountain, you cannot truly appreciate their size from a distance. However, the portrait of the sage is one of undeniable enormity, starting with *ingens fit animo* (he becomes enormous in his mind), and repeated by *in edito stat* (he stands on high), celsus (elevated), and *magnitudinis verae* (of true greatness). Other than the comparison with the underwhelming distant view of a mountain, there is no sense here that the sage would appear to be anything else than impressive and worthy of wonder. The description of a great-souled person in such physical terms also suggests that this wonder is of the same nature as wonder at the well-trained body of an athlete — Seneca's protreptics comes close to the erotic.

One may ask whether the Latin *admirabilis* here still has anything to do with wonder in the Aristotelian sense — are we not closer to the English 'admiration' at this point? This is partly true, but Seneca does still connect our admiration at a virtuous or wise person with our wonder at natural marvels. Consider the following passage (from letter 9). Seneca has just told an anecdote about the Megarian philosopher Stilpo, whose wife and children were killed and possessions taken when Demetrius Poliorcetes sacked Megara. When asked whether he had lost anything, Stilpo replied that all his goods were still with him. Seneca comments:

> Miramur animalia quaedam quae per medios ignes sine noxa corporum transeunt: quanto hic mirabilior vir qui per ferrum et ruinas et ignes inlaesus et indemnis evasit! Vides quanto facilius sit totam gentem quam unum virum vincere? (Ep. 9.19)

> We wonder at certain animals which can pass through the middle of a fire without damage to their bodies: how much more wonderful was this man who escaped undamaged and unharmed through iron and ruins and fires! Do you see how much easier it is to conquer an entire nation than a single man?

As fireproof animals (like the salamander) are a natural marvel, so Stilpo was a moral marvel.[87] This shows that the admiration we can feel for a great-souled person is, for Seneca, of a piece with the wonder we feel at strange animals. And again, the prowess of a Stilpo is cast in military terms: though he conquered Megara, Demetrius proved unable to conquer Stilpo.

In exciting our admiration for the *sapiens*, Seneca enlists wonder: the sage's greatness of soul translates into physical prowess, mental mastery, and an elevated

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[87] On the salamander, see Aristotle, *HA*, 552b13-17; the paradoxographer Antigonus mentions the salamander (§84), but only because it could supposedly extinguish fire.

position; and the appropriate reaction to such a person is admiration and awe: we look up to this person, as they look down on us.

2.4.2. Contempt as an ideal

We have seen what feelings Seneca tries to impart in us about the *sapiens*: admiration, awe, arousal, excitement, emulation. But what would the other side of this interaction look like? What is the attitude of the *sapiens* about the world around him?

One of the undeniable traits of Seneca's *sapiens* is a sense of contempt.[88] In his descriptions of the ideal person as well as in his moral exhortations, contempt and disdain are frequent features. In just the letters, Seneca recommends and/or praises contempt of a great number of objects: of death, of wealth, of glory, of power, of fortune and its gifts, of frightful things, of golden beds and bejeweled furniture, of danger, of hard work, of exile, of simple bread, of logical puzzles, of life itself, of pretty things, of sensual delights, of your own body, of external things, even contempt of contempt itself.[89] Despising all of these things is what a sage does.[90]

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[88] Jula Wildberger (2014, 322) posits that in talking about contempt Seneca adopts Cynic terminology. Whether or not this is true, it does show the extent to which Seneca's emphasis on contempt is remarkable among Stoic authors.

[89] Death: *Ep.* 24.11, 78.5, 82.16, 104.33; wealth: 62.3, 110.15, 120.6; glory: 109.18; power: *Ep.* 24.8 (on Cato); the gifts of fortune: *Ep.* 23.7, 93.4; frightful things: 85.25, 88.29; golden beds and bejeweled furniture: 110.12; danger: 94.6, 95.71; hard work: *Ep.* 31.4; exile: 104.33; simple bread: 110.12; logical puzzles: *Ep.* 49.6; life: 111.5; pretty things: *Ep.* 56.11; sensual delights: *Ep.* 78.22, 109.18; your own body: *Ep.* 65.22, 66.1; external things: 82.14, 85.16; contempt itself: *Ep.* 76.4.

[90] For this overview, I have limited myself to investigating words with the roots of *contemptus* (including the verb *contemnere*). A more extensive survey might include consideration of the verb *calcare* (to tread on), as well as *fastidium* (on which see Kaster (2001), who calls Seneca 'the undisputed maestro of the emotion' (165n51).

In a sense, contempt is the opposite of wonder: if wonder is a feeling of witnessing something greater than yourself, contempt comes from seeing something that is far beneath you. Wonder looks up, contempt looks down. And part of the character of the *sapiens* is that he looks down at so many things — in fact, at anything that is external to him.

For all its importance in Seneca's vision of the ideal person, contempt is conspicuously absent from David Konstan's discussion of Senecan emotions.[91] There is some justification for this: it is not entirely clear whether contempt as Seneca understands it really amounts to an emotion — it is a matter of positionality and perspective, rather than of feeling. This is perhaps best illustrated by a quip from the 20th great century apologist for contempt, Ayn Rand. When asked in 1981 what she thought of then-president Ronald Reagan, Ayn Rand replied, "I don't think of him. And the more I see, the less I think of him."[92] This seems to be a good illustration of Senecan contempt, in that it is (at least on the face of it) not an emotion-driven judgment. It is rather a cognitive attitude than a feeling of scorn or disgust. Robert Kaster has made a similar distinction in the (related) Latin vocabulary of *fastidium*, which denotes both a 'per se reflex' close to

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[91] (Konstan 2015)

[92] "In Her Final Speech, Ayn Rand Denounces Ronald Reagan, the Moral Majority & Anti-Choicers (1981)," Open Culture, October 6, 2014. https://www.openculture.com/2014/10/in-her-final-lecture-ayn-rand-denounces-ronald-reagan-the-moral-majority-anti-choicers-1981.html. She first used the quip in *The Fountainhead*, where protagonist Howard Roark answers someone's desperate question what he thinks of them with 'but I don't think of you'.

disgust and a 'deliberative ranking' closer to contempt or satiety.[93] The term *contemptus* can carry both connotations as well, but in Seneca's portraits of the *sapiens* we are clearly dealing with a deliberative ranking (his understanding of what is and is not good and bad), given his attention to the importance of *apatheia*.[94]

Seneca maintains that someone who stands up high and looks down at everything is not prone to wonder. This is a thought that we first encountered in Aristotle's description of the μεγαλόψυχος, who is 'not prone to wonder: for nothing is great to him'.[95] What Seneca adds to this is the idea that this person's contempt for other things is a reason for us to wonder at them. For example, consider the following passage:

> Etiam nunc interrogo: nempe fortitudo optabilis est? Atqui pericula contemnit et provocat; pulcherrima pars eius maximeque mirabilis illa est, non cedere ignibus, obviam ire vulneribus, interdum tela ne vitare quidem sed pectore excipere. (*Ep.* 67.6)

> And now I ask: is courage desirable? Yet it despises and challenges danger; its most beautiful and most wondrous aspect is this, that it does not avoid flames, goes to meet wounds, and sometimes does not even avoid arrows but catches them in the chest.

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[93] (Kaster 2001, 185)

[94] At least in the letters to Lucilius. See *Ep.* 116 for a discussion of the admissibility of *metriopatheia*, where Seneca comes down squarely on the side of *apatheia*. However, in the *Consolation to Polybius* (18.5) Seneca does recommend *metriopatheia*. See Abel (1985, 717–18) for a biographical interpretation of the difference.

[95] οὐδὲ θαυμαστικός· οὐδὲν γὰρ μέγα αὐτῷ ἐστίν, *EN* 4.3 1125a2-3. See 1.4 above.

Seneca goes on to conclude that courage is, indeed, desirable, because it is good. In the passage quoted, the truly wondrous thing about courage is precisely its contempt for mere flames, wounds, and arrows. Contempt is a sign of greatness, and wonder is the appropriate reaction to such greatness. While contempt implies an absence of wonder, on Seneca's view, a contemptuous attitude is, in many cases, itself something to be wondered at.

Not all sorts of contempt are created equal, of course. In Letter 110, Seneca gives Lucilius more specific advice about what he should despise, also connecting it to the admiration he should feel for himself:

> Quid ergo nunc te hortor ut facias? nihil novi — nec enim novis malis remedia quaeruntur - sed hoc primum, ut tecum ipse dispicias quid sit necessarium, quid supervacuum. Necessaria tibi ubique occurrent: supervacua et semper et toto animo quaerenda sunt. Non est autem quod te nimis laudes si contempseris aureos lectos et gemmeam supellectilem; quae est enim virtus supervacua contemnere? Tunc te admirare cum contempseris necessaria. (*Ep.* 110.11-12)

> What do I admonish you to do? Nothing new — we are not looking for a remedy for new ills — but first, this: distinguish for yourself what is necessary, what is superfluous.

> Necessities can be found anywhere; superfluities must always be sought for with full attention. But you should not praise yourself too much if you despise golden beds and bejeweled furniture: what virtue is it to despise superfluities? Admire yourself when you despise necessities.

While the sage despises many things, there are different levels of difficulty in contempt, which command different degrees of respect, admiration, and awe. Seneca goes on to spell out what it means to despise necessities: 'I will admire you when you even despise simple bread'.[96]

Whatever differences of degree there may be, all of the objects of contempt, from golden beds to simple bread to life itself, have this in common: they belong to the class of external, indifferent things, they are not in our power (οὐκ ἐφ' ἡμῖν, *aliena*). The attitude of contempt, then, amounts to the same thing as Epictetus' warnings against wonder. To wonder at indifferent things is to make yourself subordinate to those things; to despise them is to assert your superiority over them.

One of the risks of this dynamic of contempt is that we may be tempted to follow the social order, rather than the order of nature. In letter 47, on the treatment of slaves, Seneca gives a subtle and considered account of what contempt for other people can do.

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[96] tunc te admirabor si contempseris etiam sordidum panem, *Ep.* 110.12.

He scoffs at the notion that we should treat slaves as inferiors, since their status is due to an accident of fortune:

> Vis tu cogitare istum quem servum tuum vocas ex isdem seminibus ortum eodem frui caelo, aeque spirare, aeque vivere, aeque mori! tam tu illum videre ingenuum potes quam ille te servum. Variana clade multos splendidissime natos, senatorium per militiam auspicantes gradum, fortuna depressit: alium ex illis pastorem, alium custodem casae fecit. Contemne nunc eius fortunae hominem in quam transire dum contemnis potes. (*Ep.* 47.10)

> You want to think that the person you call your slave was born from the same seeds, enjoys the same heaven, breathes, lives, and dies like you! For you may see him as a free man just as well as he may see you as a slave. At Varus' defeat, fortune brought down many of noble birth, who expected a senatorial rank through military service: fortune made some shepherds, some guardians of a hut. So go ahead and despise a man of that fortune to which you can go over while you despise him.

Although we should despise the gifts of fortune themselves, we should not take the gifts of fortune as essential attributes of people and despise them for their fortune. A slave is,

first and foremost, a human being; whatever accidental differences in social status appear, this is reason enough to not feel contempt for them.

2.4.3. Contemplation

A sage, then, takes on an attitude of contempt for all indifferent matters, but not for fellow humans. And although contempt is the obverse of wonder, that does not mean that the *sapiens* feels no wonder. In fact, as we shall see, there are a number of appropriate objects for wonder: nature, god, philosophy, and the mind itself.

In *De otio*, Seneca gives a Stoic defense of contemplation; although the Stoics consider it a responsibility for people to be politically active, Seneca argues that a life of contemplation is also a fully acceptable path for a Stoic. One of his lines of argument is that contemplative inquiry does not amount to idleness, but is itself hard work;[97] he sums up this discussion as follows:

[97] As the undergraduate students at the University of Chicago like to put it: 'life of the mind, life of the grind'.

> Ergo secundum naturam uiuo si totum me illi dedi, si illius admirator cultorque sum. Natura autem utrumque facere me uoluit, et agere et contemplationi uacare: utrumque facio, quoniam ne contemplatio quidem sine actione est. (*De Otio* 5.8)

> So I live in accordance with nature if I devote myself entirely to her, if I wonder at her and worship her. Nature wanted me to do both: act and make room for contemplation. And I do both, since there is no contemplation without action.

To devote oneself fully to nature as its *admirator* and worshipper is to live in accordance with nature. We find that Seneca, like Cicero's Balbus and like Epictetus, considers wonder at the natural order itself an appropriate response even for a sage.

When well-directed, wonder can also have an ethical value: it is helpful in cultivating an appropriately contemptuous attitude towards things that are inherently without value. When discussing what we may gain from studying Plato's thought,[98] Seneca makes the following statement:

> Ergo ista imaginaria sunt et ad tempus aliquam faciem ferunt, nihil horum stabile nec solidum est; et nos tamen cupimus tamquam aut semper futura aut semper habituri.

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[98] On Seneca's relation to Plato, see Reydam-Schils (2010).

> Imbecilli fluvidique inter vana constitimus: ad illa mittamus animum quae aeterna sunt. Miremur in sublimi volitantes rerum omnium formas deumque inter illa versantem […]. Contemnamus omnia quae adeo pretiosa non sunt ut an sint omnino dubium sit. (*Ep.* 58.27-28)

> So these [material] things are imaginary and carry a certain appearance for a time, but none of them is stable or solid; yet we still desire them as if they were everlasting or as if we were to have them forever. We stand weak and fluid among empty things; let us send our mind to eternal things. Let us wonder at the forms which fly up high and at the god that dwells among them […].[99] Let us despise everything which is so worthless that it is uncertain whether it even exists.

To escape the instability of life on earth, we can project our minds into the world of ideas. By gazing in admiration at these ideas and at the god who dwells there, we gain an appropriate attitude of contempt towards the merely material world: it is so worthless that it is not even sure whether it exists. We see here that wonder at the appropriate objects does not carry the connotation of debasement, enslavement, and *proskunesis*:

[99] Omitting an argument about how even the forms are only eternal in a limited sense, since they require the support of the god to remain in existence.

wonder at the forms, like wonder at the order of nature, brings us closer to god, and closer to the ideal of sagehood.

Indeed, nature partly equipped us to contemplate in admiration:

> Illa vultus nostros erexit ad caelum et quidquid magnificum mirumque fecerat videri a suspicientibus voluit: ortus occasusque et properantis mundi volubilem cursum, interdiu terrena aperientem, nocte caelestia, tardos siderum incessus si compares toti, citatissimos autem si cogites quanta spatia numquam intermissa velocitate circumeant, defectus solis ac lunae invicem obstantium, alia deinceps digna miratu, sive per ordinem subeunt sive subitis causis mota prosiliunt, ut nocturnos ignium tractus et sine ullo ictu sonituque fulgores caeli patescentis columnasque ac trabes et varia simulacra flammarum. Haec supra nos natura disposuit, aurum quidem et argentum et propter ista numquam pacem agens ferrum, quasi male nobis committerentur, abscondit. (*Ep.* 94.56-57)

> Nature raised our faces up to the sky and wanted everything great and wondrous she had made to be seen by people looking up: risings and fallings and the spinning course of the whirling universe, which shows the earth by day and the heavens by night; motions of stars, slow if you compare them to the whole, but very fast if you consider in what a great trajectory they circle with a never ceasing speed, eclipses of the sun and the moon that block each other, and other things worthy of wonder, whether they occur regularly or

> spring forth moved by sudden causes, like trails of fire by night and flashes without clap or sound that open up the sky, and columns and meteors and various images of flames. Nature placed this above us, but gold and silver, and iron which never stays calm on account of them, she hid, as if it was bad to entrust them to us.

The idea that humans' upright position sets them apart from animals is a commonplace, sometimes connected to the idea that this makes it possible to contemplate the heavens.[100] Seneca expands on that idea by adding that the things we should not care about were hidden in the earth. Here, as in the *De otio*, wonder at the heavens is not debasing or contrary to nature, but elevating and in harmony with nature.

As he subscribes to the view that philosophy is a mirror of nature, it is no surprise to find Seneca extending this wonder at the cosmos to philosophy itself:

> Utinam quidem quemadmodum universa mundi facies in conspectum venit, ita philosophia tota nobis posset occurrere, simillimum mundo spectaculum! Profecto enim omnes mortales in admirationem sui raperet, relictis iis quae nunc magna magnorum

[100] Xenophon *Mem.* 1.4.11; see Cicero *De Legibus* 1.26, *De Officiis* 1.105. In *Tusc.* 1.68-69, Cicero describes the role of humans as 'contemplator of the sky and worshipper of the gods' (*contemplatorem caeli ac deorum cultorem*), but without connecting this role to physical posture.

> ignorantia credimus. Sed quia contingere hoc non potest, est sic nobis aspicienda quemadmodum mundi secreta cernuntur.

> If only philosophy, that spectacle most similar to the world, could present itself to us all at once, just like the entire face of the earth comes into view! It would certainly drag all mortals into wonder at itself, and make them leave behind what we now think is great, in our ignorance of greatness. But because this cannot happen, we have to inquire into philosophy like we search for the hidden things in the world.

Because it is not possible to see all of philosophy at once the way we can see a whole landscape or the whole sky, we do not give philosophy its due respect; if it were possible, Seneca says, we would all be 'dragged into wonder' — the sight would be great enough to impress anyone.

However, it is not only the contemplation of the universe as a whole which can arouse our wonder. A smaller dose of philosophical insight can also be a wondrous thing. At the end of letter 23, Seneca introduces some aphorisms, based on a theme introduced by a quote from Epicurus:

> Quidam vero tunc incipiunt cum desinendum est. Si hoc iudicas mirum, adiciam quod magis admireris: quidam ante vivere desierunt quam inciperent. (*Ep.* 23.11)

> Some people only begin [to live] when it is time to stop. If you think this is wonderful, I will add something that you will wonder at even more: some people have stopped living before they had begun.

While the system of philosophy in its totality is a thing of wonder, a well-phrased moral aphorism may also elicit wonder.[101] In fact, Seneca's prose does a lot of work when it comes to managing the reader's wonder. In both the effusive praises of the *sapiens* and the descriptions of the cosmic order, it is Seneca's authorial voice that raises wonder by the way he selects, presents, and phrases the material.

Shadi Bartsch has highlighted this dynamic using an ekphrastic passage from the *Consolatio ad Marciam*, where Seneca describes the wonders of Sicily.[102] If you visit Syracuse, he says, there are many things to wonder at (*haec sunt quae mirari possis*, *Cons. Ad Marc.* 17.2). He describes five sights to see in Sicily, introducing each one of them with *videbis* ('you will see…'): the strait of Messina, the whirlpool Charybdis, the spring Arethusa, the natural harbor of Syracuse, and the city itself. However, after this tour of the wonders of Sicily, Seneca undercuts any desire we might feel to visit the place, by

[101] In Lucian's *Auction of Lives*, the Stoic uses the wondrousness of Stoic paradoxes as a selling point.
[102] Bartsch (2007)

recounting the depraved tyranny of Dionysius II in vivid terms. As Bartsch puts it, 'The introductory verbs of seeing come to an end, and so does the criterion of visibility; sex and torture replace the usual *topoi* of harbors and cities; and the tourist's wonder and admiration give way to fear.'[103] The point of this stratagem is didactic: Seneca shows that the first impression of wonder may need to be revised, and that the appropriate reaction to the wonders of Sicily would be to remain unimpressed. The wonder at the sights of Sicily may appear contemplative at first sight, but it is not appropriate for a sage after all, given the moral ugliness attached to this natural beauty.

In some cases, more local cases of natural beauty do have a productive role to play in the pursuit of philosophy. In the 41st letter, Seneca again uses his ekphrastic prowess to paint a picture of a wondrous place:

> Si tibi occurrerit vetustis arboribus et solitam altitudinem egressis frequens lucus et conspectum caeli densitate ramorum aliorum alios protegentium summovens, illa proceritas silvae et secretum loci et admiratio umbrae in aperto tam densae atque continuae fidem tibi numinis faciet. (*Ep.* 41.3)[104]

[103] Bartsch (2007, 84).
[104] I use Reynolds' conjectural insertion of densitate.

> If you were to come upon a dense grove with old and unusually high trees, where the view of the sky is blocked by branches covering each other, the height of the trees and the isolation of the place and the wonder at such a dense and unbroken shadow in an open place will make you believe in a divinity.

This impressive grove, like the marvels of Cicero's *ND*, suggests a divine presence. However, the point Seneca is making with the image is that this religious veneration we sometimes feel for natural occurrences is appropriate *a fortiori* for a great person. After adding a few other examples of places that deserve religious veneration, Seneca gets to the punchline:

> Si hominem videris interritum periculis, intactum cupiditatibus, inter adversa felicem, in mediis tempestatibus placidum, ex superiore loco homines videntem, ex aequo deos, non subibit te veneratio eius? non dices, 'ista res maior est altiorque quam ut credi similis huic in quo est corpusculo possit'? (*Ep.* 41.4)

> If you see a man who is unafraid in danger, untouched by desires, happy among misfortunes, calm in the middle of storms, viewing people from on high, but the gods on an equal footing, will reverence for him not occur to you? Will you not say 'this matter is

> so great and high that we cannot believe it is of the same nature as that little body in which it is located'?

Unlike the description of Sicily, the description of the sacred grove does not end up being dismissed as ultimately unjustified wonder: the greatness of the human soul does not supersede the impressiveness of the grove, and the belief that the grove is divine is still in place.

This is one of the places where Seneca emphasizes the *contrast* between a mere body and a great soul, rather than merging physical and mental prowess together. The phrase 'viewing people from on high, but the gods on an equal footing' is instructive: a great soul can disdain people, but views the gods as equals. This opens up a space for a sage's wonder at anything divine, whether it be god, the mind itself, the cosmic order, or philosophy.

This is not the only place where wonder at something natural (in this case a forest cathedral) is of the same nature as wonder at the divine within us. In describing the experience of reading Quintus Sextius, Seneca says:

> Hoc idem virtus tibi ipsa praestabit, ut illam admireris et tamen speres. Mihi certe multum auferre temporis solet contemplatio ipsa sapientiae; non aliter illam intueor obstupefactus

> quam ipsum interim mundum, quem saepe tamquam spectator novus video. Veneror itaque inventa sapientiae inventoresque. (*Ep.* 64.6-7)

> Virtue itself will give you this same thing, that you can wonder at it yet hope for it. For me at least the contemplation of wisdom tends to take up much of my time; when I look at it, I am astounded in the same way as I sometimes am when I see the world itself, which I often see as if I were a new spectator. This is why I revere the findings of wisdom and its finders.

The wonder at wisdom itself occupies Seneca's time, and is of the same nature as wisdom of the world itself. The connection between reverence at the findings of wisdom and at its finders reinforces the parallel between the spectacle of nature and the spectacle of philosophy as a mirror of nature, but adds that the mind which is able to penetrate nature is itself worthy of the same feeling of wonder, astonishment, and reverence. What unites all these objects of wonder — the world, philosophy, god, the philosophical mind — is that they share the same rationality, that of the λόγος. In connecting wonder at the inner and outer λόγος, Seneca anticipates a celebrated dictum by Immanuel Kant:[105] 'two things fill the heart with ever new and increasing wonder and reverence, the more often

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[105] On the resonance between Seneca and Kant, see Bickel (1959), Küppers (1996).

and continuously thought is concerned with it: the starry heaven above me and the moral law within.'[106]

2.4.4. Naturales Quaestiones

The work most devoted to the contemplation of nature is the *Naturales Quaestiones*. In that work, Seneca discusses a number of natural phenomena and theorizes on their causes. However, the *Naturales Quaestiones* hardly deal with the λόγος, or the system of the cosmos as a whole.[107] Instead, Seneca discusses a particular type of phenomenon: those that only occur sometimes or in some places, but that nevertheless show some regularity — e.g. meteors, rainbows, hailstorms, earthquakes. Most (but not all) of Seneca's objects of inquiry fall under the domain of 'meteorology', that is, the things that happen above us.[108] The choice for phenomena that do have some orderly set of causes behind them sets the *Naturales Questiones* apart from the genre of paradoxography, which is interested in

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[106] *Kritik der Praktischen Vernunft*, p. 288(original edition)/p.162(*Akademien-Ausgabe*). 'Zwei Dinge erfüllen das Gemüt mit immer neuer und zunehmender Bewunderung und Ehrfurcht, je öfter und anhaltender sich das Nachdenken damit beschäftigt: *der bestirnte Himmel über mir und das moralische Gesetz in mir*.'

[107] This is not to say that he does not discuss it at all — see, for instance, the discussion of the circulation of elements in 3.15. However, these kinds of discussions of the greater cosmic system always serve as background information to a discussion of a more local phenomenon — in this case, subterranean reservoirs of water.

[108] As he says in *NQ* 2.1, even terrestrial phenomena have their place in a study of meteorology: earthquakes belong to 'heavenly phenomena' (*coelestia*) because they are caused by the wind, while questions about the shape and nature of the earth belong to meteorology because these are partly responsible for phenomena in the sky.

the unique and local.[109] At the same time, it is not a work on the Cosmos or on Nature — Seneca's interest here is in remarkable phenomena that occur in the natural course of events.

However, in the different prefaces contained in the *NQ*, Seneca often does recommend the contemplation of nature as a whole as a worthwhile pursuit for humans.[110] The aim of the *NQ* is thus to promote the contemplation of nature as a whole through the explanation of its more remarkable phenomena.

When praising the contemplation of nature, Seneca often remarks on the ethical benefits that this activity brings. So, for example, in the preface to the first book:

> Tunc consummatum habet plenumque bonum sortis humanae, cum, calcato omni malo, petit altum, et in interiorem naturae sinum uenit. Tunc iuuat inter sidera ipsa uagantem, diuitum pauimenta ridere, et totam cum auro suo terram: non illo tantum, dico, quod egessit, et signandum monetae dedit, sed et illo, quod in occulto seruat posterorum auaritiae. (*NQ* 1, praef. 7)

> A mind possesses the complete and full good of the human condition when it spurns everything bad, strives for the height, and goes into the innermost sanctum of nature.

[109] See Toulze-Morisset (2004) on Seneca's repudiation of paradoxography.
[110] Limburg (2007) is entirely devoted to the prologues and epilogues in *NQ*.

> Then it enjoys itself by wandering among the stars, laughing at the floorings of the rich and at the whole earth with its gold; I mean not only the gold which it has released and given to mint as money, but even that which it keeps in the dark for the avarice of future generations.

The study of nature as a whole is a way for the mind to fulfil its potential, which is to attain a lofty height from which to look down upon merely human affairs such as fancy tiling and gold. The contemplation of nature thus has the ethical benefit that it makes us look down on things that are generally considered valuable. This ethical benefit is, however, a side effect, and not the reason why the contemplation of nature is valuable. As is apparent from the passage immediately preceding it, we pursue virtue for the sake of contemplation, rather than the other way around:

> Virtus enim ista, quam affectamus, magnifica est non quia per se beatum est malo caruisse, sed quia animum laxat ac praeparat ad cognitionem coelestium, dignumque efficit, qui in consortium dei ueniat. (*NQ* 1, praef. 6)

> That virtue which we strive for is magnificent not because being free from evil is a happy thing in itself, but because it softens the mind and prepares it for the knowledge of heavenly matters, and makes it worthy of coming into community with the god.

The pursuit of virtue itself here appears to be instrumental: it is valuable not for its ethical effects, but because it prepares us for what is really valuable — contemplation, as well as community with the god.

From the preface to book 1, it is clear that there is a link between virtue and contemplation (since contemplation makes us see things in the right perspective), but that virtue is pursued for the sake of contemplation, not contemplation for the sake of virtue. In the preface to the book on earthquakes, Seneca again emphasizes that the mere knowledge of nature is the most valuable thing, even if there are practical benefits to be had from that nature. Here, though, he frames wonder as the ultimate aim of knowledge and contemplation.

> Quod, inquis, erit pretium operae? Quo nullum maius est, nosse naturam. Neque enim quicquam habet in se huius materiae tractatio pulchrius, cum multa habeat futura usui, quam quod hominem magnificentia sui detinet nec mercede sed miraculo colitur. (*NQ* 6.4.2)

> What will the benefit of this work be, you ask? The greatest of all: knowledge of nature. For the treatment of this material has nothing more beautiful in it (though it has many

> things which will be of use) than that its grandeur keeps a man occupied, and it is pursued not for profit but for wonder.

In drawing a contrast between pursuing knowledge for the sake of a practical use and for the sake of wonder, Seneca seems to follow an Aristotelian line of thought.[111] At the same time, Seneca makes it clear that this pursuit does bring benefits (*multa habeat futura usui*). This is how Seneca confronts the tension between two images of the philosopher which we encountered in the introduction: the clumsy Thales who falls into a well while contemplating the heavens, and the savvy Thales who makes a clever investment in olive presses during a bad harvest. While we pursue wisdom for the sake of contemplation, this pursuit can at the same time bring us benefits.[112]

Given that wonder is the end goal of the knowledge of nature, we would expect Seneca to indulge his appetite for wonder in a work called the *Naturales Quaestiones*. But, as Françoise Toulze-Morisset has shown, Seneca's persistent concern in the *NQ* is to point out that we should *not* wonder at things. This is partly due to Seneca's refusal to deal in mere *mirabilia* — the *Naturales Quaestiones* are to be a work of philosophy, not

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[111] Cf. Inwood (2002, 140).

[112] For an extensive discussion of the relation of physics (contemplation) to ethics (usefulness), see van Houte (2010, 39–61). Within the *NQ*, the preface to book 3 is another relevant passage.

paradoxography, or an inquiry into causes, not effects.[113] But in the introduction to the book on earthquakes, Seneca gives another reason for avoiding wonder: certain natural phenomena, including earthquakes, bring a risk of fear.

Seneca opens the book on earthquakes by describing a recent earthquake at Pompeii (in 62 AD, seventeen years before the fateful eruption of Vesuvius). This sudden cataclysm was shocking enough that people everywhere felt afraid that more earthquakes might be coming. The aim of Seneca's discussion is to give these people emotional support: 'we have to find consolation for the frightened and take away an enormous fear'.[114] His initial strategy is that of a *praemeditatio malorum*: by anticipating the catastrophes that can happen, we arm ourselves against fear (*NQ* 6.1-2)[115]. In the case of natural catastrophes, this *praemeditatio* means learning about the different kinds of natural phenomena. However, there is another side to earthquakes: the fact that they are rare makes them even more frightful.

> Nobis autem ignorantibus uerum omnia terribiliora sunt, utique quorum metum raritas auget: leuius accidunt familiaria, at ex insolito formido maior est. Quare autem quicquam nobis insolitum est? Quia naturam oculis, non ratione, comprehendimus nec cogitamus

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[113] (Toulze-Morisset 2004, 200–201, 207)

[114] Quaerenda sunt trepidis solacia et demendus ingens timor. *NQ* 6.1.4.

[115] For an overview of the practice of *meditatio*, see Newman (1989); for Seneca's particular version of it, see Armisen-Marchetti (2008).

> quid illa facere possit, sed tantum quid fecerit. Damus itaque huius neglegentiae poenas tamquam nouis territi, cum illa non sint noua sed insolita. (NQ 6.3.2)

> When we are ignorant, everything is more frightening, especially when the rareness increases the fear: familiar matters strike us more lightly, but fear is greater from something unusual. But why is anything unusual to us? Because we grasp nature with our eyes, not with our reason; and we do not consider what she *can* do, but only what she *has done*. We pay the price for this sloppiness when we are afraid as if these are new occurrences, when they are not new but merely unusual.

A more proper grasp of nature would mean that rare occurrences do not cause us this extra fear — when we know that earthquakes, tsunamis, landslides, wildfires, floods and droughts sometimes occur, we will be much less emotionally disturbed when one of these does occur. Seneca goes on to give a list of rare phenomena that cause people to fear, even though they bring no real-life harm:

> Quid ergo? Non religionem incutit mentibus, et quidem publice, siue deficere sol uisus est, siue luna, cuius obscuratio frequentior, aut parte sui aut tota delituit? Longeque magis illa, actae in transuersum faces et caeli magna pars ardens et crinita sidera et plures solis orbes et stellae per diem uisae subitique transcursus ignium multam post se lucem

> trahentium. Nihil horum sine timore miramur: et cum timendi sit causa nescire, non est tanti scire, ne timeas? Quanto satius est causas inquirere, et quidem toto in hoc intentum animo! Neque enim illo quicquam inueniri dignius potest, cui se non tantum commodet sed impendat. (*NQ* 6.3.3-4)

> So — does it not lead to superstition, even among a whole population, when the sun is seen to disappear, or when the moon (which eclipses more frequently) conceals itself either partly or completely? And that is even more true for these phenomena: torches moving across the sky and a large part of the sky burning and comets and several suns and stars seen by day and sudden passing fires that draw a great light after them. We wonder at none of these phenomena without fear: and since the cause of the fear is ignorance, is it not worth a lot to have knowledge so that you need not fear? How much better it is to investigate causes, with the whole mind engaged in this! Nothing more worthy can be found than this to not just lend, but devote your mind to.

Seneca draws a connection between wonder and ignorance, as well as between wonder and fear. In doing so, he connects the Aristotelian tradition (where wonder implies ignorance and knowledge dispels wonder) with the Epicurean tradition (where wonder implies fear). This is a remarkably un-Stoic passage, since it implies that Seneca's chief

motivation for his investigations into nature is to dispel fear.[116] Indeed, it has been argued that Seneca relies on Lucretius in this passage, as elsewhere in the *NQ*.[117] However, he seems to come back to the more properly Stoic thought that contemplation is worthwhile for its own sake — the great value in being rid of fear is not that it is a more comfortable state to be in (this would be the Epicurean position), but that it allows you to devote yourself even more fully to contemplation. When you do not spend your mental energy on worries, it frees you up to focus on contemplation with your entire mind.

Even within the domain of wonder at nature, then, there is a distinction to be made between appropriate and inappropriate wonder. This is likely what is behind a puzzling report by Diogenes Laërtius, who says that the Stoics hold 'that the sage does not wonder at all about apparent marvels like Charon's caverns and the tides and springs of hot water and outpourings of fire.'[118] The passage is a bit odd: why is this important to the Stoics (or to Diogenes, or his sources)? What do the examples of apparent marvels have in common — in particular, why is the universal occurrence of the tides (ἀμπώτεις) in the same list as the local oddity of gas-filled caves called 'Charon's cavern'?[119] How do the

[116] This is not the only passage in the *NQ* where Seneca is concerned with fear — cf. 2.59, for instance, on the fear of lightning. However, I do not find the connection between wonder and fear elsewhere in the *NQ*.

[117] De Vivo (1992, 82–105), Berno (2003, 258–60), Williams (2012, 213–57), Asmis (2015, 227).

[118] ἔτι γε τὸν σοφὸν οὐδὲν θαυμάζειν τῶν δοκούντων παραδόξων, οἷον Χαρώνεια καὶ ἀμπώτεις καὶ πηγὰς θερμῶν ὑδάτων καὶ πυρὸς ἀναφυσήματα. (*DL* 7.123)

[119] On Charon's cavern, see Strabo 12.8.17/C579, 14.1.11/C636, and 14.1.44/C649-650, with Radt's commentary *ad loc*. (2002) At C649, Strabo calls the cave near Nysa θαυμαστὸν τῇ φύσει and goes into its healing properties.

natural irregularities of vapors, hot springs and volcanic eruptions relate to the regularity of the tides?[120] The point, however, appears to be that wonder at merely local phenomena is misguided: the appropriate object of contemplation is the whole machinery of the cosmos, not this or that rare natural phenomenon. Although Diogenes Laërtius does not specify what inappropriate wonder would lead to, likely candidates include fear, as in the *NQ*, and abasement, as in Epictetus.

While Seneca's programmatic discussions of contemplation in the *Naturales Quaestiones* thus suggest that contemplation and wonder are purely beneficial when done right, there is an important distinction between regular and irregular phenomena. As we have seen, the focus of the *Naturales Quaestiones* is precisely on those irregular phenomena, and in particular violent and physically harmful ones like earthquakes, lightning, and winds. Even his discussion of water and rivers (book 3) ends up in the violent territory of poisonous waters and the destruction of a universal flood. For much of the *Naturales Quaestiones*, then, Seneca is dealing with the kind of phenomena which we cannot wonder at without fear (as he puts it in *NQ* 6.3.4). (As we shall see in the next chapter, the notion that some things cannot be wondered at without fear is characteristic of the Epicureans' attitude towards natural philosophy.) Seneca's insistence that we

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[120] We might try to avoid the problem by positing that ἄμπωτις here means something else, like a whirlpool (not implausible *a priori*, since ἄμπωτις comes from ἀναπίνω, 'to drink up'). But this would be to ignore the surface meaning of ἄμπωτις.

should not wonder at this class of phenomena is thus not inconsistent with his praises of contemplation, or with his claim that we study nature for the sake of wonder, not profit.

It is not just because of their irregularity and violence that some natural phenomena are better not wondered at. There is also the danger of illusion or distortion. The prime example here is that of mirrors, which Seneca discusses in the first book. Having discussed the causes of rainbows, Seneca ends up raising the question of whether rainbows can even be said to exist. His verdict is that rainbows are merely illusions (*fallacia*), because their appearance depends on distorting mirror effects, and 'what is shown in mirrors does not exist' (*NQ* 1.15.7).[121] Seneca then goes on to recount an extreme example of the kind of moral danger that distorting mirrors have. A notorious Roman named Hostius Quadra (a contemporary of Augustus') had an insatiable sexual appetite, which he indulged by constructing a palace of mirrors in which he could see his sexual activity from all sides. Moreover, the mirrors distorted the proportions of him and his partners, making the spectacle even more monstrous. Seneca has Hostius give a little speech, which he ends with the dictum 'let my filthiness see more than it can take, and wonder at its own endurance'.[122] Hostius Quadra frames his sexual indulgence in unnatural illusions as a form of virtue: *patientia* here is an ironic object of wonder, not as

[121] *non est enim quod in speculo ostenditur*

[122] *obscenitas mea plus quam capit uideat et patientiam suam ipsa miretur, NQ* 1.16.9.

a philosophical virtue, but as sexual endurance.[123] It is possible to get wonder wrong, both in nature and in ethics: to wonder at unnaturally distorted images, or to wonder at your own unnaturally warped character, is clearly not what philosophy is about.

Our discussion of Stoicism has oscillated around two poles: the appropriate wonder at the order of nature, and the dangerous ethical effects of wonder at the wrong objects. Cicero's account of Stoic theology in part relies on wonder to demonstrate the divinely providential rule of the cosmos. In this context, wonder is a natural and appropriate response to the contemplation of nature, which gives us important clues about the causal structure of the cosmos (as it is for Aristotle). However, the Stoics also have to contend with the fact that wonder is an emotion, and thus potentially a threat to our happiness. Since wonder involves the high valuation of its object, wonder at the wrong objects can lead us to an erroneous value judgment, which can open us up to all sorts of emotions. We have seen that Epictetus warns about wonder for this reason especially in socio-political contexts. In Seneca's *Naturales Quaestiones*, these two strands of Stoic thought about wonder and contemplation really meet. On the one hand, wonder is the very reason why we pursue the knowledge of nature; on the other hand, there are certain things (such

[123] For readings of the Hostius Quadra passage, see Leitão (1998), Bartsch (2006, 103–14), Williams (2012, 55–60).

as earthquakes and lightning) that we should not wonder at, as wonder in these cases may lead to fear.

This is a concern that we do not find in Aristotle: that the study of nature could have negative emotional effects. Even if wonder is the origin of philosophy, or the reason why we pursue the knowledge of nature, that does not mean that all wonder is conducive to a philosophical life. One should tread lightly even when pursuing a contemplative life. As we shall see in the next chapter, the Epicureans take this insight one step further, denying that wonder is either the origin or aim of philosophy.

Chapter 3. Epicureanism: Who’s Afraid of Wonder?

> Look, how the world's poor people are amazed
> At apparitions, signs and prodigies,
> Whereon with fearful eyes they long have gazed,
> Infusing them with dreadful prophecies
>
> —Shakespeare, *Venus and Adonis* (925-928)

3.1. Epicurus: wonder and the limits of philosophy

We know that Epicurus produced about three hundred scrolls of writing, on a great number of different topics.[1] Given the importance that wonder had for his predecessors and interlocutors,[2] we might expect that somewhere in those hundreds of scrolls he would have expounded a theory of wonder. However, only vague traces of such a theory can be found in the few surviving writings that we have. The late antique biographer Diogenes Laërtius quotes a few of Epicurus’ writings in his life of Epicurus (book 10 of the *Lives of the Philosophers*): three letters and a collection of short sayings. All in all, this material takes up less than one papyrus scroll — so that gives us about $^{1}/_{300}{}^{\text{th}}$, or one-third

[1] See *DL* 10.26-28 on Epicurus’ voluminous output, including a list of titles.
[2] Although it is a matter of significant debate whether Epicurus was familiar with the works of Aristotle (Bignone (1936)). But the mere fact that his atomist predecessor Democritus considered ἀθαμβία (‘unastonishedness’) as one of the aims of philosophy strongly suggests that Epicurus would have had to deal with wonder in some way or other.

of a percent of the total writings.[3] Only one passage in these surviving writings deals with the issue of wonder — but it is a crucial passage that indicates the aims and limits of philosophy, as well as the entanglement of practical and theoretical philosophy.

The one passage in which Epicurus discusses something like wonder (in this case θάμβος, astonishment) casts it as a passion of inquiry, connected to the aim of philosophical investigation itself. The passage is obscure and dense, and requires a lot of context to unpack. I will first very briefly discuss the text itself, then lay out the relevant context, and after that come back to the text to discuss its finer points (including some consideration of relevant textual problems). Here is the text:[4]

> τὸ δ' ἐν τῇ ἱστορίᾳ πεπτωκὸς τῆς δύσεως καὶ ἀνατολῆς καὶ τροπῆς καὶ ἐκλείψεως καὶ ὅσα συγγενῆ τούτοις μηθὲν ἔτι πρὸς τὸ μακάριον τῆς γνώσεως συντείνειν ἀλλ' ὁμοίως τοὺς φόβους ἔχειν τοὺς ταῦτα κατιδόντας, τίνες δ' αἱ φύσεις ἀγνοοῦντας καὶ τίνες αἱ κυριώταται αἰτίαι, καὶ εἰ μὴ προσῄδεσαν ταῦτα· τάχα δὲ καὶ πλείους, ὅταν τὸ θάμβος ἐκ τῆς τούτων προσκατανοήσεως μὴ δύνηται τὴν λύσιν λαμβάνειν κατὰ[5] τὴν περὶ τῶν κυριωτάτων οἰκονομίαν. διὸ δὴ καὶ πλείους αἰτίας εὑρίσκομεν τροπῶν καὶ δύσεων καὶ ἀνατολῶν καὶ ἐκλείψεων καὶ τῶν τοιουτοτρόπων ὥσπερ καὶ ἐν τοῖς κατὰ

[3] The papyrus finds at Herculaneum include some more of Epicurus' writings (fragments from his *magnum opus*, a work entitled *On Nature*), pushing the percentage up a tiny bit; but none of these papyrus finds include discussions of wonder either.
[4] For the readings of Epicurus' Greek I follow Tiziano Dorandi's edition of *DL*.
[5] κατὰ Gassendi : καὶ MSS.

μέρος γινομένοις, καὶ[6] οὐ δεῖ νομίζειν τὴν ὑπὲρ τούτων χρείαν ἀκρίβειαν μὴ ἀπειληφέναι, ὅση πρὸς τὸ ἀτάραχον καὶ μακάριον ἡμῶν συντείνει. (*Hdt*. 79-80)

But [one should consider] that what falls under the investigation of rising and setting and turning and eclipse and whatever is akin to that contributes nothing anymore to the happiness of knowledge; but those who have observed these things but are ignorant of the natures and the most important causes have fears just as if they did not know them. Perhaps they even have more fears, since the astonishment that arises from the additional contemplation of these [phenomena] cannot find a resolution in accordance with the arrangement concerning the most important things. That is why we search for multiple causes of the turnings and settings and risings and eclipses and similar things, just as in things that happen in detail. And one should not think that our treatment of these matters has not achieved the necessary accuracy, as far as it contributes to our lack of disturbance and happiness.

The point of the passage is to warn against a too detailed study of 'meteorology' — that is, of the phenomena seen in the sky. From the last quoted sentence, it appears to also be an *apologia* of sorts, explaining why his treatment of meteorology is a bit sketchy: more

[6] καὶ Meibom : ἢ MSS. In this passage I ignore Usener's conjectural emendations, whose primary aim seems to be to clean up the confusion caused by the MSS reading of ἢ here. Meibom's conjecture (also accepted by Dorandi) of καὶ for ἢ may be more bold, but does not set off the chain reaction of other required emendations that Usener's more modest suggestion of ἦν does.

accuracy on these topics would not contribute to happiness, which is, after all, the aim of philosophy.

The role of astonishment (θάμβος) in this passage is crucial. It would be one thing if the detailed study of meteorology was simply a matter of indifference, contributing nothing to happiness either way. To the extent that this passage is an *apologia*, this weaker claim could have sufficed: we should not expect Epicurus to go into great detail about matters that do not make a difference. But the claim here is stronger than that: a too detailed study of meteorology actually makes a net negative contribution to happiness: people who *do* embark on this course of study are prone to more fears than those who do not. The reason for this is that the astonishment of the students cannot find a resolution.

To better understand this passage, it is worth taking a long detour, discussing Epicurus' views on the goal of philosophy, on the accuracy of philosophy, and on the peculiar method of meteorology known as the 'doctrine of multiple explanations'. When we have a broader view of the philosophical situation this passage addresses, we will come back to it and unpack it farther.

For Epicurus, the aim of philosophy is primarily therapeutic and ethical: philosophy is pursued in order to achieve happiness, which consists of pleasure, understood chiefly as a lack of disturbance (ἀταραξία). At several points in his surviving

writings,[7] Epicurus suggests that if a comfortable life without philosophy were possible, there would be no point in investigating nature.[8] For example, in the 11th of the *kyriai doxai* he says

> εἰ μηθὲν ἡμᾶς αἱ τῶν μετεώρων ὑποψίαι ἠνώχλουν καὶ αἱ περὶ θανάτου, μή ποτε πρὸς ἡμᾶς ᾖ τι, ἔτι τε τὸ μὴ κατανοεῖν τοὺς ὅρους τῶν ἀλγηδόνων καὶ τῶν ἐπιθυμιῶν, οὐκ ἂν προσεδεόμεθα φυσιολογίας.
>
> If we were not troubled by suspicions about meteorological phenomena and about death, that it is something to us, and similarly for our ignorance about the limits of pains and desires, we would not need natural science.[9] (*KD* 11)

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[7] One of the often-quoted quips to this effect is 'Empty are the words of that philosopher who offers therapy for no human suffering. For just as there is no use in medical expertise of it does not give therapy for bodily diseases, so too there is no use in philosophy if it does not expel the suffering of the soul.' (Usener 221, LS 25C, trans. Long and Sedley). However, I am not convinced that this quote, taken from Porphyry's *Letter to Marcella* (§31), is a citation from Epicurus. Porphyry nowhere indicates that he is quoting anyone, and Stobaeus' anthology attributes the same quotation to Pythagoras (Stob. 2.2.13/lxxxii.6). Usener's justification (1887, LVII–LXIV) is that Porphyry cites Epicurus a number of times in §§27-31, and that Stobaeus has a well-attested habit of misattributing others' quotations to Pythagoras. But I contend that the other Epicurean citations are due to the hedonistic context of §§27-31, and that we should be cautious about attributing the whole passage to Epicurus.

[8] Long and Sedley (1987, 156) rightly caution that *Vatican Saying* 27 contradicts this suggestion: it says 'In other pursuits the reward comes at the end and is hard won. But in philosophy enjoyment keeps pace with knowledge. It is not learning followed by entertainment, but learning and entertainment at the same time.' (ἐπὶ μὲν τῶν ἄλλων ἐπιτηδευμάτων μόλις τελειωθεῖσιν ὁ καρπὸς ἔρχεται, ἐπὶ δὲ φιλοσοφίας συντρέχει τῇ γνώσει τὸ τερπνόν· οὐ γὰρ μετὰ μάθησιν ἀπόλαυσις, ἀλλὰ ἅμα μάθησις καὶ ἀπόλαυσις.) Nevertheless, the Epicurean position seems to have been that philosophy is mainly worth pursuing for the sake of the resulting tranquility, not for the pleasure of philosophizing. Cf. the remark in *Men.* 132 that φρόνησις is more precious than philosophy.

[9] I will use the term 'natural science' to translate the Greek φυσιολογία, but add a word of caution. Using the word 'science' to describe any Greek intellectual activity is anachronistic in itself (see e.g. Lloyd (1970)), but is not always unjustifiable — for instance, the works of Euclid, Archimedes or Ptolemy look enough like what we call 'science' that one can call them that without too much trouble. In the case of Epicurus, there is the added problem that Epicurus was apparently hostile to the kind of technical and mathematical inquiry that we now call 'science'. So 'natural science' here should be understood as 'the investigation of nature', and the modern associations with the word 'science' should be avoided.

The whole of *KD* 11 is a counterfactual conditional: *if* these particular suspicions did not trouble us, we would not need natural science — but in fact, they do trouble us. *KD* 12 spells out the corollary and establishes that we do, in fact, need natural science:[10] without thorough knowledge of all nature we cannot dispel our fears or suspicions, and so a pleasurable life is not possible without the study of nature.[11] Epicurus does hold that the best life is a life of philosophy (which includes physics), which brings him close to the view of Plato, Aristotle, and the Stoics. But for Epicurus, there is at least the conceptual possibility (the unrealized counterfactual of *KD* 11) of a happy life without the study of nature. Put differently: philosophy itself is not part of the aim of human life — neither a constituent part of a good life (as it is for Plato and Aristotle), nor a necessary condition for a good life (as it is for the Stoics: to live in accordance with nature requires an in-depth understanding of nature).

A passage in the *Letter to Pythocles* echoes *KD* 11, but focuses more narrowly on the knowledge of meteorological phenomena:

[10] οὐκ ἦν τὸ φοβούμενον λύειν ὑπὲρ τῶν κυριωτάτων μὴ κατειδότα τίς ἡ τοῦ σύμπαντος φύσις, ἀλλ' ὑποπτευόμενόν τι τῶν κατὰ τοὺς μύθους· ὥστε οὐκ ἦν ἄνευ φυσιολογίας ἀκεραίους τὰς ἡδονὰς ἀπολαμβάνειν. (*KD* 12)

πρῶτον μὲν οὖν μὴ ἄλλο τι τέλος ἐκ τῆς περὶ μετεώρων γνώσεως εἴτε κατὰ συναφὴν λεγομένων εἴτε αὐτοτελῶς νομίζειν εἶναι ἤπερ ἀταραξίαν καὶ πίστιν βέβαιον, καθάπερ καὶ ἐπὶ τῶν λοιπῶν. (*Pyth.* 2[85])[12]

First of all one should consider that there is no other goal from the knowledge of meteorological phenomena, whether discussed in connection [with the rest of physics] or by itself, than freedom from disturbance and a firm conviction, just like with the rest.

The qualification 'just like with the rest' indicates that this aim is not unique to meteorology (although it is especially important to it).[13] As with physics in general, the only reason to want to understand what happens up in the sky is that doing so will help us get freedom from disturbance. But how would this contribute to *ἀταραξία*? The 11th *kyria doxa* lists 'suspicions about meteorological phenomena (μετέωρα)',[14] as well as death and the limits of pain and desire. It is relatively easy to imagine how ignorance

[12] For the *Letter to Pythocles*, I follow the paragraph numbering in Bollack and Laks, while also indicating the 'traditional' numbering based on the paragraph numbering in Diogenes Laërtius. For the *Letter to Herodotus*, we are stuck with the rather arbitrary Diogenes numbering for now.

[13] Epicurus probably means the contents of the *Letter to Herodotus*, which he refers to earlier in *Pyth.* 1 [85] as 'τὰ λοιπὰ' and 'τῶν λοιπῶν ὧν ἐν τῇ Μικρᾷ ἐπιτομῇ πρὸς Ἡρόδοτον ἀπεστείλαμεν.'

[14] On the meaning of the term μετέωρα in Epicurus and other ancient authors, see Bakker (2016, 76–161). Throughout this chapter, I will translate μετέωρα as 'meteorological phenomena', with the caveat that 'meteorology' must be understood in the Epicurean sense, as the realm of phenomena up in the sky. Epicurus did not subscribe to the Aristotelian distinction between a meteorology that deals with sublunary phenomena and an astrology/astronomy that deals with superlunary phenomena.

about the nature of death and about the limits of pain and desire could cause us undue worries — but what about meteorological phenomena?

The main aim of the *Letter to Pythocles* is to provide explanations of meteorological phenomena, rather than laying out why such explanations are conducive to happiness. But Epicurus does provide a number of useful indications in the methodological and ethical remarks that punctuate the treatise and separate the different explanations from one another.[15] From these remarks, we can distil several different aspects of the way in which suspicions about celestial phenomena can interfere with happiness. First, if our beliefs about what happens up in the sky are in conflict with the phenomena, the dissonance between our beliefs and the phenomena will jeopardize our peace of mind.[16] Second, meteorological phenomena are a main locus for religious superstition, and ignorance of what goes on in the heavens could lead to wrong notions of the gods, and so produce fear.[17]

These two concerns — which, as we shall see, are closely related — together motivate what is known as the 'doctrine of multiple explanations'.[18] Throughout the

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[15] The notion that the ethical remarks serve as punctuation comes from Bollack and Laks (1978, 14).

[16] This point comes up in *Pyth. 2* [87]: 'for our life does not now need subjective theory [or 'irrationality'] and empty opinion, but that we live without disturbance' οὐ γὰρ ἰδιολογίας [or ἤδη ἀλογίας] καὶ κενῆς δόξης ὁ βίος ἡμῶν ἔχει χρείαν, ἀλλὰ τοῦ ἀθορύβως ἡμᾶς ζῆν. *Pyth.* 12[96]: 'For if someone is in conflict with what is evident, he will never be able to partake of genuine *ataraxia*' ἢν γάρ τις ᾖ μαχόμενος τοῖς ἐναργήμασιν, οὐδέποτε μὴ δυνήσεται ἀταραξίας γνησίου μεταλαβεῖν

[17] See *Pyth.* 14[97]: 'And let the divine nature not be brought in addition to this, but let it maintain its freedom from service and all its blessedness' καὶ ἡ θεία φύσις πρὸς ταῦτα μηδαμῇ προσαγέσθω, ἀλλ' ἀλειτούργητος διατηρείσθω καὶ ἐν τῇ πάσῃ μακαριότητι.

[18] There is a rich scholarly literature on the history and epistemology of the doctrine of multiple explanations. See, e.g., Asmis (1984, 321–30) Bakker (2016), Hankinson (2013), Jürss (1994), Wasserstein (1978). The ethical aspect has not garnered as much attention, and

Letter to Pythocles, Epicurus emphasizes that several different explanations are available for celestial phenomena, and that it would be a mistake to consider only one explanation the right one. The main reason for this is epistemological: since several explanations are equally consistent with the phenomena, choosing one over the others would be a groundless decision. But Epicurus stresses several times that this groundless decision would also have a theological dimension. It would lead us out of physics and into myth:

> ὅταν δέ τις τὸ μὲν ἀπολίπῃ τὸ δὲ ἐκβάλῃ ὁμοίως σύμφωνον ὂν τῷ φαινομένῳ, δῆλον ὅτι καὶ ἐκ παντὸς ἐκπίπτει φυσιολογήματος, ἐπὶ δὲ τὸν μῦθον καταρρεῖ. (*Pyth* 2[87])
>
> When someone accepts one theory and rejects another that is equally consistent with appearance, it is clear that he has fallen out of all natural science, and has blundered into myth.

To ignore alternative theories that are compatible with appearances and decide by fiat to follow one explanation not only means to abandon the methods of natural science altogether, but it also leads us to accept myth. The person who does this 'falls out of

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has sometimes been dismissed or neglected. Cyril Bailey (1926, 278), for instance, says that the ethical import of the theory is 'repeated *ad nauseam* throughout the letter'; and Frederik Bakker (2016, 8 n1), in a monograph devoted entirely to the doctrine of multiple explanations, relegates the ethical motivation behind it to a single footnote.

(ἐκπίπτει) natural science' and 'blunders (καταρρεῖ) into myth'. The methodological error is described in physical terms that suggest clumsiness as well as a lack of control: one methodological misstep leads to a fall out of science and into myth. The term 'myth' here is rich in meaning: the context suggests that 'myth' here has the metaphorical sense of groundless dogmatism or flights of fancy.[19] But elsewhere in the *Letter to Pythocles*, as we will see, Epicurus connects mythologizing to the belief that the gods interfere in human affairs. The verbs of falling and stumbling suggest the (now hackneyed) image of the slippery slope, and 'myth' is the inflection point on this slope where the danger moves from methodology to theology. The epistemological concern with groundless opinion thus opens up onto a theological concern about belief in divine intervention.

This theological concern amounts to the conviction that a wrong treatment of meteorology will lead to a wrong notion about the gods. In *Pyth*. 33[113], for instance, Epicurus writes:

> τὸ δὲ μίαν αἰτίαν τούτων ἀποδιδόναι, πλεοναχῶς τῶν φαινομένων ἐκκαλουμένων, μανικὸν καὶ οὐ καθηκόντως πραττόμενον ὑπὸ τῶν τὴν ματαίαν ἀστρολογίαν

[19] This is the reading espoused by Hankinson (2013), who contends that in this passage, Epicurus uses 'myth' to mean 'unfounded dogma' rather than 'religious superstition', while acknowledging that the latter meaning is more common in Epicurus. I hold that the term 'myth', while certainly implying unfounded dogma, is chosen precisely to evoke the specter of religious superstition.

> ἐζηλωκότων καὶ εἰς τὸ κενὸν αἰτίας τινῶν ἀποδιδόντων, ὅταν τὴν θείαν φύσιν μηθαμῇ λειτουργιῶν ἀπολύωσι.
>
> To attribute these phenomena to one cause when the appearances call for a plurality is madness and is wrongly done by enthusiasts of vain astronomy and by those who posit pointless causes for certain phenomena, while they in no way release the divine nature from service. (*Pyth.* 33[113])

The claim about the plurality of explanations here is quite strong. Rather than just recommending caution or a suspension of judgment when the appearances are insufficient to decide between theories, Epicurus here claims that the phenomena themselves can call for a plurality of explanations. The plurality of explanations is not an unfortunate side-effect of our limited access to the phenomena up in the sky, but multiple explanations best suit the intrinsic nature of the meteorological phenomena themselves. Somewhat frustratingly, Epicurus does nothing to back up this stronger claim. What he does do is dismiss the alternative, the quest for a single unified explanation, in strong terms. To accept one cause when several are called for is madness, it is unseemly or unethical (οὐ καθηκόντως is a rather strong term of condemnation for a methodological

error)[20] —and it enlists the divine nature, which in reality is without care and does not interfere in earthly affairs.

This is the doctrine of multiple explanations: the idea that, for certain phenomena, we should maintain a number of different explanations, rather than accept a single one. The details of this theory are a matter of some debate, but what is clear is that the doctrine is informed by Epicurus' views on epistemology and what we can call his 'scientific method'.[21] One major complication is that our best sources give different and conflicting accounts of the relevant epistemological principles.[22] For our purposes, we do not need to go into these in detail — I refer the reader to chapter 2 of Bakker (2016), citing only Bakker's summary from his introduction:

> A characteristic feature of these μετέωρα is that they can only be observed from afar and do not admit of more reliable observations. In these circumstances it is impossible to falsify every hypothesis about them, and we are forced to accept every theory that does not somehow conflict with other observations or with the basic tenets of Epicurean physics.[23]

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[20] Bollack and Laks (1978, 105) go so far as to translate it as 'un sacrilège'. The weaker translation of 'not appropriate' seems to me to be too weak, given the juxtaposition with 'madness'.

[21] Asmis (1984).

[22] Specifically, Sextus Empiricus (*Math.* 7.211-216) gives an explanation of the principle of non-contestation that seems inconsistent with Epicurus' own use of the principle in *Pyth.* (though it is possible Epicurus does use Sextus' version of the principle in *Hdt.*, see Bakker (2016, 17–18)

[23] Bakker (2016, 4)

Bakker's use of the term 'falsification' suggests the weaker reading, where the doctrine of multiple explanations merely cautions us not to unduly reject unfalsified theories. But the very next phrase introduces the puzzling factor: rather than asking us not to reject such theories, Epicurus (and with him Lucretius) claims that we are *forced to accept* them. This goes far beyond any Popperian caution, and is one of the reasons why the doctrine of multiple explanations has led to so much scholarly debate. As we have seen, though, Epicurus' phrasing really does suggest this stronger claim — and some Epicurean evidence suggests the even bolder claim that all of these explanations are equally true.[24] The combination of conflicting sources, textual problems, and *prima facie* implausible claims makes this debate particularly thorny, and I do not claim to have any answers — my aim in this section is to understand Epicurus' view of the emotional dynamics of inquiry, not to adjudicate this open question. But I will suggest a way forward: what I think is missing from the debate is an appreciation of Epicurus' emphasis on the ethico-theological motivation for the doctrine of multiple explanations. Perhaps epistemology alone can get us no farther than the recommendation not to reject unfalsified theories; but

[24] The most plausible reading of this claim is based on the doctrine of the plurality of worlds, combined with the infinity of time and space: every *possible* explanation of a given phenomenon is the *actual* explanation for that phenomenon in some cosmos at some time, and so is 'true'. This view may be implausible (see Bakker (2016, 28–31) for some reservations to this view), but is the least implausible of the readings that have been proposed.

a consideration of the ethical impetus behind our theorizing may help us understand why Epicurus would insist on keeping a plurality of explanations in view.

With that said, we still need to trace the exact path that leads from accepting a single explanation, along with mythology, to enlisting the gods. By what concatenation of arguments or of psychological events would the gods get involved if I insist that a lunar eclipse happens because the moon's light is extinguished, while I reject the hypothesis that it happens because some other celestial body comes between moon and earth (or sun and moon)?[25] We might read Epicurus' remarks as implying that there three related but separate risks to accepting a single explanation, which form three points on a slippery slope: (a) groundless opinion; (b) mythologizing; and (c) invoking the gods. Once we accept groundless opinions into our system of beliefs about the heavens, we have implicitly rejected perception as a criterion of truth, which makes us fall out of natural science altogether. When that has happened, it is hard to keep traditional beliefs about divine intervention at bay; if we are willing to form a judgment that goes beyond what can be established by perception, why not believe that the gods move the heavens?[26]

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[25] Example from *Pyth.* 13[96], also discussed in Lucretius *DRN* 6.751-771.

[26] It is relevant at this point that Lucretius (and, to a lesser extent, Epicurus himself — see *Pyth.* 34[114], which I discuss below) is greatly impressed with the influence that priests have on our beliefs. The slide from methodologically sloppy thinking into theological thinking may not be logically cogent, but it is certainly culturally potent.

In the *Letter to Herodotus*, the different strands are more clearly separated. In the final section of the letter (§§76-82, the section that includes the passage on θάμβος), Epicurus deals with the same material as in the *Letter to Pythocles*, but in a different order, and with different methodological priorities. The *Letter to Herodotus* specifies that the concern about leaving the gods out of explanations is particularly relevant to our beliefs about the heavenly bodies, which are neither directed by gods (§76), nor are themselves gods (§77). Epicurus here takes a stand against the consensus of previous philosophers including Plato and Aristotle, that the stars are gods.[27] Indeed, in the *Letter to Pythocles* Epicurus attributes these wrong beliefs about the gods to 'vain astronomy' (τὴν ματαίαν ἀστρολογίαν), which can include technical mathematical astronomy as well as the philosophers' theories about the heavens.[28]

In the version presented in the *Letter to Herodotus*, the injunction to leave the gods out of astronomy is more or less independent of the epistemological point that one should not choose between theories that are equally consistent with the phenomena.[29] Epicurus emphasizes that the absence of divine intervention is not subject to multiple possible explanations, but is a simple and absolute fact:

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[27] For references, see Pease's commentary to *ND*, 641-642.

[28] On Epicurus' relation to mathematics (including astronomy), see Sedley (1976); Bakker (2016, 42–58) gives an extensive and nuanced discussion of Lucretius' attitudes towards technical astronomy (polemicizing against a comment by Cyril Bailey).

[29] Epicurus discusses the theological point in §§76-77 and the epistemological point in §80.

καὶ μὴν καὶ τὴν ὑπὲρ τῶν κυριωτάτων αἰτίαν ἐξακριβῶσαι φυσιολογίας ἔργον εἶναι δεῖ νομίζειν, καὶ τὸ μακάριον ἐν τῇ περὶ μετεώρων γνώσει ἐνταῦθα πεπτωκέναι καὶ ἐν τῷ τίνες φύσεις αἱ θεωρούμεναι κατὰ τὰ μετέωρα ταυτί, καὶ ὅσα συγγενῆ πρὸς τὴν εἰς τοῦτο ἀκρίβειαν· ἔτι τε οὐ τὸ πλεοναχῶς ἐν τοῖς τοιούτοις εἶναι καὶ τὸ ἐνδεχόμενον καὶ ἄλλως πως ἔχειν, ἀλλ’ ἁπλῶς μὴ εἶναι ἐν ἀφθάρτῳ καὶ μακαρίᾳ φύσει τῶν διάκρισιν ὑποβαλλόντων ἢ τάραχον μηθέν. καὶ τοῦτο καταλαβεῖν τῇ διανοίᾳ ἔστιν ἁπλῶς εἶναι. (*Hdt.* 78)

Moreover, one should consider that the task of natural science is to ascertain the cause of the most important things, and that the happiness in knowledge about meteorological phenomena falls in this realm and[30] in [understanding] what the natures seen among these particular meteorological phenomena are and whatever is akin to precision in this respect. Furthermore [one should consider] that what is in many ways and what is capable of being otherwise does not belong to these matters, but that in an imperishable and blessed nature there can be nothing whatsoever that suggests disagreement or trouble. And it is possible for thought to grasp that this is simply the case.

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[30] Bollack et al. (1971, 240) take this καὶ as explicative; my translation preserves Epicurus’ vagueness.

Though the Greek is convoluted and different interpreters and translators have different takes on the precise structure of the sentence, the sense is clear enough for our purposes: the knowledge of meteorology promotes human happiness by teaching us that the gods are not involved in the affairs of our heaven and earth. Moreover, this is not a matter of conjecture, of uncertainty, or of multiple possibilities: we can establish that it is simply (ἁπλῶς, in contrast to πλεοναχῶς) the case. While the *Letter to Pythocles* emphasizes the need to avoid unqualified and single explanations, the *Letter to Herodotus* says that some things, such as the absence of divine intervention itself, are precisely *not* subject to a plurality of explanations.

Epicurus goes on to draw a contrast with the part of meteorology that does *not* promote human happiness, which coincides with the part that *does* admit of multiple explanations. This is the passage we cited above, that includes the remark on astonishment. We cite it again:

> τὸ δ᾽ ἐν τῇ ἱστορίᾳ πεπτωκὸς τῆς δύσεως καὶ ἀνατολῆς καὶ τροπῆς καὶ ἐκλείψεως καὶ ὅσα συγγενῆ τούτοις μηθὲν ἔτι πρὸς τὸ μακάριον τῆς γνώσεως συντείνειν ἀλλ᾽ ὁμοίως τοὺς φόβους ἔχειν τοὺς ταῦτα κατιδόντας, τίνες δ᾽ αἱ φύσεις ἀγνοοῦντας καὶ τίνες αἱ κυριώταται αἰτίαι, καὶ εἰ μὴ προσῄδεσαν ταῦτα· τάχα δὲ καὶ πλείους, ὅταν τὸ

θάμβος ἐκ τῆς τούτων προσκατανοήσεως μὴ δύνηται τὴν λύσιν λαμβάνειν κατὰ[31] τὴν περὶ τῶν κυριωτάτων οἰκονομίαν. διὸ δὴ καὶ πλείους αἰτίας εὑρίσκομεν τροπῶν καὶ δύσεων καὶ ἀνατολῶν καὶ ἐκλείψεων καὶ τῶν τοιουτοτρόπων ὥσπερ καὶ ἐν τοῖς κατὰ μέρος γινομένοις, καὶ[32] οὐ δεῖ νομίζειν τὴν ὑπὲρ τούτων χρείαν ἀκρίβειαν μὴ ἀπειληφέναι, ὅση πρὸς τὸ ἀτάραχον καὶ μακάριον ἡμῶν συντείνει. (*Hdt.*, 79-80)

But [one should consider] that what falls under the investigation of rising and setting and turning and eclipse and whatever is akin to that contributes nothing anymore to the happiness of knowledge; but those who have observed these things but are ignorant of the natures and the most important causes have fears just as if they did not know them. Perhaps they even have more fears, since the astonishment that arises from the additional contemplation of these [phenomena] cannot find a resolution in accordance with the arrangement concerning the most important things. That is why we search for multiple causes of the turnings and settings and risings and eclipses and similar things, just as in things that happen in detail. And one should not think that our treatment of these matters has not achieved the necessary accuracy, as far as it contributes to our lack of disturbance and happiness.

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[31] κατὰ Gassendi : καὶ MSS..
[32] καὶ Meibom : ἢ MSS. : ἧν Usener.

We have already remarked on the striking contribution that astonishment makes in this passage: it allows Epicurus to suggest that an overly detailed investigation into meteorological phenomena would not just be useless, but actually detrimental when it comes to our happiness. This is because a detailed investigation could lead to fear, through the intermediary of an unresolved astonishment.

The key to understanding the dynamics here is the phrase 'since the astonishment that arises from the additional contemplation of these [phenomena] cannot get a resolution in accordance with the arrangement concerning the most important things'. Although this phrase is as obscure as many in the *Letter to Herodotus*, it does give us valuable clues on Epicurus' views as to the emotional dynamics of investigation. The case in which people who investigate particular meteorological phenomena feel even more fear than people who are completely ignorant is one in which an emotion occasioned by their observations cannot find a λύσις.[33] What does this mean? A number of translators have understood λύσις as meaning a solution to the problems posed by meteorology, rather than the resolution of the emotion of θάμβος. I object to that reading for two chief reasons. First, it would make the use of θάμβος as the grammatical subject into an odd synecdoche or personification; the investigator, in her failure to achieve happiness,

[33] Apelt (1921), O'Connor (1993), Balaudé (in Goulet-Cazé (ed.) (1999)), Strodach (2012), and Mensch (2018).

would be indicated with the name of an emotion. Second, if λύσις is not the resolution of an emotion but the solution to a theoretical problem, then this sentence tells us very little about the emotional dynamics of inquiry, while Epicurus' purpose here is to explain why people with some knowledge may have more fear — in other words, unpacking the emotional dynamics of inquiry is the whole point of this passage. I maintain, therefore, that λύσις has to mean 'resolution'. The point is that the emotion can get stuck, without finding its way out.

The phrasing also suggests what the way out might look like: we are dealing with a resolution 'in accordance with the arrangement concerning the most important things' (κατὰ τὴν περὶ τῶν κυριωτάτων οἰκονομίαν).[34] As usual with Epicurus, the phrasing is enigmatic — what exactly is 'τὴν περὶ τῶν κυριωτάτων οἰκονομίαν'? But it is plausible that this means something like the following: the cause of the astonishment, a natural phenomenon, needs to be embedded in the context of the 'most important things', that is, the chief materialist doctrines of Epicureanism, as well as its chief ethical tenets. Some explanations can be advanced, as long as they are in line with materialism, are consistent with the phenomena, and do not require false beliefs about such matters as death, pleasure, or the gods. And we can content ourselves with *multiple* explanations, rather

[34] Accepting Gassendi's conjecture of κατά for the MSS reading καί seems necessary to make this phrase comprehensible.

than searching for a unique explanation, since we only need to arrive at the degree of accuracy that will provide us with happiness.

If λύσις does mean 'resolution', and if we consider θάμβος as a near-synonym of θαῦμα (as I think we should here),[35] Epicurus' warning is actually consistent with the Aristotelian view of inquiry as a spiral, with wonder getting dispelled at each turn of the spiral. The obvious difference is that for Epicurus, moving on to a greater or higher wonder is not necessarily a good thing — Epicurus' spiral may be more like a downward spiral: in taking up an astonishment that cannot find a resolution you enter a spiral of fear. The aim seems to be to get rid of θάμβος, not to move on to a higher form of it.

What Epicurus adds that is absent from Aristotle is the note of fear. We can see from his choice of the word θάμβος that this fear is not only due to the lack of resolution — the initial feeling is already tinged with emotional disturbance. The difference between θαῦμα and θάμβος is one of emotional intensity: as the Callimachus fragment cited in

[35] A relevant parallel, roughly contemporary with Epicurus, is a fragment from Callimachus' *Aitia* (fr. 43b 1-2 in Harder (2012), fr. 43,84-85 in Pfeiffer (1949), from P.Oxy. 2080, col. II.). After Clio has told the narrator about the towns in Sicily, the narrator asks why the Boeotian town of Haliartus celebrates a Cretan festival. The narrator's question is introduced with the following lines:

ὣ[ς] ἡ μὲν λίπε μῦθον, ἐγὼ δ' ἐπὶ καὶ [τὸ πυ]θέσθαι
ἤ]θελον—ἦ γάρ μοι θάμβος ὑπετρέφ[ετ]ο̣—

Thus she ended her story, but I wanted to know this as well
—for, truly, my amazement was fed as she spoke—

Callimachus' θάμβος here is, as Fantuzzi and Hunter (2004, 59f.) observed, closely related to the wonder that Plato and Aristotle both place at the origin of philosophy. This parallel suggests that we are justified in considering Epicurus' use of the same word as also related to the discourse on wonder in philosophy.
More generally, in the Hellenistic period θάμβος seems to have been considered a Homeric equivalent for θαῦμα. The only authors who use θάμβος more often than θαῦμα are imitators of Homer, like Apollonius of Rhodes and Nonnus.

footnote 35 shows, θάμβος can function as a passion of inquiry; yet it implies a greater degree of disturbance than θαῦμα, and often comes close to fear.[36][37] We can hypothesize that the psychological distress from the wonder that sparks philosophical investigation is usually resolved quickly enough to make the net contribution to our happiness positive; but a wonder that cannot be resolved tips the scale in the other direction, leading to more fear than if we had never embarked on this investigation in the first place.

There seems to be a characteristic dynamic to this passion of inquiry, where it either can or cannot find a resolution. It is not clear whether this is dynamic is specific to wonder or is characteristic of all Epicurean emotions, since our knowledge of the Epicurean conception of emotions is very limited. The Epicurean sources we have do not contain much explicit theorizing about the emotions, and we have very little by way of analysis of particular emotions.[38]

Rather than rely on an Epicurean theory of emotions, let us try to make sense of the dynamics of wonder by looking at a particular example.

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[36] Cicero (*Fin.* 5.29.87) translates Democritus' ἀθαμβία (absence of θάμβος) as *animum terrore liberum*, suggesting that he would translate the Greek θάμβος with the Latin *terror*.

[37] In addition, I think Epicurus may hint at Democritus, who considers ἀθαμβία, or the absence of θάμβος, as the goal of life. For ἀθαμβία, see Democritus fragment A 169 DK (= LM D230). Warren (2002) does discuss Democritus' ἀθαμβία and the report that Epicurus' supposed teacher Nausiphanes took over the idea under a different name, but does not make the connection to Epicurus' use of the word θάμβος.

[38] This point is made by Annas (1989). Konstan (2008 chapter 1) makes the most of the sources we have, but this ends up being very slim. The most sustained Epicurean discussion of an emotion is *On Anger* by Philodemus, but it does not deal with passions of inquiry; its 'solution' for anger is couched in terms of rule by reason, not in terms of λύσις. Moreover, it has been argued that Philodemus' theory of emotions was influenced by Stoic conceptions on key points (see Tsouna (2007, 44–51)), making it of limited use for an understanding of Epicurus.

In his account of the origins of civilization in book 5 of *De Rerum Natura*, Lucretius also gives an account of the emergence of religion (5.1161-1240). People started believing that there are gods because they had visions in dreams (vss. 1169-1182), but also on the basis of their observations of the heavens:

> praeterea caeli rationes ordine certo
>
> et varia annorum cernebant tempora verti,
>
> nec poterant quibus id fieret cognoscere causis.
>
> ergo perfugium sibi habebant omnia divis
>
> tradere et illorum nutu facere omnia flecti. (*DRN*. 5.1183-1187)

> Moreover, they saw the workings of the sky in a fixed order and the various seasons of the year coming around, but they could not know by what causes this happened. So they had the recourse to attribute all to the gods and to make everything bend to their will.[39]

Early humans did notice (*cernebant*) the regularity of the motions of heavenly bodies, but they could not know the causes because atomism had not been figured out yet. Their ignorance of the natures involved and of the most important causes led them to them

[39] In translating Lucretius, I render his poetry into English prose.

believe in the gods. This happened not *in spite of* their perception of the regularity of the heavenly motions, but rather *because of* that very perception. If they had not noticed the regularity at all, they might have been better off emotionally.

Epicurus seems to have something like this in mind in the *Letter to Herodotus*: people who make enough observations of the heavens to become impressed with their regularity are more likely to experience wonder or astonishment than those who are completely ignorant of what happens up in the heavens.[40] Of course, a layperson in the ancient Mediterranean would have been much more intimately familiar with the motions of the heavenly bodies than we are today — absent mechanical clocks, the length of days and nights is crucial to the rhythms of life; absent GPS technology the stars are important for navigation; and absent light pollution, the night sky provides a marvelous spectacle. Moreover, in a society based on agriculture, the positions of the stars throughout the year serve as important pointers for when to plough, sow, reap, and put the herd out to pasture.[41] But the point stands: more knowledge of, say, the motions of the planets, of the eclipses of sun and moon, and of the ratios between lunar and solar calendars, would make one's astonishment at the regularity increase, but not provide a way to resolve that astonishment other than by positing some divine cause or nature.

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[40] This runs counter to the dynamics that the Pyrrhonian skeptics identify in the ninth mode, where regular contact diminishes wonder. See section 4.1.

[41] For the significance of the stars for agriculture, see Excursus 2 of West's commentary on Hesiod's *Works and Days* ((1978, 376–81).

Although Lucretius' scenario occurs in a speculative history of civilization, it is not mere speculation: there are a number of instances in the history of ancient Greek and Roman philosophy where the regularity of the motions of heavenly bodies is treated as evidence of their divinity.[42] The highest density of such arguments is found in book 2 of Cicero's *De Natura Deorum*. Consider the passage on the regular motions of the planets, which Balbus wraps up by saying 'when we see this [regularity] in the stars, we cannot but number them among the gods.'[43] As we have seen in the section on Stoic theology, wonder can be a powerful force in convincing us that the cosmos is ruled by a divine hand.

With the case study of Lucretius and with Cicero's Balbus in mind, let us return to Epicurus' *Letter to Herodotus* and the connection it makes between wonder (θάμβος), fear, and natural-scientific inquiry. Epicurus said that people who have observed meteorological phenomena but are ignorant of the main causes and natures may have more fear than people who are altogether ignorant. The reason is that 'the astonishment that arises from the additional contemplation of these [phenomena] cannot find a resolution in accordance with the arrangement concerning the most important things.' We can now parse this phrase further. Contemplation of celestial phenomena is known

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[42] See Pease's commentary to *ND* 2.16.43 (vol. 2, pp. 641-642) for an extensive list of parallel passages in Cicero, Plato, Aristotle, and Sextus.

[43] quae cum in sideribus inesse videamus, non possumus ea ipsa non in deorum numero reponere, *ND* 2.54.

to cause wonder and astonishment in anyone, but for those who study the patterns of motion, there is even more wonder in store. However, if one studies these patterns of regularity without a proper notion of the natures involved (namely, that they are not divine) or of the causes (namely, that they are blindly mechanical), this additional astonishment cannot be resolved. If one is able to consider these phenomena in the broader context of the central tenets of atomism and of other doctrines that are directly relevant to human happiness (in other words, in the context of τὰ κυριώτατα), one would see that the apparently astonishing regularities are just a result of the motions of certain types of atoms. Once embedded in this broader context, the wonder can dissolve and the path towards ἀταραξία is free. (It is possible that some kind of wonder is an appropriate feeling to have about atomism itself; we shall confront this possibility when discussing Lucretius).

At this point, it is worth remarking that the astronomers may not only jeopardize their own happiness, but also have an effect on their audience. In one of the ethical remarks of the *Letter to Pythocles*, Epicurus writes

> τὸ δὲ ἁπλῶς ἀποφαίνεσθαι περὶ τούτων καθῆκόν ἐστι τοῖς τερατεύεσθαί τι πρὸς τοὺς πολλοὺς βουλομένοις. (*Pyth.* 34[114])

> But to make unqualified assertions about these things is fitting for those who want to make some spectacle for the masses.

The topic under consideration here is the retrograde motions of planets. To talk about that as if we had some single explanation for that but to ignore the method of multiple explanations is fitting for those who want to put on a show for the masses. Again, we can think of Cicero's Balbus, who makes a grand rhetorical display of the amazing fact that the planets have regular motions *in spite of* their oddities. (Epicurus' word for 'making a spectacle', τερατεύεσθαί, is closely related to the semantic field of marvels and wonders.) Presumably, the unresolved astonishment of the astronomers can also rub off on the less knowledgeable. Like Lucretius' priests (*DRN* 1.102-126), Epicurus' astronomers can spread fear by spreading groundless beliefs.

3.2. Wonder in Lucretius: demystification, explanation, habituation

In *De rerum natura*, Lucretius echoes Epicurus' warning that wonder arising from investigations can lead to fear. In a programmatic passage that occurs at the beginning both of book 5 and book 6, Lucretius says:

> nam bene qui didicere deos securum agere aevum,
>
> si tamen interea mirantur qua ratione
>
> quaeque geri possint, praesertim rebus in illis
>
> quae supera caput aetheriis cernuntur in oris,
>
> rursus in antiquas referuntur religiones
>
> et dominos acris adsciscunt, omnia posse
>
> quos miseri credunt, … (*DRN* 5.82-88 = 6.58-64)

> Those who have learned well that the gods lead carefree lives, if they meanwhile still wonder in what way everything can be carried on, especially in those matters which are observed above our head in the heavenly coasts, return to old religious beliefs and take on bitter lords, who the wretches believe can do anything, …

The context in which these words occur is similar to that in which Epicurus warns about wonder. In book 5, they come just after Lucretius has announced that he will explain the motions of the sun and the moon, so that we do not think that they move of their own accord or are moved by divine reason (5.76-81); an echo of Epicurus' admonitions in *Hdt.* 76-77. Lucretius goes on to discuss astronomy halfway through book 5, at vss. 509-770. In

book 6, textual difficulties make the exact context for the passage less clear[44] — specifically, it is not clear whether he refers to astronomy or to terrestrial occurrences like storms and earthquakes[45] — but the point is the same: wondering why things happen as they do can lead back to religion, even if you have the right beliefs about the gods.

But while Epicurus pointed out the emotional dynamics of inquiry to justify the doctrine of multiple explanations, in Lucretius, the concern about wonder pervades the entire poem. And while Epicurus merely offered a general warning about wonder leading to fear, Lucretius develops this warning into a rhetorical and didactic pattern: he insists time and again that this or that doctrine, phenomenon, or argument is not wondrous, and tells his addressee time and time again not to wonder at things.[46][47]

By my most conservative count,[48] Lucretius advises against wonder at least twenty times in the poem, using a variety of phrases and formulas, and prohibiting it in a variety of contexts. Phrases include statements with a prohibitive modal force like '*non est*

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[44] There is a probable lacuna after 6.47, and vss. 56-57 are a duplicate of vss. 90-91. Given these problems as well as the fact that the passage at 6.58-66 is a verbatim repetition of 5.82-90, it is likely that this is one of the places where the poem was unfinished at Lucretius' death.

[45] Of course from the Epicurean perspective these are all within the purview of 'meteorology'.

[46] Throughout, I will use general terms like 'addressee' and 'reader' to indicate Lucretius' audience rather than talk about the specific figure of Memmius. Memmius, though indicative of the kind of readership Lucretius expects for his poem (the Roman political elite), is largely an abstract stand-in for the reader; whatever didactic effect Lucretius anticipates his poem will have on Memmius also reflects on any reader of the poem.

[47] The frequency of this pattern is noted by Conte (1991, 50 n43): 'È veramente impressionante la frequenza di queste formule nel testo'.

[48] This count is based on Louis Roberts' 1968 *Concordance to Lucretius* (Roberts 1968), combined with a word search of the *Latin Library* pages for Lucretius (https://www.thelatinlibrary.com/), combined with a read-through of the whole poem. This read-through confirmed that the words of the stem *mir* are, in fact, the only words Lucretius uses to talk about wonder (with the possible exception of *divina voluptas* […] *atque horror* (3.28-29), on which see below). The other major group of Latin words for wonder, the family of *stupor*, does not occur in the poem. For *effects* of wonder that are not explicitly indicated with the vocabulary of wonder, see section 3 below.

mirandum', '*non est mirabile*', '*nec … mirabile debet / esse*', and '*minime mirabile habendumst*'.[49] There are some rhetorical questions to the effect of 'why should this be wonderful?'[50] Especially frequent are factual statements that something is, in fact, not wondrous, for which Lucretius uses variations on '*non est mirum*'.[51]

A less conservative count could also include the adverb *nimirum*, which Lucretius uses quite often (34 times, according to Roberts' concordance). Although the Latin adverb *nimirum* has generally lost its etymological connection to the concept of wonder and means something like 'of course', Lucretius uses the Latin language to defamiliarize this stock adverb and bring out its connection to wonder. In addition to the simple adverb *nimirum*, Lucretius plays with near-identical phrases like *nec mirum* (2.338), *neque enim mirum* (2.87) and *nec mirumst* (6.375), which, though almost equivalent to *nimirum*, have a much stronger tie to the vocabulary of wonder. As a result of this, the 34 occurrences of the adverb *nimirum* strongly resonate with the explicit statements that this or that is not wonderful.

[49] non est mirandum: 4.592, 4.858, 5.592; non est mirabile: 2.308; nec mirabile debet / esse: 5.666 and probably 2.465; minime mirabile habendumst: 4.256.
[50] cur igitur mirumst: 4.814; postremo quid in hac mirabile tantoperest re: 5.1056; quid mirum si: 5.1238.
[51] *non est mirum* and variations: 4.768, 4.814, 5.192, 5.748, 5.799, 6.489, 6.615, 6.1012.

Lucretius does more than just *say* that things are not wonderful; he also has an arsenal of argumentative, rhetorical and poetic strategies to undercut wonder. In the remainder of this section, I will lay out the different strategies.

3.2.1. Strategy 1: Explanation by analogy

In many cases, the wonderful situation is an apparent paradox, usually a clash between Epicurean theory and common sense. Sometimes, Lucretius resolves such paradoxes by means of analogy. For instance, Lucretius insists that it is no wonder that the smallest particles of all, soul particles, can move an entire human body (4.898-900): for the wind, too, is made of very fine particles, and it can move an entire ship; what is more, the ship can be steered by a helmsman's single hand because the ship is so constructed that it can harness the power of the wind, just like the human body is constructed in such a way that the soul can control every part of it. Lucretius also combines such analogies with (a version of) the method of multiple explanations.[52] After having explained that the sun and the heavenly bodies are exactly as large as they seem to be, he confronts the apparent paradox that the sun, though tiny, can light up the whole world and provide everything with heat:

[52] For the difference between Lucretius' and Epicurus' use of multiple explanations, see Hankinson (2013), esp. pp. 88-95.

> illud item non est mirandum, qua ratione
>
> tantulus ille queat tantum sol mittere lumen,
>
> quod maria ac terras omnis caelumque rigando
>
> compleat et calido perfundat cuncta vapore. (DRN 5.592-595 [5.590-593][53])
>
> This too must not be wondered at, how the sun, small as it is, can send out so much light, that it fills the seas and all lands and the sky by flooding it and drenches everything in warm heat.

For dissolving this paradox, Lucretius does not commit to a single explanation, but gives a number of possible analogies that, if they do not exactly *explain* the sun's abundant heat, at least make it possible for us to not be baffled by it. Perhaps the sun's light and heat flows from a tiny spring, just like a tiny spring of water can flood an entire plain (5.596-603). Perhaps the sun merely kindles light and heat that spread through the air on their own, just like one spark can set a whole field ablaze (5.604-609). And finally — here, Lucretius does not give an analogy — perhaps the sun is surrounded by some invisible heat that warms up the sun's rays as they pass through it (5.610-613).

[53] The necessary transposition of 5.594-595 to before 590 (Marullus) or before 586 (Cartault) changes the line numbers of this passage.

This is, of course, the doctrine of multiple explanations at work — a doctrine which Lucretius relies on especially in the last two books of his poem. Multiple explanations do not only occur in connection to analogies, but also to full-blown explanations (strategy 3, discussed in section 3.2.3 below). The difference is that analogies can suggest by means of a simple picture how something works in general, while explanations tend to go into more detail.

And although the epistemology of the doctrine of multiple explanations is vexed (specifically: do we or do we not need to commit to the truth of one of the options, or even consider all of them true?),[54] we can appreciate the emotional potency of this strategy: the sheer availability of a number of explanations that do not invoke any intentional planning or divine agency can give us confidence that there is, in fact, nothing to wonder at here. A barrage of analogies is particularly effective, since it relies on phenomena already familiar to us, while an explanation (as Lucretius gives, say, of the magnet in *DRN* 906-1086) can lead us into unfamiliar — and thus potentially wondrous — territory.

[54] See Bakker (2016, 13–31) for a discussion on whether all explanations are equally true; cf. also section 3.1 above.

3.2.2. Strategy 2: the force of infinity

Another strategy Lucretius uses to resolve paradoxes is to remind us of the force of infinity. When introducing the different shapes of atoms in book 2, Lucretius anticipates the reader's possible surprise: how could these tiny things vary so much in shape? But, Lucretius says, this is no wonder: since there are infinitely many atoms, they must of course (*nimirum*) also vary in shape (2.333-341). He goes on to give an analogy with larger-sized objects, which also vary in shape a lot (2.342-351), which bleeds over into the famous description of the mother cow seeking her calf. The method of dispelling wonder by pointing out the power of infinity sometimes goes hand in hand with warnings about avoiding divine intervention, as a reminder that avoiding wonder is also avoiding fear of the gods. At the beginning of book 5, Lucretius lingers on the theological view of the creation of the world (5.110-243), insisting that the gods have nothing to do with it. How would the gods even have known what to create, he says (5.181ff.), if a world had not already existed as a model for them, made by nature herself from the random collisions of atoms? He goes on:

> namque ita multa modis multis primordia rerum
>
> ex infinito iam tempore percita plagis
>
> ponderibusque suis consuerunt concita ferri

omnimodisque coire atque omnia pertemptare,

quaecumque inter se possent congressa creare,

ut non sit mirum si in talis disposituras

deciderunt quoque et in talis venere meatus,

qualibus heac rerum geritur nunc summa novando. (*DRN* 5.187-194)

For so many atoms of things have been carried in so many ways since infinite time, moved by blows and by their weight, and have come together in all ways and tried everything, and created whatever they could when meeting, that it is no wonder if they have also fallen in such arrangements and have come into such motions as those in which this current totality of things is carried on by renewing.

Given infinite time and an infinite number of atoms, the existence of the current world is not a freak accident or a divine plot, but simply the expected outcome of a natural process. If we realize the power of infinity, we will not wonder at such accidents, and that will help us get rid of the fear of the gods.

It is worth remembering that for Lucretius infinity is not charged with the frightful connotations it has for us.[55] While to the modern imaginary[56], infinity is mostly a cold and

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[55] As observed by Segal (1990, 74–75).

[56] Segal cites Pascal and Leopardi as instances. The history of emotional responses to the idea of infinity is long and multifaceted, and goes beyond the scope of this study. One relevant consideration, thought, is that half a century before Blaise Pascal, Giordano Bruno

dark abyss, Lucretius seems to be comforted by the thought of an infinite universe. This is not to say that infinity is not itself a wondrous spectacle: as we shall see in the next section (3.3), a large part of Lucretius' use of the sublime hinges on his invocations of immensity and infinity. The point to note here is that he explicitly invokes infinity to debunk apparent marvels, suggesting that an acute sense of the force of infinity is less disturbing than the smaller and more local marvels.

In book 6, Lucretius spells out the power of infinity to dispel wonder even more directly when introducing his explanations of volcanic eruptions. He opens the passage on volcanoes by announcing that he will explain why mount Aetna sometimes breathes fire, and giving an impressive description of the violence of an eruption and the fear it inspires (6.639-646). But before going on to the explanation of the volcano, Lucretius returns to the topic of the vastness of the universe and the way to dispel wonder:

> hisce tibi in rebus latest alteque videndum
>
> et longe cunctas in partis dispiciendum,
>
> ut reminiscaris summam rerum esse profundam

(probably under the influence of Lucretius) considered the idea of an infinite universe as calming for the intellect ('*da quel che dicendo il mondo interminato, nel modo nostra séguita quiete nell'intelletto*' — '*mondo*' here meaning the universe as a whole. Bruno (2002, 15) — §15 of the *proemiale epistola* to *De l'infinito, universo e mondi*). The shift from Bruno to Pascal probably has to do with two factors: Pascal's acceptance of the possibility of a vacuum (rejected by Bruno), and an appreciation of the enormous empty expanses in infinite space. For Bruno, the doctrine of an infinite universe follows from the notion that God is an infinite cause, and so produces an infinite effect: the Brunonian universe is one of abundance and creative plenitude. Pascal's universe, by contrast, is mostly dark and empty.

> et videas caelum summai totius unum
> quam sit parvula pars et quam multesima constet
> nec tota pars, homo terrai quota totius unus.
> quod bene propositum si plane contueare
> ac videas plane, mirari multa relinquas.

> You need to look broad and wide in these matters, and take a wide view in all directions, so that you remember that the sum of things is vast, and that you see how small a part one sky is of the whole sum, and what a fraction it is and not a whole part, as much as one man is of the whole earth. If with this in mind you perceive it clearly and see it clearly, you will stop wondering at many things. (DRN 6.647-654)

Rather than dive into the explanation of volcanoes at once, Lucretius takes a therapeutic detour, reminding us that keeping in mind the immensity of the universe can help resolve wonder at many things. This really is a detour: there is nothing in this passage that is specific to volcanoes; the reminder of the vastness of the universe is an elixir not just against wonder at volcanoes, but will dispel wonder at many things (*multa*). Again, our potential awe at the vastness of the universe itself does not seem to be an issue. This may be partly due to the fact that belief in an infinite universe might make us less likely to invoke divine intervention: in an infinite universe with a finite number of gods, the

probability that any event was caused by those gods is vanishingly small. But as we will see, Lucretius does address our potential wonder at the enormity of the cosmos when talking about the theory that there are many worlds just like ours in the universe (see section 3.2.3. below).

But the power of infinity is not alone here. After pointing this out, he embarks on an analogy: do any of us wonder, he asks (6.655: *numquis enim nostrum miratur*), when someone catches a fever or some other disease? Feet swell, teeth and eyes hurt, a disease called the 'sacred fire' creeps through the body and burns the limbs — all of this happens because there are so many different atoms flying around, including ones that cause disease. Since we do not wonder at this, it is implied, we should also not wonder that similar events — like swellings or inflammations — occur on the surface of the earth. In the volcano, wonder is once again connected with fear, and explanations are once again the means of dispelling wonder and stopping fear.[57]

3.2.3. Strategy 3: Habituation

We have seen the strategy of dispelling-by-explaining in action a number of times: one might feel wonder at a paradox, like the enormous light spread by a tiny sun, or at a

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[57] Cf. section 2.4.4 above, on Seneca's *NQ*.

particularly surprising phenomenon, like the eruption of a volcano. Lucretius provides the explanation — or at least a number of possible explanations — and once the explanation is there, the wonder is dispelled. In a sense, this strategy is consistent with Aristotle's account of the origin of philosophy: it begins in wonder, and ends in the opposite of wonder. But Lucretius' implementation of the strategy has an ethical dimension that is absent from Aristotle: getting rid of wonder is not a side-effect in the quest for wisdom, but a goal in its own right. This is why Lucretius can also endorse a second strategy to get rid of wonder that does not fit in with the Aristotelian framework (indeed, we will see that Lucretius introduces it in polemic opposition to an Aristotelian/Stoic tradition): dispelling wonder by sheer habituation.

Towards the end of book 2, Lucretius broaches a topic that he anticipates his reader will have a hard time accepting: that our world is not unique, but that there is a plurality of worlds in the universe.[58] Before even announcing what this shocking topic is, Lucretius softens the blow with a little speech about belief and wonder that is worth quoting at length:

[58] Diskin Clay (1983, 239–50) argues that this passage prepares the reader for the doctrine of the mortality of the world, rather than for the plurality of worlds. His reasoning is somewhat forced, though. The 68 lines following the passage about novelty (2.1048-1116) deal directly with the plurality of worlds, which nobody would deny is an odd doctrine that would warrant a heads up from the author. To argue that Lucretius' warning is really about the doctrine *after* the doctrine that directly follows is a stretch. Clay adds (p.240) that the 'more pressing question' is why Lucretius has been 'so oblique' in introducing the theme of the mortality of the world — ignoring that the less oblique way of reading the warning makes just as much sense.

nunc animum nobis adhibe veram ad rationem.

nam tibi vementer nova res molitur ad auris

accedere et nova se species ostendere rerum.

sed neque tam facilis res ulla est quin ea primum

difficilis magis ad credendum constet, itemque

nil adeo magnum neque tam mirabile quicquam

quod non paulatim minuant mirarier omnes.

principio caeli clarum purumque colorem,

quaeque in se cohibet, palantia sidera passim,

lunamque et solis praeclara luce nitorem,

omnia quae nunc si primum mortalibus essent,

ex improviso si sint obiecta repente,

quid magis his rebus poterat mirabile dici,

aut minus ante quod auderent fore credere gentes?

nil, ut opinor; ita haec species miranda fuisset.

quam tibi iam nemo fessus satiate videndi,

suspicere in caeli dignatur lucida templa.

desine quapropter novitate exterritus ipsa

exspuere ex animo rationem … (*DRN* 2.1023-1041)

> Now apply your mind to a true reasoning for me. For an intensely new thing struggles to approach your ears and a new sight of things to show itself. But nothing is so easy that it is not at first more difficult to believe, and likewise nothing is so large or so wonderful that everyone does not slowly stop wondering. First of all the clear and pure color of the sky, and what it holds in it, stars wandering everywhere, the moon and the shine of the sun with clearest light — if all this had now existed for mortals for the first time, if it were suddenly unexpectedly exposed, what could be called more wonderful than this, or what would people before then less dare believe would happen? Nothing, I think; so wonderful would this sight have been. But how nobody now deigns to look at the shining circuit of the sky, tired as they are with the satiety of seeing! Stop, therefore, spitting out reason from your mind, frightened by the very novelty.

Lucretius here identifies two related problems that an intensely new topic (*vementer nova res*) raises: it is hard to believe, and it instils wonder. While the two problems are so tightly linked that to solve one is also to solve the other, Lucretius nevertheless keeps them separate: he introduces them as two distinct issues in 1026-1027 and 1028-1029, separated by *item* in 1027, and again points them out separately within the thought experiment: the sudden appearance of the sky would both be hard to believe and would be the most wonderful thing. Towards the end of the passage, the relation between belief and wonder becomes clearer: the reason you might 'spit reason out from your mind' is that the novelty

which engenders wonder is scary. Once again, wonder and fear go together; but fear here is also a catalyst for disbelief.

In this passage, however, Lucretius does not give his usual recommendation of dispelling wonder by finding analogies or explanations. Instead, the point of the thought experiment is that wonder and disbelief simply fade over time. If something seems wonderful now, we can be sure that we will grow accustomed to it to the point where we do not even notice it anymore. Instead of seeking for an explanation for the color of the sky or the motions of the heavenly bodies, people have simply grown tired of looking at them (*satiate videndi*), and this has dulled their wonder. This seems to be Lucretius' recommendation for dealing with the doctrine of the plurality of worlds: if it seems unbelievable and/or awe-inspiring, just realize that wonder and disbelief will fade over time. In the other cases we have seen, explanation can serve as therapy to dissolve wonder. In this case, however, explanation is the very thing that will instill wonder: when it comes to the plurality of worlds, more information will not make the doctrine less amazing.[59] If the strategy of explanation fails, habituation will also do the trick.

We may suspect that this would also be Lucretius' answer to the charge that his invoking the enormity of the universe can dispel wonder. The obvious objection against

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[59] Note that the plurality of worlds is itself not susceptible to multiple explanations; in Epicurean terms, it belongs to the realm of the κυριώτατα.

that view is that the enormity of the universe is itself more likely to induce fearful awe than any merely terrestrial marvel like a volcano or earthquake. Lucretius might well give the same answer to that objection that he does to the concern about the doctrine of the plurality of worlds: just live with the idea of enormity for a while, and the awe will fade.

The thought experiment of people seeing the sky for the first time plays a didactic role, but it also serves as an implicit polemic, with Lucretius intervening in a broader debate about wonder and philosophy.[60] The image of people who suddenly see the sky for the first time harks back to a passage from Aristotle's lost dialogue *On Philosophy*, which Cicero's Stoic spokesman Balbus quotes approvingly in *De Natura Deorum* 2.95 (see section 2.2 above). These intertextual echoes show that Lucretius here is engaged not just in a didactic set-piece: he polemically reframes an Aristotelian thought experiment. In Cicero's rendition, the Aristotelian image is part of the argument from design / argument *ex admiratione*, meant to establish the existence of the gods and their providential rule of the world; Lucretius here re-uses the thought experiment, but focusing on wonder as a passion of inquiry rather than as a sign of divinity. The crucial difference between the

[60] The question of Lucretius' sources and Lucretius' philosophical influences is thorny. Bignone's judgment that Lucretius has Aristotle's *De Philosophia* before him when writing (Bignone 1936, 509 vol. II) is surely exaggerated, given that the intertextuality between *DRN* 2.1023ff. and the Aristotle fragment is not a matter of direct citation but one of borrowed imagery and thematic continuity. Clay (1997, 189) is right to point out that the game of guessing at Lucretius' sources and influences tends 'to treat Lucretius as if he were a transparent medium and to look through his *De rerum natura* to sight the distant figures just visible in its background.' We will avoid the questions of precise influence and look instead at the ways in which Lucretius assimilates and subverts an existing trope.

Lucretian and the Ciceronian/Aristotelian conception is that for Lucretius, the satiety is the natural state, whereas the initial excitement is a pathological reaction: it is when cooler heads prevail that the true significance of a phenomenon manifests itself.[61] By contrast, for Aristotle and Cicero, the satiety is a pathological state, and the natural state is one of wonder and reverence. The point of the thought experiment is to illustrate that our instinctive and unscripted reaction to seeing the heavens for the first time would be one of amazement; Aristotle and Cicero assume that this instinctive reaction registers the true significance of the experience.[62]

Lucretius comes back to the notion that habituation can cancel out wonder in his account of the origins of civilization in book 5. When describing early humans, Lucretius includes their reaction to the heavens:

> nec plangore diem magno solemque per agros
>
> quaerebant pavidi palantes noctis in umbris

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[61] Nightingale (2017)gives a different account of the contrast, where Lucretius' reversal of Aristotle switches the meanings of darkness and light. While she makes a compelling case that Lucretius associates atoms with darkness elsewhere in the *De rerum natura*, she ultimately reads the imagery of darkness (which is not a theme in the passage at *DRN* 2.1024ff, except *e contrario* from the mention of light) into the thought experiment itself. For instance, she describes the thought experiment as 'the sudden and first vision of the heavenly bodies after a life *lived in the dark*' (p.56, my emphasis); and summarizes it as 'Lucretius takes us on a journey into the dark' (p.57).

[62] Chroust (1976, 100) argues that 'Lucretius actually charges the Stagirite with having replaced rational or philosophical argumentation with "irrational emotionalism" which results from the suddenness of some particular sense experience'. While I largely agree with Chroust's interpretation, the notion that the contrast is one between 'irrational' Aristotle and 'rational' Lucretius goes a bit far: the material on wonder in both Aristotle and Cicero is still rational and argumentative, it just argues from emotional-phenomenological premises.

> sed taciti respectabant somnoque sepulti,
>
> dum rosea face sol inferret lumina caelo.
>
> a parvis quod enim consuerant cernere semper
>
> alterno tenebras et lucem tempore gigni,
>
> non erat ut fieri posset mirarier umquam
>
> nec diffidere ne terras aeterna teneret
>
> nox in perpetuum detracto lumine solis.
>
> sed magis illud erat curae, quod saecla ferarum
>
> infestam miseris faciebant saepe quietam. (*DRN* 5.973[272]-983)

> And they did not search for the day and the sun through the fields with loud moaning, wandering scared in the shadows of night, but they waited silently, buried in sleep, until the sun with its rosy face would bring light to the sky. For because they had always, from childhood on, been used to seeing shadows and light occur turn by turn, it could not happen that they would ever wonder, nor worry that an eternal night would hold the earth, the light of the sun having been taken away. But this was a greater concern for them, that the populations of animals often made sleep dangerous for the wretches.

It is somewhat surprising to find Lucretius devoting so much attention to this point: he introduces a strange fear that they might have had, only to say that they did not have that

fear.[63] Some Romans seem to have thought that primitive humans were afraid at night that the sun would not come up, so Lucretius has to refute them. But given Lucretius' insistence elsewhere on the link between wonder, novelty, and fear, we can surmise that Lucretius' interest here is ethical, not just polemical. The fact that these early humans could not ever wonder or doubt makes them, in some sense, models of the attitude that Lucretius tries to instill in us. They could not wonder because they trusted in their habitual experience: the sun has come up so many times before, so why would it not come up the next time? The suggestion behind this is: the perverse notion that it would *not* come up is not the notion of an ignorant person, but of someone who overthinks it — perhaps of a philosopher or an astronomer. While our natural state would be to *not* wonder, we are capable of working ourselves up into wonder. Unlike Epicurus' astronomers who feel astonishment from the contemplation of heavenly phenomena, Lucretius' primitives do not overthink it, and so do not get trapped in a wonder without resolution. Their night-time fears are not of their own making, but they have only the legitimate concern that animals may attack them.

However, although early humans are better off than us in this respect, that does not mean that they could do without philosophy. Lucretius also subscribes to the moral

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[63] Bailey (1947, 1497) calls it 'an almost disproportionate treatment of this theme', but concludes from parallels in Manilius and Statius that this must have been a prevalent view of primitive society.

of Epicurus' *Kyriai Doxai* 11-12: if we were never troubled by any suspicions, we would not need philosophy, so if the absence of doubt and wonder were sustainable and stable state, these primitive humans would lead the ideal life. But it is not sustainable or stable: Lucretius goes on to show that other frequently occurring experiences convince these same primitive humans that there are gods. The visions they have in dreams (5.1169-1174) and the regular movements of the celestial bodies (5.1183-1193) set them on a path to the fear of the gods. And only (Epicurean) philosophy can resolve these fears.

3.2.4. How the strategies interact

Habituation and explanation go hand in hand, as two complementary ways to get rid of wonder, two therapeutic techniques to be applied in different situations. Where explanation will not do the trick (as, for instance, when the object of wonder is itself an explanation — say, of the plurality of worlds), habituation is the way to go. But when habituation is insufficient (as, for instance, when we habitually see the regularity of the heavens and start to worry about the gods), explanation is needed.

But the strategies also overlap and blend in important ways. By bombarding us with a series of explanations and analogies, Lucretius is at the same time habituating us to seeing the world as fundamentally comprehensible in materialistic terms. Moreover, the strategy of analogy can often also be subsumed under the strategy of habituation. In

most cases, Lucretius uses more or less everyday phenomena as analogies to counteract the unfamiliarity of cosmic phenomena, obscure theories, or natural marvels. These analogies with everyday phenomena effect a sort of instant habituation. For instance, we may feel wonder at the notion that tiny soul-particles move the great mass of a human body, but we are very familiar with tiny wind particles moving the great mass of a ship (example from *DRN* 4.898-900). In this case, the analogy has very little explanatory force; all it does is turn a new and unfamiliar doctrine into a familiar image.

Like Epicurus, Lucretius sees wonder as a potential obstacle to happiness. But Lucretius is much more outspoken about the ways of dispelling wonder: analogy, explanation, and habituation will all do the trick, and the vastness of the universe plays a constant role in the background as a way of making unfamiliar things sound less unlikely. The strategies complement each other, interact with each other, and all contribute to a consistent lesson: do not wonder at natural phenomena. Because to avoid wonder means to avoid slipping into the fear of the gods.

3.3. The use of wonder: divina voluptas atque horror

3.3.1. A positive role for wonder?

While getting rid of wonder is generally a good thing, Lucretius also strikes a wistful tone when he exclaims 'how nobody now deigns to look at the shining circuit of the sky, tired as they are with the satiety of seeing!' (2.1038-1039) Although someone who does not even bother to look at the sky is less likely to feel fear than someone who gawks at the stars in amazement, neither of them gets it quite right. Is there some third way, an Epicurean form of life that includes a positive role for wonder?

The surviving writings of Epicurus give us very little information about this. The passage on θάμβος from the *Letter to Herodotus* (§79) is the only place where something like wonder comes up explicitly. While the point of that passage is that unresolved wonder leads to fear, it leaves open the possibility that wonder that *does* get resolved might be fine. If investigations into celestial phenomena can lead to wonder, it is likely that philosophical speculations do so too. And if there is any pleasure to be gained from philosophizing, wonder may very well be a factor in that. However, it is not clear whether Epicurus did in fact consider philosophy to be inherently pleasurable.[64] Even if he did, it

[64] The main sources for the notion that philosophy brings pleasure are the deathbed letter to Idomeneus (*DL* 10.22), where Epicurus contrasts his physical pain with the mental joy (τὸ κατὰ ψυχὴν χαῖρον) of remembering previous conversations; and *VS* 27, which states that in philosophy, pleasure (τὸ τερπνόν, ἀπόλαυσις) comes at the same time as knowledge (γνῶσις, μάθησις), while in all other activities enjoyment only comes after the work. The main question is what the nature of philosophical pleasure is. Long and Sedley (1987, 156) argue that this pleasure is kinetic, consisting 'not in freedom from mental pain but in the actual process of liberation from it.' Nussbaum (1994, 111 n113) argues that the pleasure described in the deathbed letter may be katastematic, and consist of 'the healthy functioning of the mind'. She does add that Epicurus would then not talk about the pleasure of *philosophy*, but just the pleasure of remembering friendly conversations.

is likely that this pleasure merely consisted in the awareness that mental disturbances are being dissolved — yet wonder would be one of the disturbances that get resolved by philosophy, so wonder would only be experienced as pleasurable when it is being dissolved.[65] But consider the parallel with pain: kinetic pleasure consists in the removal of pain, yet we do not say that pain is pleasant because its dissolution is pleasant. So if wonder can only be pleasant in its dissolution, does wonder really qualify as a pleasure? More importantly, though, any attempt to read a positive account of wonder into Epicurus' extant writings will be speculative at best, since the sources do not give us much to go on.

The other Epicurean sources also are not much help here. Cicero does not discuss Epicurean attitudes to wonder anywhere (the way he does for Stoicism, as we will see). Both Philodemus and Diogenes of Oenoanda do use the vocabulary of wonder on occasion, but neither discusses the significance of wonder in light of Epicurean theory, and their usage does not suggest any theoretical regimentation. Instead, they use the language of wonder in much the same way as any Greek prose author: in phrases like 'it is no wonder that…'[66] but also to express surprise or curiosity ('I wonder that …', 'I

[65] This is close to Aristotle's account in *Rhetoric* 1.11 (1371a31-34, cf. section 1.3 of this study): for Aristotle, wonder is pleasant because of its link with the desire to know, and its pleasure depends on the anticipated pleasure of knowledge. The difference with Epicurus and Lucretius, of course, is that Aristotle is not worried about the slippery slope from wonder to the fear of the gods.

[66] Diogenes fr. 9 col. 4 line 2 (following Smith's proposed reading [θαυμά]σωμεν), Philodemus *On Music* book 4 col. 34 line 5, *On Signs* col. 26 line 1.

wonder why …'),[67] to indicate that something is special or unique (especially with the adjective θαυμαστός),[68] or to indicate someone's respect for a person (x admires y).[69]

3.3.2. Sublimis Lucretius

The situation is more promising for Lucretius, as his poem does give some indications for a positive account of wonder.[70] Some of these take the form of explicit statements about wonder, but the most compelling evidence is in his poetic use of *effects* of wonder.

In addition to the prohibitions on wonder that we discussed in the previous section, Lucretius also uses words of the family of wonder in ways that are less negative. Many of these occurrences are consistent with the prohibitions and still end up casting wonder in a negative light. For instance, the adjective *mirus* shows up in contexts where wonder may lead to the fear of death or of the gods: Ennius' description of the ghosts of the dead paints them 'in wonderful ways' (*modis … miris*, 1.123), in our sleep we see wondrous figures (*figuras … miras*, 4.34-35) that we take to be ghosts of the dead, or we see wonderfully large figures (*mirando … auctu*, 5.1171) that we take to be gods because we see them performing miracles (*multa et mira … efficere*, 1181-1182), and the experience of

[67] Diogenes: fr. 39 col.5 line 7; Philodemus *On Death* col. 29 line 2 and col. 35 line 11, *On Poems* book 5 col. 6 line 28.
[68] Diogenes fr. 122 col. 2 line 8; Philodemus *On Music* fr. 106 line 33 (?).
[69] Philodemus *On Poems* book 5, col. 34 line 21; *Index Academicorum* col. 14 line 22, *History of the Stoics*, col. 9 lines 5-6.
[70] Because this positive role for wonder is almost entirely a matter of *poetic* effects, it is not clear to what extent Lucretius-the-poet follows Epicurean orthodoxy on this point. My conclusions in this section reflect only on Lucretius' specific vision of Epicureanism; we do not have enough material for any conclusions about whether these are views that Epicurus endorsed.

an earthquake can make us attribute wonderful powers to the gods (*potestatis magnas mirasque*, 5.1239). Lucretius may not come out and say that we should not wonder at these things, but the poem makes it clear that these are all things that need to be dispelled. Sometimes, Lucretius describes other people as wondering at something, implying that they have a wrong reaction to it — so the reaction of the *stolidi* to Heraclitus in 1.641, and the reaction of people to the shrine of Ammon (*hunc homines fontem nimis admirantur*, 6.850) and to magnets at 6.910. These passages do not give any reason to suppose that Lucretius thinks there is a positive role for wonder in human life.

In some passages, though, Lucretius seems to revel in wonder a bit more: in the descriptions of marvels in book 6, he occasionally points out the enormous force of thunder (*impete miro*, 6.186 and 6.328), or the wondrous boiling of the sea caused by waterspouts (6.437). Similarly, Lucretius describes an optical illusion in terms of wonder: you can see the whole sky reflected in a mere puddle, 'bodies wonderfully hidden in the sky below the earth' (*corpora mirande sub terras abdita caelo*, 4.419).[71] Of course these marvels and illusions too need to be dispelled in order to avoid the fear of the gods, so the wonder does not stay. Nevertheless, these descriptions do point at another side of

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[71] There is another place where Lucretius connects optical illusions to wonder, in 4.462, but the text is unclear. The MSS. have *cetera de genere hoc mirande multa videmus*, 'we see wonderfully many other things of this kind [i.e. optical illusions]. Editors have been tempted to emend the text to make the wonder refer to the optical illusions themselves rather than to their great number (which is justifiable given that one manuscript, l 31, reads *mirando*). Lachmann suggests *miracli*, Munro *miracula*; Bailey rejects these proposed emendations as 'all gratuitous' (Bailey (1947, 1236) and insists that the wonderful thing is the sheer number of optical illusions.

Lucretius: the marvels, though they ultimately need to be debunked, are also enjoyable for their own sake.

Lucretius' appreciation of wonder is clearest in his abundant use of effects of the literary sublime.[72] His poetry is full of vertiginous effects — soaring flights towards the enormous expanse of space, the seething and teeming of minute atoms, the paradoxes of being and non-being, the juxtaposition of vivid images with technical discussions, to name just a few. It is no wonder that Ovid gave Lucretius the epithet *sublimis*:[73] for an author who preaches against wonder, Lucretius uses wonder to great poetic effect.

There is a real tension between this *sublimis Lucretius* and Lucretius the debunker. Like many of the tensions in Lucretius (such as those between his anti-religious message and his use of myth, between pathos and ἀταραξία, between poetry and philosophy), this tension opens up a space for interpretation — what are we to make of the tension? Is Lucretius' text inherently split and multiple? Is one side of the tension the *real* Lucretius while the other is merely a surface effect? Or is there some way to make sense of the tension while also taking it seriously *qua* tension?[74]

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[72] On Lucretius and the sublime, see (1991, chap. 1), Porter (2007), and Porter (2016, 445–54).
[73] Ovid, *Amores* 1.15.23.
[74] For a useful account of different ways of reading the tensions in Lucretius, see Sharrock (2013).

3.3.3. The honey, the cup, the vaccine

The tension of writing wonderfully against wonder has been pointed out by a number of scholars;[75] and has invited different interpretations. A road that some have taken is to argue that the thaumatophobia in Lucretius is not the final word on the subject; that amazement, awe and wonder are the truly Lucretian sentiment, while the pronouncements against wonder do not count for much.[76] One of the most explicit statements of this position is that of James Porter:

> Lucretius' surface lesson, 'And if you kept my proposition clearly in mind, you would cease to wonder at *many* things' (6.653–4), is too easily understood as an injunction not to wonder at *anything* (*nil admirari*) in nature. But that is surely the wrong conclusion to draw. After all, even the reflection of the sky in a puddle is a 'marvellous' thing (*mirande*), both as an appearance of nature and as an index to the wondrous truths of physics.[77]

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[75] For instance, Schrijvers (1970, 265): 'Ce qui distingue Lucrèce de l'auteur du Περὶ ὕψους, c'est que notre poète éveille d'abord chez le lecteur des sentiments de *miratio* pour les supprimer ensuite'; Fowler (2002, 386): 'There is of course a certain tension between the constant reassurance that the world is not full of *mirabilia* and the poetic interest in the strange and the marvellous', Nightingale (2017, 68): 'In spite of Lucretius' claims to dispel wonder, his poem offers a wondrous depiction of the phenomena in the world and universe.' My account of the tension owes much to the treatment in Gale (2001, 26–27).

[76] To cite just two examples, Shorey (1901, 207) writes that Plato and Lucretius '[b]oth approach the investigation of nature in a spirit of glad wonder and awe'; while Segal (1990, 7) writes that '[t]he world for Lucretius is a place of marvels. His wonder even borders on a sense of the sacred.'

[77] Porter (2007, 173; 2016, 452). Italics only in Porter 2016.

While it is true that not wondering at *many* things does not imply not wondering at *anything*, it is *not* true that the single example of the sky in a puddle cancels out Lucretius' repeated insistence not to wonder at this, that, and the other. The passages where Lucretius tells the reader not to wonder far outweigh the few passages where we might read a positive aesthetic appreciation into his use of wonder language.[78] It is not so clear that Lucretius ultimately wants us to consider the 'appearance of nature' as a marvelous thing. It is even more dubious whether the truths of physics are, ultimately, meant to be wondrous — consider again the reassurance at 2.1023ff, that no truth is so wonderful that we cannot get used to it.[79] Whatever pleasure there may be had from the aesthetic appeal of wonder, Lucretius' concerted efforts to undercut wonder show that the pursuit of happiness is better served by debunking wonders than by indulging in them.

At the same time, it would be wrong to ignore the effect of the sublime and pretend that Lucretius' thaumatophobia is the whole story.[80] This would be, quite literally, too prosaic a reading of Lucretius. The message may be anti-wonder, but the effects of wonder are there in the poetry, even if not always marked by explicit vocabulary of

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[78] The only clearly positive instances are in the praise of Sicily and Empedocles at 1.726-733 (on which see below), early humans' wonderful powers of hand and foot at 5.966, and early humans' excited reaction to the invention of dancing at 5.1404.
[79] Porter's insistence on the 'irresistible, even erotically compelling' attraction of natural prodigies and wonder (Porter 2016, 425) shows that he imports conceptions from Longinus into his reading of Lucretius. While Longinus considers the sublime and the wonderful as irresistible (ἄμαχον, *[Longinus]* 1.4, 35.2), the lesson in Lucretius is that nothing is so great or wonderful that it cannot be overcome. For the contrast between the Lucretian and the Longinian sublime, see Most (2012).
[80] Porter (2016, 452 n193) ascribes this view to Conte (1991) and Mazzoli (1996).

wonder. Even if Lucretius ultimately ends up dispelling that wonder, we would not do justice to the richness of *De rerum natura* without giving some account of how the sublime poetry relates to the thaumatophobic philosophy.

In general, a productive way to approach tensions between the poetry and the philosophy in Lucretius is through the imagery of the poetic honey on the rim of a cup of bitter philosophical medicine.[81] In this particular case, though, that image fails to give an adequate account of the tension. A crucial element in Lucretius' image of the honeyed cup is that the patient 'though charmed may not be harmed' (Bailey's felicitous translation of the pun *deceptaque non capiatur*, 1.941/4.16): in the image, the honey of poetry does not impede the effectiveness of the philosophical medicine. In Lucretius' use of wonder, though, there is a very real risk that the poetry may stop the philosophy from working: the philosophy is meant to dispel our wonder at natural phenomena, while the poetry builds up our wonder at those same phenomena. A more helpful lens through which to read this tension is Lucretius' didactic mission.[82] The dynamics of building up wonder and knocking it down — bunking and debunking — seems to be a deliberate strategy that Lucretius uses repeatedly to get the reader to recognize a pattern: no matter

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[81] *DRN* 1.935-950, 4.10-25.
[82] As suggested by Gale (2001, 26–27).

how sublime the marvel, philosophy can deflate it. So Lucretius courts the tension as a didactic strategy.

Let us look at a particularly clear example of Lucretius' strategy in action. One of the marvels that Lucretius discusses is the fact that the sea is constant in size. Within the catalogue of mirabilia in book 6, the size of the sea is, at first glance, an outlier. Next to thunderstorms, earthquakes, volcanoes, and even magnets, the stable size of the sea is only a minor league marvel. Yet Lucretius manages to build the wonder up quite a bit, before knocking it down:

> Principio mare mirantur non reddere maius
>
> naturam, quo sit tantus decursus aquarum,
>
> omnia quo veniant ex omni flumina parte.
>
> adde vagos imbris tempestatesque volantis,
>
> omnia quae maria ac terras sparguntque rigantque;
>
> adde suos fontis; tamen ad maris omnia summam
>
> guttai vix instar erunt unius adaugmen;
>
> quo minus est mirum mare non augescere magnum. (*DRN* 6.608-615)

> First of all they wonder that nature does not make the sea bigger, since there is such a flowing of water into it, since all streams come to it from all sides. Add the wandering

> rains and flying storms, all things that spatter and moisten seas and lands, add its own founts, yet all this will barely be equal to the addition of a single drop to the sum of the sea; so that it is less wonderful that the sea does not grow big.

The poetry here builds up the amazement, so that the reader gets to share in the wonder of the anonymous 'they': with so many sources of water flowing in from all sides, why does the sea not grow? The language creates a sense of the enormity of all the sources flowing into the sea by force of repetition (*quo* … *quo*, *omnia* … *omni* … *omnia*, *adde* … *adde*), by creating an effect of enumeration through addition with *-que* (*imbris tempestatesque*, *sparguntque rigantque*), not to mention the flourish of alliterative chiasmus in '*<u>v</u>agos imbris tempestatesque <u>v</u>olantis*'.[83] Yet just as he has made the wonder at the constant size of the sea palpable, Lucretius knocks the wonder down again: all of the enormity of the contributing sources is as nothing compared to the much greater size of the sea, 'barely equal to a single drop' — so that it is, in fact, not wonderful that the sea does not grow. The knock-down is skillful: he could have waxed poetic about the much greater size of the sea, but that would only have replaced one enormity with another. Instead, he cleverly diminishes the size of the sources by comparing it to a drop, while only

[83] For a similar rhetorical reading of a different passage in Lucretius, see Kenney (2007, 99–101). Kenney's intent is to illustrate Lucretius' use of the *genus acre* of rhetoric, not to analyze Lucretius' employment of wonder, but his reading does take wonder into account.

describing the sea with the rather neutral *maris omnia summam*. The final effect is not one of enormity but of banality: all of those different sources really do not amount to much. Lucretius then goes on to add even more reasons why the sea remains at a constant size: the sun makes water evaporate, the wind takes water away, the clouds absorb water and pour it out over the land, and the earth absorbs water and spews it back out at the sources of rivers.

What does Lucretius gain by building up the wonder before knocking it down? First of all, he keeps our attention: the stable size of the sea does not promise to be an exciting topic, but by making us feel the implausibility he gets us to feel invested in this argument. Moreover, there is an exemplarity to this deflation of wonder, as there is to each one of Lucretius' debunkings: the point of it is not just to explain a particular phenomenon, but also to exhibit how explanation works in general.[84] The spectacle of explanation involves, among other things, a demonstration of the emotional dynamics of wonder. By instilling wonder in the reader and then taking it away, Lucretius can habituate the reader to the feeling of wonder, and instill the confidence that any wonder felt at natural phenomena will not last. Here, explanation and habituation go hand in hand.

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[84] Cf. Bollack and Laks' remark on Epicurus' *Letter to Pythocles*, that it is 'le paradigme d'une pratique' (Bollack and Laks 1978, 17).

This was one of the lessons that the poet Horace drew from Lucretius. Towards the end of *Satire* 1.5, the poet and his companions pass through the town of Gnatia, where the locals try to convince them that at the sanctuary, incense burns without fire. Horace is not impressed:

> …dein Gnatia lymphis
>
> iratis exstructa dedit risusque iocosque,
>
> dum flamma sine tura liquescere limine sacro
>
> persuadere cupit. credat Iudaeus Apella,
>
> non ego: namque deos didici securum agere aevum,
>
> nec si quid miri faciat natura, deos id
>
> tristis ex alto caeli demittere tecto. (Horace, *Satires* 1.5.97-103)

> Then Gnatia, founded after angering the waters, gave us laughter and jest, when it tried to persuade us that incense burns without fire at the sacred threshold. Apella the Jew may believe it, but I do not: for I have learned that the gods lead carefree lives, and that if nature does anything wonderful, it is not dour gods who send it down from the high roof of heaven.

The reason Horace gives for his disbelief is '*deos didici securum agere aevum*', an almost verbatim quotation of the Lucretian line '*nam bene qui didicere deos securum agere aevum*' (*DRN* 5.82 = 6.58). In other words, Horace, unlike the Gnatian rustics (or the proverbial superstitious Jew), has read his Lucretius.[85] The lesson he has learned is that anything wonderful that happens has some non-theological explanation. Crucially, though, Horace gives no real explanation for how they do make the incense burn — all he knows is that Lucretius must be right and that there must be *some* rational explanation available. Coffey comments that '[a]n effect of burlesque is suggested by the use of the weighty language of Lucretius to crack the nut of a minor superstition',[86] and while this may be true, the burlesque still shows that Lucretius' didactic mission was a success: rather than dispel wonder only for a limited catalog of *mirabilia*, Lucretius teaches the reader that *any* marvel, whether major or minor, has a rational and materialistic explanation, and that wonder is never the appropriate reaction. He manages to instill this lesson not just by telling the reader that this is the case, but by demonstrating time and again how even impressively wonderful phenomena are susceptible to being debunked.

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[85] Andrew Horne suggested to me that the joke may go both ways: in addition to mocking the superstition of the locals, Horace may also be mocking the intellectual posture of the 'enlightened' Romans who think they know how the world works because they have read some Lucretius. Whether Horace is serious or satirizing the Roman cultural elite makes no difference for the reading of Lucretius implied in this passage, though.

[86] Coffey (1976, 75).

Wonder is not the honey at the rim of the cup, nor is it the medicine itself. Another (anachronistic)[87] medical metaphor is more appropriate for the use of wonder in Lucretius' poem: what Lucretius does is *inoculate* his reader against wonder. By exposure to wonder as well as to the process of dispelling, Lucretius can instill in his reader a confidence that nothing is so wonderful that it cannot be debunked. He makes the reader immune to wonder by applying controlled doses.

3.3.4. The wonder of the philosopher

The fact that Lucretius builds up the wonder before knocking it down also makes his debunkings that much more spectacular. Indeed, if there is any wonder left at the end of Lucretius' explanations, it is a wonder at Lucretius' ability to debunk wonders. This, too, is there in the poetry. To return to our earlier case study, in dismissing the whole impressive array of sources of water as 'barely equal to the addition of a single drop', Lucretius performs a verbal magic trick, as it were: he turns an enormous range of sources of water into just a single drop.[88] So by courting wonder, Lucretius does not dispel

[87] The earliest recorded instances of inoculation go back to the 16th century in China and India; see Boylston (2012) with references.
[88] He performs a similar trick in the passage on wonder and scale that introduces the explanation of volcanic eruptions (6.647-652): the heaven we can see is but a small part of the universe, as small a part as a human is of earth — that is, our heaven is smaller than the universe by the same ratio with which one human is smaller than our earth. This aesthetic effect of stacking numbers or ratios to create effects of enormous size is not unique to Lucretius: Hellenistic mathematicians similarly used the enormous sizes of the earth and the heavens as a part of the 'carnival of calculation' (see Netz (2009, 54–58)).

wonder completely; instead, he can redirect our wonder from the natural phenomena to the mind that can grasp it.

This is apparent not just in Lucretius' own poetic use of wonder, but also in his descriptions of other philosophers — and not only of the master Epicurus. In book 1, Lucretius evaluates both Heraclitus and Empedocles in terms of the love and wonder they inspire. In Heraclitus' case, love and wonder are undeserved:

> Heraclitus init quorum dux proelia primus,
> clarus ob obscuram linguam magis inter inanis
> quamde gravis inter Graios qui vera requirunt.
> omnia enim stolidi magis admirantur amantque,
> inversis quae sub verbis latitantia cernunt,
> veraque constituunt quae belle tangere possunt
> auris et lepido quae sunt fucata sonore.

> Their leader Heraclitus enters the fray first, famous for his dark speech more among the petty than among weighty Greeks who seek the truth. For fools have more wonder and love for everything that they see hidden under twisted words, and they consider as true those things that can touch the ears nicely and that are colored with a clever sound. (1.638-644)

Heraclitus, cast here as the leader of those who say that fire is the beginning of all things,[89] is the object of wonder/admiration and love, but for the wrong reasons and by the wrong people: rather than any real insight, Heraclitus just gives impressive-sounding paradoxes.[90]

This stands in sharp contrast with Empedocles, who gets a glowing recommendation. Lucretius introduces Empedocles by giving an enthusiastic tour through Empedocles' native Sicily, guiding us along the sea, the strait of Messina with Scylla and Charybdis, the Etna — but Empedocles is the highlight of the tour:

> quae cum magna modis multis miranda videtur
>
> gentibus humanis regio visendaque fertur,
>
> rebus opima bonis, multa munita virum vi,
>
> nil tamen hoc habuisse viro praeclarius in se
>
> nec sanctum magis et mirum carumque videtur.

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[89] Scholars have read Heraclitus as a mere figure-head in this passage, either as a stand-in for monism in general, or as an avatar of Stoicism (largely based on the pun stolidi which recalls stoici; but see Montarese (2012, 185–208) for a more subtle discussion of the ways in which the critique of Heraclitus recalls elements of the Stoic philosophy of language); as Tatum (1984) argues, Lucretius' parody of Heraclitus' style shows that Lucretius' criticism is certainly also aimed at Heraclitus himself. I would add that the joke at the expense of the Stoics (whose admiration for Heraclitus is well attested, see Long (1975)) does not detract from the general point Lucretius makes about reasons for admiring or despising authors.

[90] For a discussion of the meaning of *inversis verbis* see Piazzi (2005, 31–33) Piazzi (ed.). Lucretius' parody of Heraclitus in this passage may reinforce the cheapness of Heraclitus' effects: by imitating it, Lucretius shows that it is easy to imitate a dark paradoxical style (as well as create an out-group of fools who just do not get it — another Heraclitean tendency; see Marković (2009)).

> carmina quin etiam divini pectoris eius
>
> vociferantur et exponunt praeclara reperta,
>
> ut vix humana videatur stirpe creatus. (*DRN* 1.726-733).
>
> While these things seem great and wonderful in many ways to the human peoples and the region is said to be worth seeing, rich as it is in good things, and defended by a great force of men, yet it seems to have had nothing more eminent in it than this man, nor anything more holy and wonderful and dear. Yes, the songs of his divine heart cry out and set out his clearest findings, so that he hardly seems born of human stock.

While Heraclitus was admired and beloved only by fools who liked him for his obscurity, Empedocles is 'holy and wonderful and dear' for his findings and his clarity — the *praeclara reperta* are both 'famous' and 'very clear'. Although Lucretius keeps a slight distance by making the praise grammatically dependent on *videtur* (it *seems*), the contrast with Heraclitus nevertheless makes it clear that wonder at Empedocles is much more justifiable than wonder at Heraclitus. And the reason for this is in Empedocles' skill in philosophy: his 'divine heart' (the heart, for the Epicureans, is the seat of the mind) and his *praeclara reperta*.

Notably, the 'wonders' of Sicily will largely be dispelled by the end of the poem. Charybdis is not mentioned again, but Lucretius demythologizes Scylla twice: once by

showing that the image of Scylla comes from a mixing of simulacra (4.732), and once by arguing that a creature like Scylla cannot physically exist (5.893). The Etna is treated as the volcano *par excellence* in book 6, where Lucretius demystifies not volcanic eruptions in general, but specifically those of the Etna. But the mind of Empedocles is never demystified — even if Epicurean physics ends up not being identical to Empedoclean physics, Lucretius gives us no reason to think that we should avoid feeling awe at the mind of a great philosopher.

The greatest awe is reserved for the greatest philosopher. In the hymn to Epicurus that opens book 3, Lucretius describes his emotion at contemplating the enormous achievements of his Master:

> his ibi me rebus quaedam divina voluptas
>
> percipit atque horror, quod sic natura tua vi
>
> tam manifesta patens ex omni parte retecta est. (*DRN* 3.28-30)

> At these things a certain divine pleasure takes hold of me and a shudder, because by your force nature is so clearly uncovered, opened up on all sides.

While these lines are often taken as evidence of Lucretius' awed attitude towards the Epicurean *universe*, Lucretius gives a very specific reason for his 'divine pleasure and

shudder': it is not the contemplation of the universe itself, but the contemplation of Epicurus' achievement in laying the universe bare. The truly sublime thing is not the world, but the intellect that manages to make the world comprehensible.[91]

Lucretius may generally advise against wonder, and may teach the reader to avoid feeling wonder at natural *mirabilia*, but wonder at philosophy and at the force of the philosopher's mind is not an issue. The problem with the former kind of wonder is that it makes us slip into religion: wonder at natural phenomena opens the door to belief that nature is governed by gods. The second kind of wonder, wonder at philosophy itself, still has a strong theological connotation: Lucretius describes not only Epicurus in divine terms but Empedocles too. Yet wonder at these 'divine men' is not dangerous in the same way: to wonder at their intellectual achievements is to wonder at the capacities of the *human* mind.[92][93]

[91] This thought is a cornerstone of Kant 's account of the sublime (*KdU* §23, 5:245-246). Conte, in his essay on Lucretius and the sublime (Conte 1991) reads Lucretius through this Kantian lens: the sublime effects only happen when there is a reader to activate them, which ties the use of the sublime in with the didactic mission of the poem. I am fundamentally in agreement with Conte's conclusions, but want to emphasize that those conclusions can also be reached independently from the Kantian framework; in fact, it allows us to follow Lucretius' lead in separating the bad wonder at natural phenomena from the good wonder at the mind, rather than seeing the wonder at natural phenomena as uplifting in spite of Lucretius' repeated warnings.

[92] Most distinguishes between a theocentric Longinian sublime on the one hand, and on the other hand a Lucretian sublime, which 'venerates a form of human heroism possible within a universe that has been left by the gods to its own devices' (G. Most 2012, 249). While I agree with the distinction, I would argue that both are present within the *De rerum natura*, as 'bad' wonder at natural phenomena (corresponding to the Longinian sublime), and 'good' wonder at human heroism. Moreover, if we allow that the discourse of wonder is connected to the sublime, Most's assessment that 'Lucretius does not express anywhere an explicit theory of the sublime' (ibid.) is not quite right: while Lucretius nowhere gives a theory of the *sublime*, there are many places where he adumbrates a theory of the *mirum*.

[93] The possibility that we might start worshipping these philosophico-heroic humans as if they were gods is very real — Epicureans organized a true cult around the veneration of their master. They seem not to have been too worried about the emotional ramifications of this, though; presumably, venerating Epicurus would imply following his teachings, which would include maintaining a proper attitude towards this very veneration.

This positive wonder also reflects back onto the reader: as the spectacle of explanation unfolds before us, we share in Epicurus' understanding of the world, making us become more like Epicurus. To wonder at Epicurus, or to wonder at Lucretius' poem, is also to wonder at ourselves and our capacity to overcome fear, to overcome ignorance, and to overcome wonder. Lucretius can take us to a place where, rather than be captivated by the wonders of nature, we can look down at everything from a safe and calm distance:

> sed nihil dulcius est, bene quam munita tenere
> edita doctrina sapientum templa serena,
> despicere unde queas alios passimque videre
> errare atque viam palantis quaerere vitae (*DRN* 2.7-10).

> But nothing is sweeter than to occupy the high regions, well-protected by the calm learning of sages, from where you can look down on others and see them wander everywhere and look straying for a way of life.

Chapter 4. Pyrrhonian skepticism

> Signs are taken for wonders
>
> —T.S. Eliot, "Gerontion", 1920.

4.1. The ninth mode

We have seen in this study that wonder was among the central concerns for the main schools of the Hellenistic period — in Stoicism, it appears both as an appropriate attitude towards the cosmos and as an ethico-emotional risk; while the Epicureans see wonder as a slippery slope towards religious fear, and consider dispelling wonder as one of the goals of natural philosophy. It is no surprise, then that the third of the Hellenistic schools, that of Pyrrhonian skepticism, also has something to say about wonder.[1]

There are two places in particular where wonder (θαῦμα) shows up in the surviving sources on Pyrrhonism. First of all, wonder is one of the domains of application for the Ten Modes of suspension — patterns for argumentation that helped the skeptic reach the goal of ἀταραξία. In their expositions of the ninth mode, that of the 'frequent

[1] I leave the rich and fascinating topic of Academic skepticism aside in this study, as I have not found any material that suggests a properly academic approach to wonder. See Bett (1998, 198–200) on the evidence of Carneades' polemics against the Stoics (referred to by Cicero in book 3 of the *Tusculan Disputations*); Bett acknowledges that this is the only material we have on Academic skepticism and emotions. Cicero's own approach to wonder is heavily filtered through his sympathy for Stoicism, and so cannot be taken as evidence of an Academic theory.

and the rare', both Diogenes Laërtius and Sextus Empiricus rely on examples of wonder/astonishment. We will discuss the ninth mode and its relation to wonder in this section (4.1).

In the next section (4.2), we will look at the other place in Pyrrhonist skepticism where we find a role for wonder. Diogenes Laërtius attributes to the Skeptics not only the modes of suspension, but also a number of 'modes of persuasion', that is, ways in which we come to hold beliefs. The last of these modes is that of 'things wondered at' (τὰ θαυμαζόμενα, *DL* 9.78) — a puzzling inclusion, since it is not clear how something's being an object of wonder gives it the power to persuade us.

Finally (4.3), we will discuss a skeptical poem found in the manuscripts of Sextus Empiricus, which suggests that the Stoic and Epicurean tendency to consider the sage a thing of wonder also made it into the skeptical tradition.

First, we turn to the modes of suspension. For Pyrrhonian skepticism, our main sources, Diogenes Laërtius and Sextus Empiricus, both confirm that wonder was among the central concerns. The backbone of early skepticism consisted of the Ten Modes — patterns for argumentation that helped the skeptic reach the goal of ἀταραξία. Among

the ten modes of skepticism, there is one that is concerned with wonder. This is the ninth mode,[2] that of the 'frequent or rare'. Here is Diogenes' pithy account:

> ἔνατος ὁ παρὰ τὸ ἐνδελεχὲς ἢ ξένον ἢ σπάνιον. οἱ γοῦν σεισμοὶ παρ' οἷς συνεχῶς ἀποτελοῦνται οὐ θαυμάζονται, οὐδ' ὁ ἥλιος, ὅτι καθ' ἡμέραν ὁρᾶται. (*DL* 9.87)
>
> The ninth mode is that in accordance with the continuous or strange or rare. Earthquakes are no cause for wonder among people where they occur frequently, nor is the sun a cause for wonder, because it is seen every day.

This mode is not just concerned with the usual and rare, but also with what is and is not a cause for wonder — earthquakes, which are among the canonical marvels in the Greek imaginary, are not wondered at by people who frequently experience earthquakes; while the sun, for all its dazzling splendor, is not a cause for wonder because we see it every day. As we will see below, the ninth mode is not strictly *about* wonder: in Sextus Empiricus' exposition, it deals with a broader class of value judgments. However, both in Diogenes and in Sextus, cases of wonder and astonishment are key examples of the targets of the ninth mode.

[2] It is the ninth mode in both Diogenes and Sextus, but Diogenes claims that Sextus put it tenth. See Annas and Barnes (1985, 29–30) for a discussion of the numberings (with a collation table).

We will first try to get a broader view of the skeptical project and the function of the modes before going into the role of wonder in the ninth mode. Pyrrhonian skepticism promised its followers ἀταραξία, or unperturbedness — the same end goal that Epicurus preached. Unlike the Epicureans, however, the Pyrrhonists had no theories of their own. Instead of a set of doctrines, skepticism is a procedure or an ability. Here is Sextus Empiricus' definition of skepticism:

> ἔστι δὲ ἡ σκεπτικὴ δύναμις ἀντιθετικὴ φαινομένων τε καὶ νοουμένων καθ' οἱονδήποτε τρόπον, ἀφ' ἧς ἐρχόμεθα διὰ τὴν ἐν τοῖς ἀντικειμένοις πράγμασι καὶ λόγοις ἰσοσθένειαν τὸ μὲν πρῶτον εἰς ἐποχήν, τὸ δὲ μετὰ τοῦτο εἰς ἀταραξίαν. (*PH* 1.8)

> Skepticism is an ability of opposing what appears and what is thought in any way whatsoever, from which we proceed through equipollence in opposed things and words first towards a suspension [of judgment], and after this towards unperturbedness.

Sextus goes on to unpack the definition almost word by word, specifying that almost all of it can be understood in different ways — consistent with the skeptical practice of not

sticking to a single understanding of things.[3] Although the final aim may be to reach ἀταραξία, this emotional goal is really achieved as a byproduct of the quest for the suspension of judgment (ἐποχή) — the famous image Sextus uses is that of a painter who throws a sponge at a painting in frustration, and, in so doing, accidentally creates a successful effect of foam on a horse's mouth (*PH* 1.28). So although the final hope is that of ἀταραξία, the immediate aim which the skeptic works to achieve is suspension of judgment; and ἀταραξία follows on suspension 'as a shadow follows a body'.[4]

Like the Epicureans and the Stoics, the Skeptics aimed not just to reform their beliefs, but also their emotions. The skeptics aim for 'unperturbedness in matters of belief, and moderate feeling in matters of necessity.' (*PH* 1.12) These two aims are both oriented towards emotions: ἀταραξία is an emotional state as well as a cognitive state. The distinction is in the field of application. As Sextus explains, a skeptic will be bothered by cold and thirst — the end goal is not ἀπάθεια in the sense of complete insensitivity. However, the skeptic will be bothered only by the (unavoidable) experience, and not by the (avoidable) belief that this experience is a bad thing. The twin emotional aims, then, are ἀταραξία in matters that are subject to judgment, and μετριοπάθεια in other matters.

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[3] This commitment to non-commitment can make the language of skepticism notoriously slippery and self-referential. The classical challenge for scholars of skepticism is the question of whether such a doctrine is theoretically viable (can it be made consistent enough to be plausible?) as well as practically livable (can one really go through life like this?). Both questions are still very much open. See especially Burnyeat (2012).

[4] *PH* 1.29: ἐπισχοῦσι δὲ αὐτοῖς οἷον τυχικῶς ἡ ἀταραξία παρηκολούθησεν ὡς σκιὰ σώματι. The phrasing here may give us some pause — is it really τυχικῶς for a shadow to follow a body?

The principal tools with which the skeptic hopes to arrive at the suspension of judgments are the modes (τρόποι, *PH* 1.31): patterns of argumentation which oppose appearances and thoughts in such a way as to lead to the suspension of judgment. The traditional list among the 'old skeptics' (παρὰ τοῖς ἀρχαιοτέροις σκεπτικοῖς, 1.36) has ten different modes, which Sextus is quick to point out are only appearances, all of which may equally well be wrong. The 'more recent skeptics' (οἱ δὲ νεώτεροι σκεπτικοί, 1.164) use a list of five modes, while some even reduce the number down to two (1.178-179). In what follows, we will focus only on the ten modes of early skepticism, as they are the only among the different lists that deals with wonder in some way.

Sextus devotes about half of the first book of the *PH* to expounding the ten modes. Given this attention to them, and given their crucial position as tools for arriving at suspension, we would expect the ten modes to be central to Sextus' own writings. But he hardly ever uses the ten modes, and when he does, his application of them is often at odds with his exposition in the first book of *PH*.[5] As far as I can tell, Sextus never makes use of the ninth mode in his extant writings. This discrepancy between theory and practice may be partly due to the difference between the 'early' skepticism that adhered to the ten modes and the 'more recent' skepticism that favored the five. In practice, Sextus

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[5] Bett (2019, 108–29) has the most extensive discussion of this issue, and concludes (p.128) that 'the Modes are nowhere near as important as they sound when Sextus introduces them in the first book of Outlines.' The mismatch between theory and practice is noted by Woodruff (2010, 208).

is more modern, but in his exposition of skepticism, he is conservative — Bett talks of the 'historical baggage to which [Sextus] feels some loyalty'.[6] But this makes it considerably more challenging to interpret the ten modes, as we have only expositions of them (in Sextus, Diogenes, and, to some extent, in Philo), and are not sure how they would actually have been used.

One particular challenge is to understand why you would need as many as ten modes, when, by Sextus' own admission, they can all be seen as species (or even sub-species) of the eighth mode, that of relation (*PH* 1.39). The most minimal modern reconstruction of the structure of the modes is as follows:

(1) x appears F in situation S.

(2) x appears F^* in situation S^*.[7]

Where F^* is always in some way incompatible with F. In other words, the modes all allow us to contrast opposing appearances by contrasting the different situations in which appearances arise. Additionally, the skeptic posits the equipollence (ἰσοσθένεια) of the two:

[6] Bett (2019, 128).

[7] Annas and Barnes (1985, 24)

(3) we cannot prefer S to S* or *vice versa.*

Which leads to the suspension of judgment:

(4) we can neither affirm nor deny that *x* is really F or really F*.[8]

This reconstruction may be supplemented with more premises, and additional background principles may be needed to make it all work (e.g. the principle of non-contradiction),[9] but this is the basic pattern: by opposing situations of equal validity, we can arrive at a suspension of judgment on any appearance. The basic outline of each of the modes is contained in the mode of relativity: x appears F in relation to S, and appears F* in relation to S*. So why ten different modes?

Rather than being ten different kinds of arguments, the ten modes provide the skeptic with different areas in which to seek for opposing situations. For instance, the first three modes deal with the differences between animals, the differences among

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[8] Annas and Barnes (1985, 25)

[9] See Hankinson (1995, 139–44) for a more in-depth reconstruction of the required premises and principles.

humans, and the different structures of the organs of sense: these are three different areas from which to pick (counter)examples for arriving at the suspension of judgment.

Rather than introduce a new argument, then, the ninth mode introduces a field of application for the basic argumentative pattern of the skeptical modes. Traditionally, the ninth mode has not been very popular among interpreters. Philo, in his account of skepticism, omits the ninth mode altogether, prompting the remark from Annas and Barnes that 'some will sympathise with Philo for omitting what might be thought to be the feeblest of the Ten Modes.'[10] Other treatments of skepticism also give the ninth mode short shrift — Richard Bett does not even mention it in a book on Skepticism,[11] nor does Ben Morison in his influential work on the topic.[12] But one lesson we have learned in this study is that wonder was a serious concern for those philosophical schools and sects that served as interlocutors for the skeptics. It should be no surprise, then, if a capacity for dispelling or creating wonder would also be a part of the skeptic's toolbox.

We will now turn to Sextus' account of the ninth mode, to see how the capacity to create and dispel wonder might contribute to the good life as the skeptics conceived of it.

Sextus Empiricus' account of the ninth mode is longer than Diogenes', and more instructive about how this skeptical process can work: it shows how anything apparently

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[10] Annas and Barnes (1985, 147).
[11] Except to point out the confusion about the numbering (2019, 93).
[12] Morison (2018, 286)

wonderful can be debunked, while anything apparently mundane can be elevated to a marvel by imagining a different context. While Diogenes phrases the effect of rareness in terms of θαυμάζειν (wonder), Sextus uses the vocabulary of ἔκπληξις (astonishment).[13] Since Sextus' account is rather long, I will comment on it part by part.

> περὶ δὲ τοῦ κατὰ τὰς συνεχεῖς ἢ σπανίους συγκυρήσεις τρόπου, ὃν ἔννατον ἐλέγομεν εἶναι τῇ τάξει, τοιαῦτά τινα διέξιμεν. ὁ ἥλιος πολλῷ δήπου ἐκπληκτικώτερός ἐστιν ἀστέρος κομήτου· ἀλλ' ἐπεὶ τὸν μὲν ἥλιον συνεχῶς ὁρῶμεν, τὸν δὲ κομήτην ἀστέρα σπανίως, ἐπὶ μὲν τῷ ἀστέρι ἐκπλησσόμεθα ὥστε καὶ διοσημείαν αὐτὸν εἶναι δοκεῖν, ἐπὶ δὲ τῷ ἡλίῳ οὐδαμῶς. ἐὰν μέντοι γε ἐννοήσωμεν τὸν ἥλιον σπανίως μὲν φαινόμενον, σπανίως δὲ δυόμενον, καὶ πάντα μὲν ἀθρόως φωτίζοντα, πάντα δὲ ἐξαίφνης ἐπισκιάζεσθαι ποιοῦντα, πολλὴν ἔκπληξιν ἐν τῷ πράγματι θεωρήσομεν. (*PH* 1.141)

> On the mode according to frequent or rare occurrences, which we said is ninth in the ordering, we say something like the following: the sun is surely much more astonishing than a comet, but since we see the sun all the time but the comet rarely, we are so astonished at the comet that we consider it a portent, but we are never astonished at the

[13] Sextus' initial examples (earthquakes, comets, the sun) would have sufficed to place the ninth mode squarely in the philosophical discourse on wonder even if we did not have Diogenes' more θαῦμα-centered account.

> sun. But when we consider that the sun appears rarely and disappears rarely, that it brightens everything at once and suddenly makes everything darken, we truly will conceive of great astonishment in the thing.

Although the ninth mode is ostensibly about common and rare occurrences, the examples immediately turn to wonder and astonishment. Sextus provides a clear example of how astonishment is context-dependent: the only reason a faint comet is considered more striking than the bright sun is that the sun appears every day, but the comet only rarely. By a simple thought experiment — or perhaps even a reframing[14] — we can consider the sun as an object of great wonder.

Note that this manipulation of astonishment goes in both directions: debunking wonder (as with the comet) and raising it (as with the sun). This is a marked departure from the Epicurean *modus operandi*, where debunking was the main aim when it comes to natural marvels. As we will see again below, this is a characteristic of suspending judgment: the positive and the negative must balance each other out, so that we can neither say 'this is wonderful', nor 'this is not wonderful'.

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[14] The Greek is not clear whether the considerations on the sun are imaginary or real. Both are possible readings: either we could imagine counterfactually that the sun rises and sets very rarely (as we know now that it does on Venus), or we could reframe the ordinariness of the sun by considering not its continuous shining but the (relatively rare) moment of its rising or setting, as well as the wondrous property of sunlight to instantly bathe things in light and cast dark shadows. (This latter property is highlighted by Cicero/Balbus/Aristotle in the cave passage in *ND* 2.95.) See Annas and Barnes (1985, 149–50) for a discussion of Sextus' use of thought experiments in his exposition of the ninth mode.

Sextus continues:

> καὶ ὁ σεισμὸς δὲ οὐχ ὁμοίως θορυβεῖ τούς τε πρῶτον αὐτοῦ πειρωμένους καὶ τοὺς ἐν ἔθει τούτου γεγενημένους. πόσην δὲ ἔκπληξιν ἀνθρώπῳ φέρει θάλασσα πρῶτον ὀφθεῖσα. ἀλλὰ καὶ κάλλος σώματος ἀνθρωπίνου πρῶτον καὶ ἐξαίφνης θεωρούμενον συγκινεῖ μᾶλλον ἡμᾶς ἢ εἰ ἐν ἔθει τοῦ ὁρᾶσθαι γένοιτο. (*PH* 1.142)

> The earthquake too does not trouble the one who experiences it for the first time as much as those who have grown used to it. And what astonishment the sea brings to those who see it for the first time! But even the beauty of a human body moves us more when we behold it for the first time and suddenly than when it becomes something we see habitually.

These examples continue the logic of manipulating the effect of an object by imagining it to be more rare or less rare than it actually is.[15] What these examples add, though, is a sense of the emotional stakes. It is clear that the aim here is not to weigh factual assertions about earthquakes, but to manage emotions: the key verb here is θορυβεῖ, 'trouble' or

[15] Annas and Barnes (1985, 147) make much of the distinction between seeing something *rarely* and seeing something *for the first time*. While I take the point that Sextus introduces two different scenarios without flagging them as such, they are both ways for an occurrence to be non-habitual, and the difference is not all that important here.

‘disturb’. As mentioned before, earthquakes are canonical reasons for people to fear the instability of nature; while astonishing human bodies can be objects of arousal and desire.

The introduction of human beauty also suggests that the ninth mode focuses not just on wonder, but on a broader category of value judgments (and the emotions that result from them). In Diogenes’ shorter account, the only examples were the sun and earthquakes, but Sextus’ version shows that there is more going on. The ninth mode contributes to the goal of ἀταραξία not just by dispelling marvels: it helps us to defuse our strong feelings about objects ranging from earthquakes to attractive bodies.

Sextus continues unpacking the logic behind this:

> καὶ τὰ μὲν σπάνια τίμια εἶναι δοκεῖ, τὰ δὲ σύντροφα ἡμῖν καὶ εὔπορα οὐδαμῶς. ἐὰν γοῦν ἐννοήσωμεν τὸ ὕδωρ σπανίζον, πόσῳ ἂν τῶν τιμίων εἶναι δοκούντων ἁπάντων τιμιώτερον ἡμῖν φανείη. ἢ ἐὰν ἐνθυμηθῶμεν τὸν χρυσὸν ἁπλῶς ἐπὶ τῆς γῆς ἐρριμμένον πολὺν παραπλησίως τοῖς λίθοις, τίνι δόξομεν ἔσεσθαι τοῦτον τίμιον ἢ κατάκλειστον οὕτως; (*PH*, 1.143)

> What is rare appears to be valuable, but what is habitual and abundant not at all. If we consider water to be rare, how much more valuable would it seem to us than everything which appears valuable. Or if we imagine gold simply scattered on the ground in great quantity like stones, do we think it would be as valuable or precious to anyone?

Where the previous examples suggested a strategy for reaching emotional equilibrium with the examples of earthquakes and human bodies, this example suggests an economic law of supply and demand (which I have emphasized by translating τίμιος with 'valuable').[16] The point is to argue that value is not inherent in objects, but is relative to the availability of the object.[17] But judgments of value are key to many Greek conceptions of the emotions — and as we have seen, judgments of high value are central to understanding wonder. A facility for reaching a suspension of judgment in matters of value would go a great way towards ἀταραξία: we have already seen how it can help with fear (earthquakes) and desire (human bodies); the economic consideration here suggests a moderation of wealth-related emotions like envy, as well as wonder at displays of precious materials.

Finally, Sextus sums up the discussion:

ἐπεὶ οὖν τὰ αὐτὰ πράγματα παρὰ τὰς συνεχεῖς ἢ σπανίους περιπτώσεις ὁτὲ μὲν ἐκπληκτικὰ ἢ τίμια, ὁτὲ δὲ οὐ τοιαῦτα εἶναι δοκεῖ, ἐπιλογιζόμεθα ὅτι ὁποῖον μὲν

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[16] Annas and Barnes (1985, 147–48) treat this mode as dealing with two distinct features — the astonishing (which they render as 'the striking') and the valuable. On my reading, the 'astonishing' is a form of wonder, and as we have seen above, value is already encoded in wonder.

[17] Compare the 'diamond-water' paradox of value in Adam Smith: 'Nothing is more useful than water: but it will purchase scarcely anything; scarcely anything can be had in exchange for it. A diamond, on the contrary, has scarcely any use-value; but a very great quantity of other goods may frequently be had in exchange for it.' (Smith 1937, 28)

φαίνεται τούτων ἕκαστον μετὰ συνεχοῦς περιπτώσεως ἢ σπανίας ἴσως δυνησόμεθα λέγειν, ψιλῶς δὲ ὁποῖον ἔστιν ἕκαστον τῶν ἐκτὸς ὑποκειμένων οὐκ ἐσμὲν δυνατοὶ φάσκειν. καὶ διὰ τοῦτον οὖν τὸν τρόπον περὶ αὐτῶν ἐπέχομεν. (*PH* 1.144)

So since the same objects now appear to be astonishing or valuable, now not so, in accordance with the frequency or rareness of the encounter, we conclude that we may be able to say what each thing appears to be like given the frequency or rarity of the occurrence, but we are not able to say squarely what each of the things occurring outside us is really like. And through this trope we suspend judgment about them.

Although the rareness or frequency of an object allows us to say that it *appears* to be valuable or wonderful, we cannot judge about the real situation. This allows us to suspend our judgment. But, as I have pointed out before, it also allows us to dispel the emotions (including wonder) that the judgment 'this *is* valuable' or 'this *is* wonderful' could cause, contributing to ἀταραξία.

For there to be a true suspension of judgment, there should be a balance between the negative and the positive: we should not only suspend the judgment that 'this *is* wonderful', but also that 'this is *not* wonderful'. This is why Sextus makes a point of including the possibility of manipulating wonder by imagining something to be more rare than it actually is: we may be inclined to judge that water or the sun are no great

wonder, but this judgment is prone to suspension just as much as the judgments that comets or gold are marvelous.[18]

Although Sextus claims that the ten modes themselves aim only at the suspension of judgment, and that ἀταραξία is, as it were, a side effect of suspension, the ninth mode suggests that the goal of ἀταραξία also motivates the modes. The effect of the modes is not merely to arrive at a logical equipollence. If that were so, Philo's omission of the ninth might be justified, given that the eight mode, that of relativity, could arrive at the same place; and Annas and Barnes' judgment that the ninth mode is 'the feeblest' might have some basis. But the modes are not merely *logical* guides — they are also supposed to have a *psychological* efficacy. For this aim, a more fine-grained set of modes is more helpful than a single pattern of argument. A mere statement of relativity may get you far logically, but will not be psychologically helpful in all circumstances — whether the purpose is managing emotions or balancing judgments. The inclusion of the ninth mode in the skeptic's toolbox suggests that the early skeptics considered wonder a psychological force to be reckoned with in their particular version of philosophical therapy.

We should be careful not to overstate the importance of the ninth mode as opposed to the other nine. The fact that Philo does not even include it in his list of modes shows

[18] It is less clear if the ability to raise wonder can also contribute to ἀταραξία — given that wonder is a disturbance of the soul, raising it is less obviously helpful than dispelling it. There may, however, be cases where considering something that is *prima facie* without value as valuable can help manage emotions, for instance when jealousy is an issue.

that it was by no means the centerpiece of the skeptical project. Nevertheless, the fact that the ninth mode was included in the key list of ten shows that the dynamics of value judgment that underlie wonder were of some importance to the skeptics.

In addition to its value as evidence of a Pyrrhonist approach to the problem of wonder, Sextus' discussion of the ninth mode suggests an avenue of thought that none of our Greek sources really goes down: that of relativism. Annas and Barnes (1985: 148) remark that the ninth mode might be easily defused by a retreat into relativism. The strikingness or value of an object is not a matter of objective judgment — there is no sense in asking whether an earthquake or a naked body is or is not *really* astonishing. It is always astonishing *to someone*, and *given a certain set of circumstances*. To say that it would not be astonishing to someone else or given a different set of circumstances does not create suspension of the initial judgment 'this is astonishing to x, given that x has never seen it before'.

But few (if any) Greco-Roman thinkers ever go this far towards relativism. The ancient discourse on wonder, in philosophy as well as in literary culture more broadly, always assumes a distinction between justified and unjustified, reasonable and unreasonable wonder.[19] While there may be a subjective aspect to wonder, and one may

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[19] Hunzinger (2015, 423), with the noteworthy addition that in Imperial Rome, 'a new character appears on the intellectual scene: the educated man who knows how to wonder at what is deserving and how to translate his emotion into precisely appropriate words.' Her key exemplars of this 'new character' are Lucian, Philostratus the Elder, and Philostratus the Younger (ibid., 435).

cultivate one's sense of wonder to respond in certain ways to certain objects, there is also an objective aspect (remember that the Greek θαῦμα refers both to the emotion and its object). Note that Sextus categorizes the ninth mode among those 'from judger and thing judged' — not just from judger.[20] This double aspect has led previous scholars of wonder to be wary of the terms 'subject' and 'object', which suggests two distinct and opposed entities. Instead, some have chosen to talk of wonder as a 'synapse'[21], borrowing a term from neurology: as a synapse is the place at which one neuron interacts with another, so wonder is the place where the object interacts with the subject. This makes it virtually impossible to conceptualize wonder as a fully subjective response; the role of the object is too important.

Accordingly, there is always some question as to the rightness or wrongness of wonder. The only situation in which wonder can be reduced to a purely subjective response is when that wonder is unjustified — in that case, it is simply one person's mistake to feel wonder at something that is not wonderful. But in general, wonder is not susceptible to subjectivist relativism. If someone claims that a phenomenon is wonderful, but I feel no wonder at it, there is a legitimate question about who is wrong and who is

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[20] *PH* 1.38.

[21] Neer (2010, 66–68), with explicit reference to Prier (1989). Neer follows Prier's Heideggerian reluctance to use the 'metaphysical' vocabulary of subject and object. Prier talks of the 'this' and the 'other/that', which allows him (and Neer) to connect wonder's epistemological middle position between subjective and objective to a cultural middle position between strange and familiar.

right. The skeptical point is that this question is undecidable. Any judgment about wonder is too context-dependent to admit of a final arbitration either way — the best we can do is suspend judgment.

4.2. The wonderful as a mode of persuasion

As we have seen, the ninth mode is not only about wonder, but about judgments of value and the emotions they engender. While the domain of wonder provides key examples of this, the scope of the ninth mode is broader than that. But we have reason to believe that the skeptics also treated wonder as an epistemological concern in its own right. Diogenes Laërtius attributes the following view to the Pyrrhonian skeptics:

> πρὸς δὲ τὰς ἐν ταῖς σκέψεσιν ἀντιθέσεις προαποδεικνύντες καθ' οὓς τρόπους πείθει τὰ πράγματα, κατὰ τοὺς αὐτοὺς ἀνῄρουν τὴν περὶ αὐτῶν πίστιν· πείθειν γὰρ τά τε κατ' αἴσθησιν συμφώνως ἔχοντα καὶ τὰ μηδέποτε ἢ σπανίως γοῦν μεταπίπτοντα τά τε συνήθη καὶ τὰ νόμοις διεσταλμένα καὶ τὰ[22] τέρποντα καὶ τὰ θαυμαζόμενα. ἐδείκνυσαν οὖν ἀπὸ τῶν ἐναντίων τοῖς πείθουσιν ἴσας τὰς πιθανότητας. (Diogenes Laërtius 9.78-79).

[22] Accepting Huebner's plausible conjecture (the MSS. read διεσταλμένα καὶ τέρποντα).

> And as for the contradictions in their inquiries, they first demonstrate which are the modes in which things persuade, and in accordance with these they take away belief in them: for [they say that] things gain credibility when (a) they are in accordance with perception, (b) they never or at least rarely change, (c) they are habitual, (d) they are prescribed by laws, (e) they are pleasing and (f) they are wondered at. They showed from the opposite of that which persuades that the probabilities are equal.

This is all the information Diogenes gives us about these 'modes of persuasion' (not to be confused with the modes of suspension of judgment). The modes of persuasion appear to have been less influential than the modes of suspension of judgment — other than Diogenes, none of our sources apparently ever even hints at the existence of this other set of modes. Given Diogenes' lack of explanation and context, we may ask whether the list is coherent, complete, or useful.[23] Moreover, it is unclear whether the 'modes of persuasion' somehow are connected to the 'modes of suspension'.

The inclusion of τὰ θαυμαζόμενα in this list is curious.[24] Why would wonder be a factor in persuasion? The *prima facie* reason why wonder appears not to belong in a list

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[23] The most obvious omission is that of reasoning: for the philosophical mainstream, the use of reason in deduction, induction, and even analogy, is the best path to persuasion.

[24] Annas and Barnes go so far as to propose emending the text to read τὰ μὴ θαυμαζόμενα, which they translate with 'unsurprising'. Annas and Barnes (1985, 186): 'we propose τὰ <μὴ> θαυμαζόμενα. *Surprising* things do not persuade, and the reference here must

of modes of persuasion is that the wonderful (or surprising) is often a reason *not* to believe something: the wonderful is almost by definition something that runs counter to our prior beliefs. The other modes of persuasion (with the exception of pleasure) are all inherently conservative: we tend to believe things that are in accordance with perceptions, that rarely change, that are in accordance with habits and with laws. Wonder, surprise, or admiration, by contrast, breaks with the existing order of things — we wonder or are surprised at things that do not conform with our prior expectations, and we admire those who go above and beyond some kind of norm in some way. How can these be instrumental in persuasion?

First, I will point out that the other 'modes of persuasion' (with the exception of the first, perception) are all psychological explanations for why we hold beliefs rather than logical justifications for those beliefs. When we believe something because it is in accordance with the laws, or because it usually happens that way, or because it is pleasant to believe it, this does not justify our belief: it only explains why we came to hold that belief. To place wonder among these modes of persuasion is thus not to say that persuasion through wonder is logically valid in any way; it just means that wonder is one of the ways in which we may come by our beliefs.

be to the Ninth Mode (in Sextus' numbering).' Barnes later withdrew this proposal (1992, 4291), noting that there is no reference to the ninth mode, which means that θαυμαζόμενα here might mean 'admired' rather than 'surprising'.

The modes of persuasion also suggest strategies for dissuasion. This passage suggests two different approaches. In introducing these modes, Diogenes says that the skeptics take away beliefs in accordance with the modes of persuasion. Later he adds that 'they showed from the opposite of that which persuades that the probabilities are equal.'[25] The second formulation is a reference to the ten modes of suspension, which arrive at an equal force of probabilities opposing appearances and thoughts; in fact, the account of the ten modes follows right after this phrase. The first formulation, though, may suggest another strategy. Since the modes of persuasion (again with the likely exception of the first one, of perception) are poorly justified ways in which we come by beliefs, just pointing out the origin of that belief can already be a potent force in challenging the belief.[26] If we find out that we hold a belief for the wrong reasons, this might convince us to drop that belief. If that is true, it may be a feature rather than a bug that beliefs founded on wonder tend not to be very reliable.

The modes of persuasion give causes for our beliefs, rather than reasons for them. As noted above, the exception is the first mode of persuasion, that of perception. Perception not only causes us to believe something, but can also help justify our belief. In the case of perception, more is needed than a genealogical analysis of where the belief

[25] ἐδείκνυσαν οὖν ἀπὸ τῶν ἐναντίων τοῖς πείθουσιν ἴσας τὰς πιθανότητας.
[26] This is one of the strategies a critical theory may employ. See e.g. Geuss (1981, 61).

came from. This may be what involves us in the more tangled business of the ten modes, seeking out the suspension of judgments by opposing appearances to appearances, or to thoughts.[27]

So how does wonder cause persuasion? One path towards an answer lies in the history of the Greek discourse: wonder and persuasion are connected at least as early as Hesiod. In the *Theogony*, the presentation of the 'beautiful evil' (καλὸν κακὸν, vs. 585) Pandora is an occasion for wonder: 'and wonder held the immortal gods and mortal humans / when they saw the steep deceit, irresistible for humans.'[28] (vss. 588-589) Her wondrous beauty does not make Pandora an object of suspicion, but is rather instrumental in luring both gods and humans into a trap. Wonder can charm, dazzle, and enchant, which can make it seductive — akin to persuasive.

One of the problems with wonder is that it is inherently ambivalent. The moment that θαῦμα is invoked in a context of persuasion, we are to be on guard. While their wonder makes the humans buy into the deceit of the gods in the case of Pandora, Hesiod highlights their wonder precisely in order to emphasize that they are deceived. In Hunzinger's phrase, 'amazed regard is blind regard'.[29] To the extent that wonder is a

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[27] Note that 'thought' is missing from the modes of persuasion. If included, it would be in the same category as perception: an origin of persuasion that potentially carries justification with it.

[28] θαῦμα δ' ἔχ' ἀθανάτους τε θεοὺς θνητούς τ' ἀνθρώπους / ὡς εἶδον δόλον αἰπύν, ἀμήχανον ἀνθρώποισιν.

[29] Hunzinger (2015, 429)

mode of persuasion, it is not straightforward; the persuasion of wonder is inherently deceitful. Put another way: you should not believe something *because* it is wonderful. This is why, to the extent that it is a mode of persuasion, wonder can also be helpful in dispelling belief: pointing out that you have no other reason for believing Pandora other than that you feel wonder at her beauty is a good first step to dispelling your belief.

But it is also naïve to *not* believe something just because it is wonderful. Strange things sometimes do happen, and truth can be stranger than fiction. The epistemology of wonder thus presents a double bind: it invites our belief, while at the same time undermining the credibility of its object.

This double bind is especially prevalent among ancient historians, who are constantly concerned with establishing and maintaining a credible persona. As I have argued elsewhere,[30] Hellenistic historical discourse is tinged with an epistemological anxiety about wonder: it is because wonders are so tempting that naïve writers (the usual suspects being Herodotus and Ctesias) indulge uncritically in narrating wonders. Hellenistic historians show a constant concern to distance themselves from these naïve 'others', while still carving out a space for themselves to narrate wonderful facts and events. The sentiment is summed up well in a saying by Diodorus Siculus: 'with stories,

[30] Peters (2022).

the wonderful ones usually win out over the true ones'.[31] While Diodorus sets up an antithesis between 'wonderful' and 'true' stories, he admits at the same time that wonderful stories tend to get credence more readily than true ones.

This discourse on the epistemological double bind of wonder may well be the reason why the skeptics include wonder in their list of 'modes of persuasion': although wonder is highly ambivalent, it is nevertheless a factor in how we form our beliefs, and thus a legitimate object for the skeptic's concern.

In addition to this epistemological double bind, wonder can also be a potent force of persuasion in religious matters.[32] As we have seen, natural phenomena ranging from the planets, via lightning and earthquakes, to smoke-filled caverns and forest clearings can cause the kind of wonder that makes us suspect there is a divine force at play.[33] For some (like Aristotle and the Stoics) this is an important source of theological knowledge; for others (Epicureans) it is a seduction to be resisted. But we would expect the Pyrrhonian skeptics to be interested in finding a suspension of judgment by opposing the phenomena. Rather than emphasize (with certain Stoics) that phenomena really are

[31] τῶν λόγων οἱ θαυμάσιοι τοὺς ἀληθεῖς κατισχύειν εἰώθασιν, 10.24.1.
[32] This is David Sedley's reading of the motivation behind the Ninth Mode. (D. Sedley 2015, 176–77)
[33] Beyond the world of Greco-Roman philosophy, this is a recurring theme in the Bible. For instance, in Exodus chapter 4, God performs miracles 'so that they may believe that the LORD […] has appeared to you.' (Exodus 4:5, *NIV*)

marvelous, or (with the Epicureans) downplay the marvels, the Pyrrhonists provide a way of defusing the whole question.

This leads us to the question of whether wonder as a mode of persuasion is related to wonder as a mode of suspension of judgment. We have already seen that the first of the modes of persuasion (perception) is the one that most clearly needs to be supplemented by modes of suspension: the fact that a belief originated in perception is not a reason for dismissing that belief. The case is different for wonder: since wonder is not a justification for a belief, pointing out that a belief only came about because of wonder may be an effective way to dispel that belief. But the ninth mode adds a lot more punch to this process. Whether we are prone to thinking that something is true because it is wonderful, or of thinking that it is not true because it is wonderful, the ninth mode can help take the sting out of the wonder, leaving us in a suspension of judgment about whether or not it really is wonderful. If wonder was our reason for believing or disbelieving, this mode may actually help us suspend judgments.

The inclusion of wonder among the modes of persuasion may also give us some insight into the relation of skepticism's wonder to the Platonic/Aristotelian wonder. For Aristotle, the crucial thing about wonder is that it puts us in a position between ignorance and knowledge: it makes us aware of our ignorance, while also pointing us towards comprehensibility. To the extent that wonder is persuasive, it short circuits this entire

dialectic of knowledge and ignorance. If we believe something because it is wondrous, our wonder does not spur us on to inquiry: this is not a wonder that opens up questions — it closes them off.

4.3. A skeptical poem

Aside from the ninth mode and its role as a mode of persuasion, wonder plays very little role in our skeptical texts. In the works of Sextus, I can see no real applications of the ninth mode, and wonder does not show up as a theme in other sources about Pyrrhonian skepticism. The only exception is a curiosity: a little poem in elegiac couplets at the end of Sextus' *Outlines of Pyrrhonism*:

> ὦ Πύρρων μέγα θαῦμα πεφάσμενον ὡς πλέον οὐδέν,
>
> τῶν ἄλλων ἕτερον χρῆμά τι θαμβαλέον.
>
> εἰ μὲν ὑπερφιάλως κατ᾽ ἐναντίον ἐλθέμεν ἔτλης,
>
> συμπάντων γε σοφῶν φεῦ ὅσον ἦσθα τάλας·
>
> εἰ δὲ κὲν ἰδμοσύνης τῆς ἀνδρομέης κατεγνωκώς,
>
> τὰ πρώτιστα φέρεις ὧν σοφίης κατέγνως.

> Oh Pyrrho, who appeared a great marvel, to be compared with nothing else,
>
> An object of astonishment of a different kind from all the others:

If you arrogantly dared to go counter

to all sages, oh, how unhappy you were;

But if you passed judgment on human knowledge,

You win the first prize among those whom you judged for wisdom.

This poem is admittedly not very good — the Greek is clunky in both syntax and vocabulary, the thought not very well expressed. It is often not even printed in editions and translations of Sextus — Bekker omits it from his 1842 critical edition of the works of Sextus (not even mentioning it in the critical apparatus); Bury omits it from his 1933 Loeb edition (based on Bekker's text); Annas and Barnes omit it from their 2000 translation for the Cambridge Texts in the History of Philosophy. Even Mutschmann and Mau (Teubner) markedly separate the poem from Sextus' text by the addition 'In fine codices (excepto M) addunt'. But it is found in all but one of the Greek manuscripts of Sextus, and if not written by Sextus himself, was at least written by an author sympathetic to Pyrrho.[34]

One giveaway that the poem is not just *about* a skeptic but inhabits the perspective of the skeptic is the (awkward) use of πεφάσμενον in the first line: rather than coming

[34] For what it is worth, I suspect that the poem was added by Sextus, but written by an anonymous skeptical poet. The only reasonable candidate whose name we have would be the skeptical poet Timon of Phlius (fl. 3rd century BCE), but the Greek seems too choppy to come from that satirist's sharp pen. The other significant Greek poet who took philosophers as his subject-matter and was sympathetic to Pyrrho is Diogenes Laërtius himself; but it would be odd for Diogenes (who lived at the same time as Sextus or later) to have written this poem without including it in his own *Lives of the Philosophers*.

out and claiming that Pyrrho really *was* a marvel, the poet will only commit to stating that Pyrrho *appeared* as a marvel. This aligns well with the Pyrrhonist emphasis on the use of appearances (see *PH* 1.19-20, *DL* 9.78): a skeptic can report on appearances, as long as she does not judge about how things *really* are.

The double conditional structure in lines 3-6 also contains a nod to skeptical patterns of thought. The poem plays with the technique of suspension-by-opposition: it first suggests a plausible scenario in which Pyrrho is an unhappy wretch (τάλας), and then an equally plausible scenario in which he is a winner (τὰ πρώτιστα φέρεις). It thus sets up a matrix of possibilities, without deciding once and for all which of the cases is the true one.

But the poem does not arrive at a real suspension of judgment: in spite of the caution implicit in πεφάσμενον, there is no real question whether Pyrrho is or is not a marvel. The poem opens on a note of encomium with 'ὦ Πύρρων μέγα θαῦμα', and never abandons that pitch. The notion that Pyrrho is a marvel remains intact in both of the two options. Either he arrogantly went against all the sages — in which case he may be unhappy for abandoning wisdom, but he is nevertheless a marvel for his obstinate resistance to all the others. Or he passed judgment on the (merely) human knowledge of others, in which case he wins the first prize in the quest for wisdom — and is a marvel for his victory.

The matrix of possibilities creates the appearance of a skeptical suspension of judgment, but the poet has fixed the results so that Pyrrho remains a marvel in any situation. However we tweak the variables, the poem suggests, the effect remains the same. This is not authentically skeptical, but a trick that the poet plays: the ten modes give us plenty of ammunition to dispel the judgment that Pyrrho is a marvel. To use only the ninth mode: Pyrrho appears marvelous because he was unique, but in a world full of Pyrrhos, the conformist dogmatist would appear to be the marvel.

What the poem does show is that the logic of Stoicism and Epicureanism was attractive even to a school that made that logic unavailable to itself. Whatever the dangers of wonder in our emotional life, whatever the doubts about which are the legitimate and illegitimate objects of wonder, whatever other anxiety wonder may arouse, a real sage is undoubtedly worthy of wonder. And if the Pyrrhonists cannot exactly follow this logic on their own principle, they are left with the final recourse of admitting that, at the very least, the sage *appears* to be a marvel.

5. Epilogue

On ne devrait s'étonner que de pouvoir encore s'étonner

— La Rochefoucauld, *Maxims* 384

5.1. The Devil's Favorite Text

The names that Greeks gave their children, though highly formulaic, almost always encoded positive and desirable characteristics. Just consider the prevalence of prefixes such as *Aristo-* ('best'), *Clito-* ('famous'), or *Empedo-* ('constant'), and suffixes like *-kles* ('reputation'), *-krates* ('strength'), or *-teles* ('perfection'). Although there is considerable regional variation in Greek names, the principle that given names denote positive characteristics generally hold true for the Greek world.[1]

It is remarkable, then, that the name 'Athambos', 'unastonished', shows up in the political/priestly elite of Delphi in the third and second centuries BCE.[2] The corpus of Greek inscriptions contains evidence of at least four different Delphians named

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[1] (Nick)names based on physical appearances (e.g. Plato, 'broad', or Strabo, 'squinting') seem not to have been carried over between generations, but to have been restricted to individuals.

[2] Names based on the root of θαῦμα are also attested, but are much less instructive, since these are uncontroversially positive. A name like Θαυμαρέτη ('wondrous virtue' [*IG* I.3, 1335]) or Θαύμαστος ('wonderful' [*IG* II.2, 8681]) does not tell us much about wonder. The name Ἀθαύμας ('Unwonder') is attested in Epidaurus in the patronymic genitive Ἀθαύμαντος. (*IG* IV.2, 163; Peek (1972, 35)). *IG*: *Inscriptiones Graecae* series, Berlin (1877-present).

Athambos between 270 and 100 BCE.[3] Although it is possible that the later Athamboi were named after an earlier illustrious Athambos rather than after the eponymous character trait, there is something to be gleaned from the use of this name: even in the elite of Delphi, not being susceptible to intense wonder was considered a good thing. This suggests that the attitude preached by Stoics, Epicureans, and Skeptics was not restricted to philosophical schools, but entered into the bloodstream of Hellenistic Greek culture more broadly, reaching as far as the Delphic elite.[4]

This study has suggested that it entered into Greek culture from philosophy: it is in the context of considerations on the management of emotions and the therapy of desire that wonder became suspect, and that an immunity towards wonder became something desirable and admirable. To some extent, this is a natural consequence of a culture that takes as its ideal attitude towards life ἀπάθεια or ἀταραξία — no emotion or no disturbance will also imply no intense wonder. But as we have seen, the different philosophical schools have more specific reasons to single out wonder as an emotion to be cautious about. For Epictetus, wonder was a potential avenue towards mental slavery:

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[3] Athambos, eponymous archon of Delphi between 270 and 268 BC, [*CID* 4.28] Athambos son of Habromachus (archon around 160 BCE [*FD* III, 3:2, 3:12] and priest of Apollo some time after 140 BCE, [*SGDI* II 2198, 2205, 2273, 2284], Athambos son of Agathon (priest of Apollo in circa 195 BCE [*SGDI* II 1993]), and Athambos son of Athanion (archon of Delphi, ca. 162 BCE [*FD* III 3:3]). *CID*: *Corpus d'Inscriptions de Delphes* (Lefèvre 2002); *FD*: *Fouilles de Delphes* (Daux and Salać 1932), SGDI: *Sammlung der griechischen Dialekt-Inschriften* (Collitz et al. 1885).

[4] An important caveat here is that the name Athambos is *only* attested in Delphi — we have no evidence that it was current anywhere else in the Greek world (though see the evidence for the name Athaumas in Epidaurus in footnote 2 above). Nevertheless, the timelines match up: the first Athambos shows up around the time of Epicurus' death, and when Zeno had already started teaching in the Stoa Poikile at Athens.

while it is appropriate to wonder at the divine order of the cosmos or at the power of divine reason within us (the starry heavens above us, the moral law within), it is dangerous to wonder at anything external, anything that stands below us in the cosmic hierarchy. The Epicureans forbade even wonder at the cosmic order, as it could lead to superstition and mythology; what was left was the wonder at philosophy itself, and at the philosopher's mind. For the early Pyrrhonian skeptics, wonder was epistemologically suspect as one of the avenues by which we come to hold beliefs, and a facility to manipulate wonder was part of the skeptic toolbox in the form of the 'ninth mode'.

Although ambivalence and suspicion surround the discourse on wonder in Hellenistic philosophy, the different philosophical schools had different reasons for their ambivalence, and different ways of demarcating appropriate from inappropriate wonder. From the point of view of a non-philosopher, though, the philosophical landscape might look like a consensus. The geographer Strabo, writing in the age of Augustus, casually talks about 'wonderlessness, whose praises Democritus and all the other philosophers sing'.[5] Strabo's reason for attributing this sentiment to 'all philosophers' is that wonderlessness 'is close to unastoundedness and unperturbedness and

[5] τὴν ἀθαυμαστίαν […] ἣν ὑμνεῖ Δημόκριτος καὶ οἱ ἄλλοι φιλόσοφοι πάντες· παράκειται γὰρ τῷ ἀθαμβεῖ καὶ ἀταράχῳ καὶ ἀνεκπλήκτῳ. Strabo 1.3.21 / 61 C.

unastonishedness'. In other words, from Strabo's point of view, the different terms for the *telos* of philosophy are all more or less interchangeable with the absence of wonder.

Another text, more or less contemporaneous with Strabo, tells us a similar story. In the first book of *Epistles*, the poet Horace presents non-sectarian philosophical wisdom in hexameter poetry. The sixth epistle, 'nil admirari', deals with wonder with a decidedly negative attitude: the first two lines of the poem read 'not to wonder at anything is pretty much the only thing, Numicius / which can make and keep you happy.'[6] In a post-Romantic age, this sentiment seems heretical — so much so that the eminent Victorian intellectual Thomas Arnold considered this epistle Satanic in spirit, and its lesson as morally and aesthetically corrupting:

> I believe that 'Nil admirari,' in this sense, is the Devil's favourite text; and he could not choose a better to introduce his pupils into the more esoteric parts of his doctrine. And therefore I have always looked upon a man infected with this disorder of anti-romance, as on one, who has lost the finest part of his nature, and his best protection against everything low and foolish.[7]

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[6] Nil admirari prope res est una, Numici, / solaque quae possit facere et servare beatum. (*Epistles* 1.6.1-2)
[7] In a letter of March 30, 1835 to W. A. Greenhill, Esq, published in Stanley (1845, 248).

Arnold's comment is a reply to a story about an anonymous someone's reaction to the addressee's 'little burst' about Switzerland — presumably, the addressee had waxed poetic about Switzerland, and someone had made a show of being unimpressed. For Arnold, this attitude does not show greatness of soul, but a disorder, an infection, and the loss of the finest part of his nature.

However, against the background of the Greco-Roman philosophical discourse on wonder, Horace's epistle is not all that unusual. In fact, Horace gives a reasonably adequate summary of much (if not all) of the post-Aristotelian philosophical discourse on wonder. It is worthwhile to briefly discuss the first section of this poem. After the first fourteen lines, the topic changes from wonder to the choice of an ethical principle, but the keynote remains the one struck by the first lines.

> Nil admirari prope res est una, Numici,
>
> solaque quae possit facere et seruare beatum. (1.6.1-2)

> not to wonder at anything is pretty much the only thing, Numicius, which can make and keep you happy.[8]

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[8] It is often remarked that *nil admirari* amounts to a translation of the Greek phrase μηδὲν θαυμάζειν, attributed by Plutarch to Pythagoras (*Moralia* 44B). However, what is less often remarked is that the two phrases are also metrically equivalent, consisting of two spondees and a longa (– – | – – | –). I suspect that Plutarch's citation of 'Pythagoras' is from a hexameter poem (the traditional

The emphasis on happiness immediately puts us in the domain of ethics; we are dealing with wonder here as a problem of philosophical therapy. Any reference to the contemplative attitude that is the origin of philosophy in Plato and Aristotle, or to the theophanic emotion that we feel at contemplating the order of the cosmos, is ancillary to the ethical advice: not wondering at anything is the key to happiness.

The word *admirari* here is sometimes translated not as 'wonder' but as 'admire', or as 'idolize' (Mayer *ad loc.*), but the way the poem continues shows that Horace does consider this to be the same feeling we get from contemplating the heavens:

> Hunc solem et stellas et decedentia certis
> tempora momentis sunt qui formidine nulla
> imbuti spectent. Quid censes munera terrae,
> quid maris extremos Arabas ditantis et Indos?
> Ludicra quid, plausus et amici dona Quiritis?
> Quo spectanda modo, quo sensu credis et ore? (1.6.3-8)

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metrical form for Pythagorean maxims, cf. the *Golden Verses*), and that Horace renders it into metrically equivalent Latin, giving it the same treatment as Alcaeus' νῦν χρὴ μεθύσθην, which he renders as *nunc est bibendum* (*Carmina* 1.37.1; the meter is – – v – –).

> The sun here, and the stars, and the seasons that depart in regular intervals — there are those who can look at these without any fear. What do you think about the wealth of the earth, what about that of the sea which enriches faraway Arabs and Indians? What about shows, applause, and the gifts of the friendly Romans? How do you think these should be seen, with what feeling and face?

Horace may move towards his more characteristic concerns about wealth, power and reputation, but he starts out by considering the feeling we get when we contemplate the sun, the stars, and the regular periods of heavenly motions. That feeling of wonder here is tinged with fear, and those who manage to contemplate the heavens while avoiding that feeling are to be an inspiration for us. If some people can manage to look at those enormous phenomena without fear, Horace implies, the banalities like wealth, faraway countries, popularity and power are also not things to be impressed with. But it is not just because of its association with fear that avoiding wonder is a path towards happiness:

> Qui timet his aduersa, fere miratur eodem
>
> quo cupiens pacto; pauor est utrubique molestus,
>
> inprouisa simul species exterret utrumque.
>
> Gaudeat an doleat, cupiat metuatne, quid ad rem,
>
> si, quicquid uidit melius peiusue sua spe,

defixis oculis animoque et corpore torpet? (1.6.9-14)

He who fears the opposite of these things wonders almost as much as the one who desires them; in both cases, the uncertainty is difficult, the unforeseen appearance shocks them both. Whether he is happy or sad, desires or fears, what does it matter, if, whenever he sees something better or worse than he expected, he is stupefied in mind and body, with eyes downturned?

Presumably, the uncertain appearance (*inprouisa* … *species*) of the object is one of the key differences between worldly pursuits and the astronomical phenomena mentioned in lines 3-5: the sun, stars, and seasons are highly regular (in fact, the spun-out description of the seasons emphasizes the regularity), while wealth and reputation are highly irregular. This makes it all the more remarkable that Horace presents the absence of wonder at astronomical phenomena as an extreme case — we might think, with Lucretius, that it is easy to stop wondering at something that happens all the time, while the ups and downs of business and politics present ever new situations.

In the passage just cited, Horace makes the point that wonder can underlie different emotions, all of which are detrimental to happiness. The four emotions summarized in line 12 (*gaudeat an doleat, cupiat metuatne*) are the four elementary passions

of Stoicism: pleasure, distress, desire and fear.[9] The fact that wonder plays a role in all four categories suggests that it is a foundation from which other emotions may grow. This is consistent with what we have seen in Epictetus: wonder is in a sense even more basic than the canonical passions, because wonder involves the moment of high valuation that is crucial to the genesis of passions. Here, the object that causes wonder is something better or worse than you expect (*melius peiusue sua spe*) — the mismatch between an experience and prior cognition that we argued in the introduction is central to θαυμάζειν or *admirari*.

In this passage, we can also see a slippage in the senses of *admirari*. In the first few lines, *admirari* implied the contemplative marvel at the heavens; then, it became marvel at worldly success (wealth and fame). Now, it becomes admiration in the sense of high valuation. This first comes to the fore in the pairing of fear and desire (lines 9-11): what these two have in common is that they anticipate something highly valued — whether positively (desire) or negatively (fear). At the same time, we are dealing with objects whose appearance is uncertain (*improvisa … species*), suggesting that *admirari* also involves surprise. Marvel, admiration, surprise — the notable absence in Horace's poem is the puzzlement which Plato and Aristotle consider as the beginning of philosophy.

[9] ἡδονή, λύπη, ἐπιθυμία, φόβος. Diogenes Laërtius (7.110) attributes the list to Zeno. See also *LS* 65B, E.

The attitude we should have towards such objects is not one of mental and physical stupefaction. Presumably, we should be more like the person who can look at the sky without fear. At this point, we expect the portrait of such a person to be that of a great-souled sage, contemplating the structure of the cosmos while looking down at human affairs. But this is where Horace departs from the mainstream of Hellenistic philosophy:

> Insani sapiens nomen ferat, aequus iniqui,
>
> ultra quam satis est uirtutem si petat ipsam. (1.6.15-16)

> A sage is called insane, a just man unjust, if he pursues virtue itself more than is enough.

For Horace, pursuing virtue too intensely is both mad or unhealthy (*insanis* includes both) and unjust — we should pursue virtue for the sake of happiness, not for its own sake. Given the examples of the Stoics and Lucretius, we can appreciate the real punch of these lines: it seems that even virtue itself falls under the scope of the maxim *nil admirari*. As we have seen, the Stoics and Epicureans maintain that whatever risks wonder may bring, wonder at the philosopher, sage, or virtuous person is only right. Against this, Horace seems to advise abstaining from wonder even at virtue itself.

The remainder of the poem explores a number of hypotheses about happiness, appearing to seriously consider all the options (though with typical Horatian irony). If happiness lies in acquiring possessions, then acquiring possessions is the thing to do (17-27, 31-48); if it lies in virtue, then you should pursue virtue (28-31), if in prestige, then pursue prestige (49-55), if in pleasure, then pursue pleasure (56-66). Finally, Horace closes with an open invitation to his addressee: 'if you know anything better than this, frankly share it; if not, join me in applying this'.[10] The opening of the poem strongly implies that all of these options are dead ends: not to wonder at anything is the only path to happiness, and it implies not being impressed with possessions, with prestige, or with virtue itself. The only option that he has not already dismissed in the opening of the poem is that pleasure is a path to happiness — and it is surely no coincidence that Horace (who has earlier in the collection referred to himself as a 'pig from the herd of Epicurus' (*Epistles* 1.4.16)) considers this option last: it is the option that remains open, and the option that most suits Horace's literary persona.

Horace's great heresy, then, is not his advice that we should not wonder at anything, but his insistence that this advice should extend even to the pursuit of virtue itself.[11] Some caution about wonder is widely shared among Hellenistic philosophers.

[10] Siquid novisti rectius istis, / candidus imperti; si nil, his utere mecum (1.6.67-68).
[11] Mayer (1994, 156–57) notes the reluctance some commentators (e.g. Heinze and Cruquius) have to accept this point.

However, they all tend to reserve wonder for the philosopher; and this is the point where Horace departs from the tradition.

5.2. The Birth of the Cool?

The Greco-Roman philosophical discourse on wonder is rich and ambivalent, ranging from the Platonic-Aristotelian notion that wonder is the origin of philosophy to Horace's Pythagorean contention that the absence of wonder is the path to happiness. Within the multifaceted history of wonder, though, the aspect that may puzzle us most is why the absence of wonder would be attractive. Our priorities and values are very different from those of the Hellenistic philosophers; despite the recent uptick of interest in Stoicism, most of us still do not consider ἀπάθεια to be something worth striving for. Moreover, we have learned to cherish wonder over the past two centuries — from Wordsworth to David Attenborough, from Goethe to Rachel Carson, generations of artists, thinkers, and filmmakers have taught us to treasure wonder, not just as the beginning of philosophy, but as a form of attentiveness that brings aesthetic, ethical, and even political benefits.[12] In the 21st century, we are more likely to agree with Thomas Arnold that there is

[12] La Caze (2013) argues that wonder is crucial to ethics. Bendik-Keymer (2023) attributes a 'politics of wonder' to Martha Nussbaum.

something Satanic about the pursuit of wonderlessness than to agree with Horace that the elimination of wonder is the key to happiness.

But is the Hellenistic attitude really all that exotic to us? In order to transpose the Hellenistic attitude towards wonder to the present, we need some translation. The closest analogue to wonderlessness as an ideal that we have today is the notion of coolness.

What does it mean to be 'cool'? The semantics of coolness have changed over the decades, going from a term of African American slang in the 1950s to being a catch-all term of approval. One of the most influential theorizations of the 'cool' comes from Norman Mailer's essay 'The White Negro'. Although controversial, both for its treatment of race and for its exploitation of a subculture that Mailer was not a part of,[13] the essay is a helpful document in understanding the basic tenets of the attitude of 'cool'. While glossing the vocabulary of the 'hipster', Mailer gives the following consideration on 'cool':

> And indeed it is essential to dig the most, for if you do not dig you lose your superiority over the Square, and so you are less likely to be cool (to be in control of a situation because you have swung where the Square has not, or because you have allowed to come to consciousness a pain, a guilt, a shame or a desire which the other has not had the courage

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[13] Baldwin (1988). In addition to the treatment of race, Baldwin bemoans the impenetrable prose of the essay (276-277), especially in contrast to the style of Mailer's fiction.

> to face). To be cool is to be equipped, and if you are equipped it is more difficult for the next cat who comes along to put you down.

Some of the slang in this passage requires unpacking. To 'dig' means, in this context, to understand,[14] while 'to swing' means to have experience. In other words, the imperative of the hipster is to have knowledge in order to be superior to the Square, to be in control of a situation because you have experienced what the Square has not experienced, or faced psychological complexes that the Square lacks the courage to face. What is central is the sense of superiority — by being 'equipped' and 'in control', you make it harder for anyone to put you down.

Although Mailer was almost certainly not thinking of Aristotle's definition of *μεγαλοψυχία* or of Seneca's portraits of the Stoic sage, this is quite close to what this 'coolness' amounts to. To be cool is to have an air of superiority because you are not easily impressed — you are not prone to wonder, because nothing is great for you. And it is a certain kind of knowledge (to dig the most) that can bring about this attitude. For the hipster, the relevant knowledge is not cosmological or physical, but rather literary or political: you can be unimpressed with suffering because you have read Nietzsche and

[14] Mailer's unhelpful explanation is 'you say simply, "I dig," because neither knowledge nor imagination comes easily, it is buried in the pain of one's forgotten experience, and so one must work to find it, one must occasionally exhaust oneself by digging into the self in order to perceive the outside.'

Dostoyevsky, unimpressed with the latest scandal to come out of DC because you are aware that the real scandal is the system itself.

The closest thing we have to Horace's Hellenistic attitude towards wonder, then, is the ideal of coolness: not overly impressed with anything (except perhaps with yourself, and with how unimpressed you are), with a slight air of superiority, but mostly unfazed to the point of being jaded. In the Greco-Roman world this attitude would be accompanied by a long beard and a veneration for Socrates; today, the beard has been replaced by a leather jacket and sunglasses, Socrates with Nietzsche. But there is an unmistakable spiritual kinship between the thaumatoskeptical attitude of the Hellenistic age and what the post-war era calls 'cool'.

This is not to say that Hellenistic wonderlessness and 1950s coolness are the exact same thing. Quite obviously, the outward symbols are different: In the Greco-Roman world the attitude would be accompanied by a long beard and a veneration for Socrates; today, the beard has been replaced by a leather jacket and sunglasses, Socrates with Nietzsche. More substantially, thought, the Hellenistic attitude seems to have been genuinely motivated by the pursuit of happiness (*eudaimonia*), while coolness is rather a matter of social status. Coolness is primarily performed for the sake of an audience (whether of Squares or of other hipsters), while wonderlessness, as theorized by Horace and others, is valuable not because of what others think, but because of its effect on your

emotional life. Accordingly, the cool person is often precisely *not* happy: there is a sense of boredom and despair to coolness that we do not see in the philosophical ideals of the Hellenistic period.

Nevertheless, I think that the reason we tend to find 'cool' people attractive reveals something about why Greco-Roman philosophers considered it a worthwhile pursuit to rid themselves of wonder. Coolness puts on the appearance of knowledge, and makes a show of no longer wanting or needing to acquire further knowledge. The jaded and bored attitude of a cool person are not inherently attractive: they become attractive because they present themselves as the signs of a kind of greatness of soul (Mailer speaks of superiority, control, courage, being equipped). Coolness performs a superiority over the mundane and everyday, as well as over emotions (Mailer speaks of 'a pain, a guilt, a shame, or a desire'). Importantly, this is a superiority won by knowledge. We find cool people attractive because they mimic the attitude that we imagine a possessor of knowledge would have.

Not any kind of knowledge will do for an appearance of coolness, though. For instance, in the 1950s, existentialist literature, global politics, and bebop are 'in', while topics like lepidoptery, astronomy, and baroque chamber music are 'out'. The imagined persona of one who is well-versed in existentialist literature is quite different from the persona of one who is knowledgeable about baroque chamber music; one kind of

knowledge contributes to coolness, the other is not. This allows for certain mutations of coolness, as cultural priorities shift — from beatnik cynicism to punk nihilism to the hedonistic hipsters of the early 2000s.

Wonderlessness in Horace's sense is akin to coolness in that it takes the attitude that the possession of knowledge implies (the absence of wonder) as independently attractive, quite apart from the quest for knowledge itself. What we primarily desire is not to get rid of wonder, but to gain knowledge. However, the possession of knowledge would imply the dispelling of wonder, and so an attitude of wonderlessness becomes a plausible persona for the philosopher. It is telling that the strongest endorsements of wonderlessness come from non-philosophers (Strabo and Horace): the philosophical schools of the Hellenistic period had some ambivalence to wonder, but with the exception of Pyrrhonism, they did not consider the pursuit of wonderlessness to be an adequate replacement for the pursuit of knowledge.

To the extent that the philosopher was considered an attractive figure in Greek and Roman antiquity, this was due not to philosophers taking on a mantle of wonderlessness, but was the result of a purposeful PR campaign, one started by Plato's portrayal of Socrates.

As A.A. Long points out, the Socrates of the Hellenistic philosophers is not identical to the Socrates of Plato and Xenophon. Socrates as a patron saint for the Stoics,

for example, is a particular construct: ‘no ironist, no sharp talker, no gadfly or sting-ray, no lover or symposiast or philosopher chiefly characterised by self-confessed ignorance’.[15] For Epictetus, the typical Socratic attitude is expressed in the quote ‘Anytos and Meletos can kill me, but they cannot hurt me.’[16] Epictetus’ Socrates is a long way from the attitude that philosophy begins in wonder: that is another version of Socrates altogether. In contrast to Epictetus, Plato often goes out of his way to emphasize how ridiculous, how unattractive — how *uncool* — the philosopher appears. However, Plato also sows the seeds for the later idealization of Socrates: his portrayal of Socrates involves a successful revaluation of values, that makes Socrates’ ridiculousness into something attractive, even iconic.

For the image of the ridiculous philosopher we return to where we started in the first chapter: the *Theaetetus* and the *Symposium*. Although the main topic of the *Theaetetus* is epistemology and the definition of knowledge, Plato paints a portrait of the philosopher in a number of digressions. In the first chapter of this study, we have already encountered the passage where Socrates casts his role as that of a midwife (148e-151d), as well as the remark that philosophy begins in wonder (155d). The longest of these digressions is a discussion of the philosopher’s role in society, focusing especially on his

[15], (Long 1988, 151)
[16] *Disc*. 1.29.18, quoting Plato, *Apology* 30C.

clumsiness (172c-177c). This digression is triggered by a conversation on Protagorean relativism. If Protagoras is right in saying that man is the measure of all things, then, as Socrates understands it, everyone has their own truth. In the realm of politics (172a-b), this is to some extent what people do believe in democratic Athens: what appears to the people to be true must be true. This brings to Socrates' mind the fact that those who have spent time in the pursuit of philosophy tend to make fools of themselves in legal proceedings (γελοῖοι φαίνονται ῥήτορες, 172c6), because they take things at their own pace.

In contrast to those who spend their lives frantically pursuing rhetoric in the law-courts, who warp their souls and become distorted and unhealthy people (173a-b) Socrates presents a sketch of the 'leaders' of philosophy (τῶν κορυφαίων, 173c6-7): true or ideal philosophers. In contrast to the rhetoricians, true philosophers never occupy themselves with legal or political matters, nor even with drinking parties; in addition, they do not care about someone's rank or genealogy.

> ἀλλὰ τῷ ὄντι τὸ σῶμα μόνον ἐν τῇ πόλει κεῖται αὐτοῦ καὶ ἐπιδημεῖ, ἡ δὲ διάνοια, ταῦτα πάντα ἡγησαμένη σμικρὰ καὶ οὐδέν, ἀτιμάσασα πανταχῇ πέτεται κατὰ Πίνδαρον "τᾶς τε γᾶς ὑπένερθε" καὶ τὰ ἐπίπεδα γεωμετροῦσα, "οὐρανοῦ θ' ὕπερ" ἀστρονομοῦσα, καὶ πᾶσαν πάντῃ φύσιν ἐρευνωμένη τῶν ὄντων ἑκάστου ὅλου, εἰς τῶν ἐγγὺς οὐδὲν αὑτὴν συγκαθιεῖσα. (*Tht.* 173e2-174a2)

> But in reality, only his body lies and lives in the city, but his mind considers all those things to be of small or nothing importance, disregards them, flies everywhere, as Pindar says, 'under the earth' and geometrizing its surfaces, and 'above the heaven' astronomizing, and seeking in every way the whole nature of each whole thing among the things that are, it does not condescend to anything that is close to it.

This is an early version of the philosophical great soul, so wrapped up in contemplating great things that it has no time for mundane concerns. However, while someone like Seneca will make this sketch maximally attractive, Plato's Socrates is quick to point out that, from the perspective of the world around it, such a person looks ridiculous. This is where he tells the story of Thales falling into a well because he was looking at the stars (174a). He wanted so much to look at the sky that he did not see what was right in front of him. The joke, Socrates says, applies to everyone who practices philosophy — people who occupy their minds with great things will lose sight of the small things. But this also makes the philosopher look like an idiot: in a variety of social and political situations, the philosopher appears 'ridiculous' and 'silly'.[17]

[17] γελοῖος, (174d1) and ληρώδης (174d3)

> ἐν ἅπασι δὴ τούτοις ὁ τοιοῦτος ὑπὸ τῶν πολλῶν καταγελᾶται, τὰ μὲν ὑπερηφάνως ἔχων, ὡς δοκεῖ, τὰ δ' ἐν ποσὶν ἀγνοῶν τε καὶ ἐν ἑκάστοις ἀπορῶν. (*Tht.* 175b4-7)

> In all these situations such a person is mocked by the many, both because he is arrogant, as it seems, and because he is ignorant of what is in front of his feet and has difficulty dealing with things.

Since the philosopher's mind is occupied with greater things, she looks down on what the masses consider important, giving her an air of arrogance. However, from the point of view of the masses, this arrogance is unwarranted, since the philosopher is incapable of the basic tasks of social life. In this case (unlike in the case of coolness), the superiority implied in knowledge is not considered attractive by the crowd: here is a person mocked for her arrogance, rather than admired for her greatness of soul.

In the *Theaetetus*, Socrates goes on to reverse the situation: if one of the *polloi* meets the philosopher on her turf, it is the *polloi* who end up being ridiculous. The scene Plato draws is that of an aporetic Socratic refutation: an *elenchos* that leaves the interlocutor speechless and embarrassed. Socrates and Theodorus agree that the philosopher is better off than the interlocutor, but it is not clear whether the interlocutor could be convinced of this. Plato is trying to reverse the social norms by making the life of the mind appear to be the attractive option, while a life involved in society is a life of small concerns.

The *Symposium* follows a similar pattern, where the ridiculousness of the philosopher turns out to be more valuable than the savviness of the man of the world; but in the *Symposium*, the picture is that of Socrates in particular, rather than of a philosopher in the abstract. From the start of the framing narrative, Socrates is introduced as an odd duck: Aristodemus loses Socrates on the way to the party, and he turns out to be lost in thought at the neighbor's porch (175a), which prompts Agathon to call the situation 'strange' (ἄτοπον). Later, when Alcibiades describes Socrates as a statue of Silenus, this also an opportunity to highlight his strangeness. In his closing words, Alcibiades emphasizes how ridiculous Socrates seems to those who do not know him:

> καὶ γὰρ οὖν καὶ τοῦτο ἐν τοῖς πρώτοις παρέλιπον, ὅτι καὶ οἱ λόγοι αὐτοῦ ὁμοιότατοί εἰσι τοῖς σιληνοῖς τοῖς διοιγομένοις. εἰ γὰρ ἐθέλοι τις τῶν Σωκράτους ἀκούειν λόγων, φανεῖεν ἂν πάνυ γελοῖοι τὸ πρῶτον· τοιαῦτα καὶ ὀνόματα καὶ ῥήματα ἔξωθεν περιαμπέχονται, σατύρου δή τινα ὑβριστοῦ δοράν. ὄνους γὰρ κανθηλίους λέγει καὶ χαλκέας τινὰς καὶ σκυτοτόμους καὶ βυρσοδέψας, καὶ ἀεὶ διὰ τῶν αὐτῶν τὰ αὐτὰ φαίνεται λέγειν, ὥστε ἄπειρος καὶ ἀνόητος ἄνθρωπος πᾶς ἂν τῶν λόγων καταγελάσειεν.

> This, too, I did not mention at first, that even his words are very similar to silenoi that open up. For if someone wants to hear Socrates' words, they would at first seem very

> ridiculous: such terms and phrases does he put on outside, like the skin of some rude satyr. He talks about donkeys and mules and certain metalworkers and leather cutters and tanners, and he always seems to make the same points with the same examples, so that any person without experience and knowledge would laugh at his words.

While the initial comparison with the Silenus statue (215b) was partly prompted by Socrates' external appearance, Alcibiades here circles back to Socrates' behavior, and his way of speaking in particular (I have translated λόγοι with 'words' here). It, too, is ridiculous from the outside but divine on the inside. The appearance of ridiculousness here is not due to Socrates' ignorance of everyday matters (as is the case with the 'leaders' of philosophy in the *Theaetetus*), but because his conversations are about matters of such banality, and are so repetitive. Of course, this is only ridiculous to someone without knowledge or experience with Socrates: those who know him better know that he uses the banal examples to get to profound thoughts.

One of the things Plato achieves by having the head-over-heels in love Alcibiades give this speech is to make Socrates look attractive even when the description is that of a ridiculous oddball.

The ending of the *Symposium* in a way mirrors the beginning: while Socrates had been lost in thought before entering the party, he gets lost in conversation at the end,

staying up all night discussing literary theory. Again, the portrait of Socrates is that of a strange man who does not operate according to the logic of ordinary people. But here, unlike in the opening, his oddity is something commendable: he can hold his liquor, stay up all night talking, and still have a normal day.[18] The framing narrative of the *Symposium* thus mirrors the duality of Socrates that Alcibiades highlights: he is unlike anyone else, which can make him seem ridiculous, but can also make him seem wonderful.[19]

The coup that Plato pulls, both here and in the *Theaetetus*, is striking: while acknowledging Socrates' weirdness in all its facets, and acknowledging how the Athenians had good reason to mock him, Plato reframes the situation in such a way that Socrates is not an object of ridicule but of admiration and wonder. After Plato, the dominant image of the philosopher — at least the image that philosophers have of themselves — is that of someone who has self-control, who thinks great thoughts and looks down upon ordinary affairs.

This is the image of the philosopher that persisted into the Hellenistic era: an unconventional character, but one who is above the concerns of the many, who has either no passions, or, at most, moderate passions. This is perhaps why, in the Hellenistic discourse on wonder, the notion that philosophy begins in wonder almost seems to

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[18] 223b-d. Alcibiades twice emphasizes Socrates' apparent immunity to drunkenness (214a, 220a); in the second of these instances, this is clearly a mark of 'manly' endurance.

[19] Alcibiades describes Socrates' qualities as θαυμαστός on several occasions: 220a4, 220a7, 220b3, 220c6, 221c3, 221c6.

disappear. Rather than look towards the beginning of philosophy, the Hellenistic schools look towards the end. From the perspective of the full-fledged wise person, wonder looks very different than from the point of view of the lover of wisdom. This shift of perspective raises a different set of questions about wonder. How can wonder help or hinder virtue? How do you distinguish appropriate from inappropriate wonder? How do you withstand the lure of inappropriate wonder? What is it like to experience wonder without ignorance? Wonder is still central to the self-understanding of philosophy. But we are a long way away from Theaetetus' dizziness.

Conclusion

There is a significant distance between Socrates' remark that wonder is the beginning of philosophy (*Tht.* 155d) and Horace's contention that not wondering at anything is the only thing that can make and keep you happy (*Epistles* 1.6.1-2). This distance is not only chronological (four centuries separate the two) or geographical (about 1000 km separate Athens from Horace's *fons Bandusiae*), but conceptual as well. Nevertheless, this study has suggested that both notions are part of the same rich discourse. For Greek and Roman philosophers, wonder is an emotion that plays a role both the realm of θεωϱία and in the emotional economy of anyone who treats philosophy as a way of life.

In this conclusion, I will first give a short overview (in ten theses) of what I think the main points of this study have been so far. Finally, I will give some pointers about future research, as well as suggest lessons worth learning from the Greco-Roman discourse on wonder.

1. **Wonder is located between knowledge and ignorance**

   When Aristotle says that philosophy begins in wonder, he does so in order to argue that philosophy is not pursued for any practical goal. Wonder implies ignorance; philosophy's origin in wonder therefore shows that it is pursued in order to escape ignorance. While wonder thus implies ignorance, it is at the

same time aimed towards knowledge. In this respect, Aristotle's conception of wonder is very close to Diotima's notion of love in Plato's *Symposium*. It is likely that Aristotle does not depart from Plato's notion of the origin of philosophy on this point, since Diotima's account of love is also an account of the love of wisdom.

2. Aristotle expands upon Plato's idea that philosophy begins in wonder by describing the dynamics of inquiry.

While Aristotle takes up Plato's idea that philosophy takes place in the interstice between ignorance and knowledge, he departs from the *Symposium* in the details of the process. While Diotima in the *Symposium* describes the process as an ascent to higher and higher forms of knowledge, Aristotle frames inquiry as a circle that starts from wonder, but ends up dispelling the wonder that sparked it. Aristotle's is not a destructive circle, however. I have described it as an upward spiral, where every turn of the circle opens up a new cause for wonder, which motivates new inquiry. Aristotle sometimes talks about 'more reasonable' wonder. It is unclear what Aristotle imagines the end state to be — whether he agrees with Plato that there is some ultimate vision or initiation, or considers wisdom as the knowledge of first principles — but the dispelling of

wonder is not a net loss: it involves the acquisition of knowledge, as well as the opening up of new wonder.

3. Stoic theology elaborates philosophically the traditional connection between wonder and the divine.

As early as Homer, wonder often figures as the emotion people feel when in the presence of the divine. This is, for instance, the reason why Aristotle cites Heraclitus' saying 'there are gods here too' right after stating that 'in all natural things there is something wonderful' (*PA* 1.5, 645a17). It is also the assumption behind Socrates' remark that Hesiod made a good genealogy when he cast Iris as the daughter of Thaumas — Iris, the messenger of the gods, is closely related to Thaumas as the god of wonder. This connection gets its first full-blown philosophical elaboration in Stoic theology.[20] In Cicero's *De natura deorum*, the Stoic Balbus introduces one of the Stoic arguments for the existence of the gods as the 'topic drawn from wonder at heavenly and earthly matters' (*locus qui ducitur ex admiratione rerum caelestium atque terrestrium*, *ND* 2.75). To modern eyes, the argument looks at first glance more like an argument from design

[20] Though with Xenophon and Plato as important predecessors.

followed by a rhetorical catalogue of marvels (which is one of the reasons why people have disagreed on where in the text this topic begins); for Cicero's Balbus, though, wonder is central to the argument from design. He relies on the Platonic/Aristotelian insight that wonder has a position between knowledge and ignorance. What wonder adds to the argument from design in Cicero's *De natura deorum* is that it points to an intelligence greater than our own. Our wonder at the cosmos shows that it is intelligible (and therefore organized according to an intelligence), but also that the intelligence that ordered it is a greater and divine intelligence, since we are not able to grasp the entirety of the cosmic order.

4. **The connection between wonder and the belief in the gods is the main reason why the Epicureans are cautious of wonder.**

The argument from wonder in Stoic theology shows that there is a perceived link between feeling wonder at a phenomenon and being convinced that that phenomenon has a divine origin. Since the Epicureans saw the fear of the gods as one of the main obstacles to human happiness, they considered wonder to be a dangerous response to nature. Both Epicurus (*Hdt.* 79) and Lucretius (*DRN* 5.82-88 = 6.58-64) claim that wonder leads to fear even for people who have

some knowledge of natural philosophy, or who are aware of the Epicurean doctrine of the gods. The key concern is that wonder would open people up to superstitious fears. One of the functions of natural philosophy, then, both for Epicurus and Lucretius, is to dispel wonder.

5. The connection between wonder and a wrong valuation is the main reason why the Stoics are cautious of wonder.

Epictetus often casts the consequence of wonder not as fear (as the Epicureans do), but as mental slavery. To wonder at something is to bow down in *proskunesis* before that thing, to make yourself subordinate to it, and to disown your emotional autonomy. One reason why wonder is a problem for Epictetus is that it is degrading: in wondering at something, we place that thing 'above us' in some sense. However, this leads to an even greater problem: when we wonder at things that are placed below us in the cosmic order of things, we make a mistaken evaluative judgment — we consider things that are objectively below us to be above us. This can lead to all sorts of other emotional problems; so much so that Epictetus is comfortable describing tragedies as 'the emotions of humans who have wondered at external things, displayed in such-and-such a meter' (*Disc.* 1.4.26).

6. **Epicureans and Stoics alike agree that the mind of a sage and the system of philosophy are objects worthy of wonder.**

Although Epicureans and Stoics both have reasons to distrust wonder for its influence on our beliefs and emotions (theses 4 and 5), they nevertheless agree that certain objects are worthy of wonder. For Lucretius, the mind of the philosopher (and in particular, of Epicurus) is a spectacle worthy of a 'divine pleasure and shudder' (*DRN* 3.28-29): wonder at that will not lead to fear of the gods, but to confidence in the possibility of a happy life. For the Stoics, the list of appropriate objects of wonder is more extensive: it includes the sight of the heavens and the divine order of the cosmos, as well as philosophy itself, which mirrors the cosmos.

7. **The Stoic sage is an object of great wonder, partly by virtue of being immune to wonder at indifferent objects.**

As we see time and again in Seneca, one of the greatest and most wondrous spectacles for a Stoic is the idea of an ideal sage. Seneca's descriptions of such a person are often rhetorically impressive, and he puts a lot of effort into making this ideal as attractive as possible by adorning it with martial, athletic,

and physical imagery. Greatness of mind is a virtue that comes up particularly often in this context. The insight that greatness of mind is in some sense incompatible with wonder harks back to Aristotle (*EN* 4.3 1125a2-3): if your mind is great, nothing is great for it. Seneca subscribes to this view, while at the same time holding open some space for a sage to wonder at the heavens, the cosmos, or philosophy itself. However, the more characteristic attitude of the sage is contempt. In Seneca's conception, contempt is the opposite of wonder: wonder looks up from down low, contempt looks down from on high. In Seneca's view, it is often precisely because of the sage's contempt for external things that we should wonder at him.

8. Lucretius' use of wonder in *De rerum natura* is better captured by the image of inoculation than by the honey on the rim of the cup.

Lucretius espouses the Epicurean view that wonder leads to fear through religious superstition, and his poem shows a great concern to dispel wonder in the reader by debunking marvels and explaining the world in mechanistic terms. Nevertheless, his poetry heavily relies on effects of wonder. Rather than seeing this as an inconsistency on Lucretius' part or a split between Lucretius the poet and Lucretius the philosopher, we should see this as part of his

didactic mission. Lucretius courts wonder in order to make his debunkings that much more impressive. By inflating marvels before deflating them, Lucretius creates the impression that no marvel is so great that it cannot be debunked. The strategy is akin to inoculation: by administering a controlled dose of wonder, Lucretius can help make us immune to wonder altogether.

9. Lucretius inverts Aristotle's cave myth to recast wonder at the sight of the heavens as a pathological, rather than a natural, state.

One of the images that we have seen come back time and again is Aristotle's Cave myth, which imagines a people who have spent all their lives in underground dwellings seeing the sky for the first time. This fragment of Aristotle's lost dialogue *On Philosophy* is cited by Cicero's Stoic spokesman Balbus in *ND* 2.95 in the context of the argument *ex admiratione*, and subverted by Lucretius. It appears that Aristotle's original point was to illustrate that the idea of the gods naturally presents itself to anyone who sees the heavens for what they really are. Lucretius uses the same image to reassure the reader that nothing is so wonderful that you cannot get used to it — softening the blow of the doctrine of the plurality of worlds (*DRN* 2.1023-1041). What Lucretius' subversion of the image shows is that Aristotle (as well as Cicero's Balbus who

approvingly cites him) assumes that the wonder of the cave dwellers is the natural reaction to the sight of the heavens, while our jadedness is in some way pathological. Lucretius turns this upside down: while he agrees that people seeing the sky for the first time would feel wonder, he casts their reaction as the pathological one, since the newness of the sight makes them overvalue it. By contrast, the jadedness of people who are completely used to seeing the sky all the time is the more natural and accurate reaction.

10. **Wonder is important to Pyrrhonist skepticism both because it is a source of beliefs and because it is an emotional disturbance. However, the Pyrrhonist needs to be skilled both at debunking and at building up wonder.**

In our sources on Pyrrhonism, wonder shows up in two different places. First, the modes of suspension — patterns of argumentation that allow us to neutralize beliefs — include 'the common and the rare' as the ninth mode. The point of this mode is to illustrate that the frequency or rareness of an object is what causes the appearance of value or of wonder: if comets are considered more wonderful than the sun, this is because we see the sun all the time, but comets only rarely. In order to achieve a suspension of judgment about wonder, we need to be able not just to debunk wonder (something the Stoics and

Epicureans are also concerned with), but also to build it up — after all, the point is to arrive at the point where we can neither say that something *is* wonderful, nor that it is *not* wonderful. Wonder also plays a role as a 'mode of persuasion' (*DL* 9.78): it is one of the ways in which we can come by our beliefs. This suggests at the same time a way of getting rid of these beliefs, since the beliefs that we acquire through wonder are often ill-founded and deceptive.

The most familiar statement of the relation between wonder and philosophy is that philosophy begins in wonder. This notion is (mis)quoted on a wall in Chicago's Harold Washington Library Center:

Figure 1: A mural in the Harold Washington Library, Chicago IL. Picture by Thalia Lysen

While you will be hard pressed to find a mural warning about the dangers of wonder anywhere today, this was a much more common thread in Greek and Roman philosophy. The Platonic/Aristotelian conception of wonder as the origin of philosophy disappears to the background in the discussions on wonder. Why is this?

One reason is that the generations after Aristotle reframed the aim of philosophical investigation. Rather than a pursuit of knowledge for its own sake or a contemplation of the forms, philosophy became a form of therapy, with happiness as its end goal.[21] While happiness meant different things to different schools, the emphasis on happiness over knowledge gave these thinkers a different outlook on wonder. The paradigmatic cases of wonder became not awe and puzzlement at the logical puzzles of relativism (as in the *Theaetetus*) or at the movements of the sun and moon (as in *Metaphysics* A2), but rather the overvaluation of material goods over spiritual ones, and the fearful wonder at irregular natural phenomena like lightning and earthquakes. This is not to say that the generations after Aristotle would not have recognized Aristotle's description of inquiry spurred by wonder — contemplation and the study of nature were still highly valued by both Epicureans and Stoics. But their reasons for discussing the value of wonder were not the same as Aristotle's.

[21] See Nussbaum (1994, 19) for the idea that this is specifically an anti-Platonic shift in Hellenistic thought.

A related reason why wonder as the origin of philosophy fades into the background is the Hellenistic schools' focus on the *goal* of philosophy over the process. Oversimplifying a bit: while Plato and Aristotle are both happy to be lovers of wisdom, Epicureans and Stoics are eager to actually become wise. Their vision of wisdom involves an in-depth knowledge of nature; but, as Aristotle showed, the acquisition of knowledge involves the dispelling of the initial wonder. This helps explain why the wondering contemplation of nature remains a theme, while wonder as the origin of philosophy disappears from view: the normative pull of the sage is so strong for the Hellenistic schools that they are more concerned with imagining consummate knowledge than with investigating how the pursuit of knowledge starts.

Finally, the normative pull of the sage and the focus on the end goal of philosophy leads to a high valuation of greatness of soul. Aristotle had already noted that there is a tension between greatness of soul and a tendency to wonder. This contributes to the notion that a sage would feel very little wonder. If the aim of philosophy is to be as wise as possible, and thus to imitate the wise person, it is no surprise that these ideals would lead to a suspicion of wonder.

As noted in the epilogue, this suspicion of wonder is more likely to come across as Satanic than as wise in a post-Romantic age. But is there something to be learned from it?

I can think of three domains where a more cautious approach to wonder might be a good thing.

First of all, the cultivation of an attitude of wonder can easily turn into obscurantism. While a sense of wonder can be a beautiful and healthy attitude, an attachment to wonder over knowledge can close people off to new information. A particularly famous example of this is the 2010 single "Miracles", by the rap group Insane Clown Posse, which describes the wonders of nature. At one point, the lyrics go 'water, fire, air and dirt / [expletive] magnets, how do they work? / and I don't wanna talk to a scientist / y'all [expletive] lying, and getting me pissed'. The group got widely mocked for the single, and for these lines in particular: the working of magnets is pretty well understood by now, and the only reason the singer has for disbelieving scientists is that they threaten his sense of wonder about magnets. A similar case is made in a more serious way by Richard Dawkins in his *Unweaving the Rainbow*: certain kinds of wondrous representations of scientific findings can actually stand in the way of the search for truth. Dawkins singles out, for instance, the metaphor of Gaia for the earth's homeostatic system. While wonder at nature is certainly commendable, uncritical wonder can do as much harm as good to a person's beliefs.

Another reason to be cautious of wonder is that it can impede informed and nuanced decision-making. The fight against global climate change is a good example of

this possibility. Both the global system of forces that constitutes the climate and the ingenuity of the human mind are objects that one might reasonably wonder at; but it is very questionable whether such wonder has a place in policy decisions to stop climate change. It is easy to imagine wonder leading to an excessive confidence in either nature's homeostatic capabilities or in the promise of technology to turn the tide. What is needed in this context is not wonder, but level-headed decision-making.

Finally, wonder is a powerful force in politics. While there is much to be said for wonder as a social and political force,[22] one of the oldest tricks in the political book is to create a sense of wonder. From Hittite religious festivals[23] to Roman triumphal parades, from the military parades in the Champs-Élysées on the 14th of July to the Dutch king riding in a golden carriage, from Mao Zedong's gift of a mango to the people[24] to the smoke from the chimney on St. Peter's square: those in power can use spectacle to elevate themselves above others. This is an important ingredient in what has come to be known as the 'aestheticization of politics',[25] as well as in the Weberian notion of 'charismatic' rule. It is also inherently an asymmetrical, undemocratic way of using power. The dichotomy between those who stage the marvels and those who marvel at them corresponds to a

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[22] See La Caze (2013), Bendik-Keymer (2023).
[23] See Lysen (2022).
[24] See Dutton (2004) for a Foucauldian reading, where Mao's mango creates a sacred aura which serves as a technique of power.
[25] A phrase based on Walter Benjamin (1963); see Jay (1992).

split between those who have power and those who do not. In this connection, Epictetus' warnings against wonder ring true even today. If we would be able to emancipate ourselves from wonder, such political spectacle might fall on deaf ears. A truly democratic society would have no place for wonder in politics.

The dominant concept associated with wonder today is perhaps childhood. We consider children to be masters of wonder, and calls for embracing wonder are calls to connect with a playful and childlike instinct. Being in touch with this side of human nature is undeniably a wonderful thing. But we should be careful not to overstate the case for wonder: when it comes to truth, science, and politics, we do not want to be like children, but want to be emancipated. Some things are better left to adults.

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