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 Encountering Anaximander's In(de)finite
 Norman Sieroka
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Current affiliation of author (July 2020):
 Theoretische Philosophie,
 Universität Bremen
www.uni-bremen.de/theophil/sieroka

Abstract

In this paper I argue that the term ἄπειρος originally referred to things people experienced as inexhaustible, countless, or untraversable. This everyday usage provided the context for Anaximander's notion of the ἄπειρον. This observation receives support from Anaximander's world map, especially from its representation of an agent-indexed boundedness of lands and seas. That representation in turn draws upon and develops out of Homer and Hesiod, particularly the myth of Oceanus.

The Bounds of Experience: Encountering Anaximander's In(de)finite

Norman Sieroka

Anaximander has been the subject of renewed, and significant, scholarly attention. For example, Hahn 2001 has provided a subtle reconstruction of Anaximander's cosmology along the lines of ancient architecture, by showing, among other things, the importance of proportions modulo three, of working techniques in the production of column drums, and of the relevance of prose texts and planforms in early architecture. Complementing that work is Couprie et al. 2003 in which the contributors place the pre-Socratic philosopher against various aspects of his cultural background—this time not only architecture but also politics and astronomy. And Gregory 2016 discusses zoogony and meteorology in Anaximander.

I aim to enhance and complement these authors' efforts.¹ Assuming that it is only from a pluralism of methods and from concentrating on different systematic aspects that our picture of Anaximander can gain a depth of focus, I take those works as a starting point to draw attention again to Anaximander's notion of the ἄπειρον, the infinite or, rather, indefinite. More specifically, I take a closer look at Anaximander's world map and at ancient map drawing, and also at the original everyday usage of the adjectives

¹ For a critique against Hahn's approach see, for instance, Couprie 2011, 153-160. *Ancient Philosophy* 37 (2017)

ἄπειρος, ἀπείρων, ἀπείρατος, and ἀπείριτος, in an effort to determine how they may have formed the terminological background for Anaximander's notion.

I take the following interpretation as partially supplementing, partially providing an alternative to the standard scholarly understanding according to which the ἄπειρον is an abstract infinite body from which all things take their rise, into which they pass away, and which possesses the attributes of being 'immortal', 'divine', and of 'steering everything'. It is supplementing in that the present interpretation is not aiming to undermine the traditional view of the ἄπειρον as it figured from Aristotle and Theophrastus onward. Instead, I am interested in introducing a viable (and perhaps alternative) view on *what might have been relevant to the genesis* of Anaximander's central notion (which is compatible with its also having other connotations, especially later). That is, one might still adhere to the view that the term ἄπειρον turned into the first theoretical concept of Western philosophy and that, moreover, the aforementioned traditional (doxographic and later) attributes turn out to be true for what is then called ἄπειρον. However, my claim is that with regard to the genesis and early establishment of Anaximander's notion of the ἄπειρον it is central to investigate how this notion practically figured in possible everyday contexts (notably language use and cartography) as encountered by Anaximander and his contemporaries. I defend the view that the common meaning of the term ἄπειρος refers to something that a person considers 'infinite' or 'indefinite' in the sense of inexhaustible or untraversable, and this view receives particular support from the way in which those lands and seas that are taken to be ἄπειρος are represented on Anaximander's world map. At the same time, I illustrate how some of the abstract features of the ἄπειρον, as known from the doxographic tradition, may in fact attend to this earlier notion and common meaning. Altogether this leads to an understanding of Anaximander's (original) notion of the ἄπειρον that differs in some important aspects from other recent interpretations (such as Barney 2012 and Kahn 1995).

Section 1 recounts Anaximander's notion of the ἄπειρον. Here I briefly discuss the famous testimony by Simplicius, sketch part of Aristotle's discussion of the term, and then specify the meaning of the term and its usage in Homer and Hesiod. In section 2, I discuss the everyday notion of things being ἄπειρος and, more specifically, their depiction in Anaximander's world map. Section 3 provides a brief summary.

1. Anaximander's notion of the ἄπειρον

1.1 Simplicius's testimony

It suffices, for present purposes, to review briefly the much later but still highly important testimony about Anaximander (c.610-c.547 BC), which we owe to Simplicius (c.490-c.560). To allow for a cursory illustration of the main terminological problems and ambiguities of this passage, I provide two different translations from the literature:

Ἀναξίμανδρος...ἀρχὴν τε καὶ στοχεῖον εἰείρηκε τῶν ὄντων τὸ ἄπειρον,
 πρῶτος τοῦτο το τοῦνομα κομίσας τῆς ἀρχῆς. λέγει δ' αὐτὴν μήτε ὕδωρ
 μήτε ἄλλο τι τῶν καλουμένων εἶναι στοχείων, ἀλλ' ἑτέραν τινὰ φύσιν
 ἄπειρον ἐξ ἧς ἅπαντας γίνεσθαι τοὺς οὐρανούς καὶ τοὺς ἐν αὐτοῖς κόσμους.
 (DK 12A9)

Anaximander...said that the principle and element of existing things was the *apeiron* (indefinite, or infinite), being the first to introduce this name of the material principle. He says that it is neither water nor any other of the so-called elements, but some other *apeiron* nature from which come into being all the heavens and the worlds in them. (Kirk and Raven 1957)

Anaximander...said that the beginning and origin and element of existing things was τὸ ἄπειρον, being the first to introduce this term ἀρχή. He says it is neither water nor any other of the so-called elements, but some infinite nature, which is different from them, and from which all the heavens and the worlds within them come into being. (Seligman 1962)

Note that the nominalized adjective τὸ ἄπειρον occurs only in the first sentence, whereas in the second sentence the word occurs as a simple adjective attributed to nature (φύσις ἄπειρος). Several scholars have defended the view that Anaximander himself did not use the neuter adjective as a noun (De Vogel 1957, 7; Fehling 1994, 76-112; Duhrsen 2013; Couprie and Kočandrle 2013). This claim, however, is controversial and for present purposes it suffices to acknowledge that the original usage of the term was predicative (see section 1.4) and that it is likely that Anaximander came to know it in this form and that he prominently used it in this form as well—as it is also indicated by Aristotle (see *Phys.* 203a16-17). This acknowledgement is enough to raise a question regarding whether or not, and the extent to which, the term ἄπειρος was already a fully fledged philosophical concept in the days of Anaximander.²

1.2 Aristotle on ἄπειρος

The most important source for a systematic philosophical placement of Anaximander's notion of the ἄπειρον is, of course, Aristotle (384-322 BC).³ I aim only at a brief introduction of important attributes and interpretations traditionally associated with this term (both in its predicative and its substantive usage). These attributes and

² For a detailed *begriffsgeschichtliche* distinction between a (simple) word, a (technical) term, and a fully-fledged philosophical concept, see, e.g., Eucken 1879 and Rothacker 1955.

³ This claim holds despite concerns about Aristotle's interpretations of pre-Socratic philosophers being shaped by his own philosophical interests and projects as made prominent by Cherniss 1935. As far as specific references to Anaximander's notion of the ἄπειρον and to his map are concerned, one finds such a criticism against Aristotle (and the doxographic tradition more generally) already in Heidel 1921, 279-281, 287. Later detailed discussions can be found, for instance, in Kahn 1958, Gottschalk 1965, and Stokes 1976 and are touched upon also in various other places, such as Kirk and Raven 1957, 119-128, Holscher 1968, 87, Lloyd 1970, 19, Barnes 1979, 29-37, Asmis 1981, Kahn 1995, 20-22, 231, Gemelli 2005, and Graham 2006, 15-42.

interpretations may then serve as a kind of ‘checklist’ against which the plausibility of my subsequent interpretation may be evaluated. As already mentioned, my aim is not to defeat received views about ancient doxography but to complement them with considerations about the possible common sense or everyday background of the term ἄπειρος. And the persuasiveness of such a claimed complementarity would obviously be increased if I would be able to show some proximities and comparabilities with traditional views—that is, if I would be able to show points of contact where the semantic traces of an everyday notion of ἄπειρον might have easily paved the way for the development of the fully-fledged philosophical concept.

Let me focus on Aristotle’s interpretation and claims in *Physics* iii. Here Aristotle maintains that, generally speaking, the term ἄπειρος is used for something that entails the possibility of traversing it but where an actual traverse is in fact extremely exhausting (204a2-7). In what follows this characterisation will be the most important one, and I turn to it in detail below.

Also, already a little earlier on in the same book, Aristotle claims that the term ἄπειρος refers to an inexhaustible source of nature (203b18-20 = DK 12A15). Obviously, so the argument goes, we are surrounded by countless instances of the natural processes of becoming and declining, animals are born, grow, and die, etc. Hence, there must be a source or ‘reservoir’ for all these processes and, for the sake of avoiding a vicious regress, this source must be infinite, or rather inexhaustible.⁴

Interpreting the ἄπειρον in terms of an inexhaustible source of the power of generation for things in the world fits nicely with the claim that the ἄπειρον is indeed *spatially* inexhaustible—a claim subsequently appraised, though negatively, also by Aristotle (208a8-11). Moreover, this interpretation is also reconcilable with Aristotle’s claim according to which the ἄπειρον forms an unlimited principle (203b4-12) and with his subsequent claims about the ἄπειρον not being identical with any of the four elements (204b24-29), but rather with something ‘between’ them (203a18) in the sense of being a source from which the elements originate. (Again, most of the aspects mentioned here will be picked up again below.)

The last passage that is important to mention is *Physics* 204b22-205a7, because here ἄπειρον is discussed as denoting that which is qualitatively indeterminate. This interpretation, which might come as a surprise at first glance and which is criticized also by Aristotle, might in fact be reconstructed as follows: based on the assumption that there is a combat of the four elements fire, earth, water, and air, no element is allowed to prevail over the others (for then, contrary to what one observes, those other elements would cease to exist in the world). Hence, the four elements themselves must originate from something that, following the Aristotelian framework, does not share the qualities of being hot or cold, wet or dry—that is, they must originate from something that is qualitatively indeterminate.

⁴ The same interpretation is also mentioned by Aetius (DK 12A14). See also Kahn 1995, 38 and Holscher 1968, 38. Holscher even maintains that the phrase ‘so that becoming does not cease’ (μη̄ ὑπολείπειν γένεσιν—*Phys.* 203b19) is a quote from Anaximander.

A critique of the general idea that a single element prevails throughout the whole world might be interpretable as a direct response to a thinker like Thales, who claimed that everything is in some way made up of water.⁵ Such a claim might have been questioned by Anaximander easily by, for instance, hinting at the fact that there is fire in the world. However, there is also an aspect in which Anaximander might be said to continue Thales's approach, namely, insofar as being ἄπειρος was assumed to be a crucial trait of water or of the sea—though not in the sense of being (i) *literally infinite*, but in a more day-to-day sense of being (ii) *indefinitely vast by human standards*. These last claims, including the distinction between what might be called (i) agent independent and (ii) agent indexed notions of being in(de)finite, will become clearer and more plausible by having a quick glance at the etymology of the term ἄπειρος (subsection 1.3) and its usage in Homer and Hesiod (subsection 1.4).

But before turning there, let me end the present subsection by mentioning that it is not obvious in which sense one could comprehend all these mentionings of ἄπειρος under a single and specific Aristotelian notion of ἀρχή. For instance, a prominent ongoing debate is about whether Anaximander's ἄπειρον might be an ἀρχή in the sense of being the material cause of everything (Barney 2012). I come back to this point below and argue that, as compared to Aristotle's distinctions, Anaximander might have had a multivalent notion of what it means to be an ἀρχή (see subsection 2.3).

1.3 Etymology of ἄπειρος

The last comments already announce a shift from qualitative to quantitative indeterminateness. Admittedly, one might say that there is a certain neutrality or indeterminateness of the ἄπειρον with respect to the stuff or substance it might apply to. More importantly, however, this stuff or substance is quantitatively indeterminate because it is given in such a vast and even inexhaustible amount.⁶

Such an interpretation in terms of quantitative indeterminateness gains support by considering also the original meaning of the composite nominalized adjective τὸ ἄπειρον. According to standard etymology, the word expresses the absence or lack of πέρασ or πείραρ (Frisk 1973). That is, ἄ-πειρον means something that lacks boundaries or limits: the unlimited or limitless, the infinite or indefinite.

Both the terms 'infinite' and 'indefinite' indicate the absence of a *finis*, the Latin word for a boundary or limit. Not only the infinite, but also the indefinite has no limit or boundary, in the sense that it lacks a demarcation from other things. It lacks a definition. Accordingly, in this respect the terms 'infinite' and 'indefinite' can be used interchangeably and indeed have been used in such a way in the literature on

⁵ This is not meant as an uncritical adoption of the Aristotelian interpretation of Thales, which is itself disputed (see, for instance, Kirk and Raven 1957). To avoid going into this dispute in detail, I deliberately chose the vague phrase 'everything is in some way made up of water' to leave enough interpretational space, as it were.

⁶ As Gottschalk 1965, 53 puts it: ἄπειρον 'did not refer to the kind of substance but only to its vastness of extent'. Similarly, Dancy 1989, 151 claims that Anaximander shifts from 'telling us what' to 'telling us how much'.

Anaximander—not only in modern English translations (see quote from Kirk and Raven above), but also in ancient and medieval texts such as by Albertus Magnus.⁷

A different etymology has been suggested by Kahn 1995, 231-239. Kahn claims the composite noun stems from the root **per* occurring in the verb *πειραίνειν* or *περᾶν* that means to pass over or to reach the other side of something, especially with respect to a body of water. Following this interpretation, *πεῖρα* would denote the end or limit of such a passage and the term *ἄπειρος* would thus refer to something that (either for agent-indexed or agent-independent reasons) cannot be crossed or traversed from one end to the other.⁸ And even though this etymology might have an initial weakness to it (arguably an intermediate step is missing to account for the iota when moving from **per* to *πειραίνειν*), the existence of the relevant connotations is strongly supported by the aforementioned passage from Aristotle (204a2-7).

Notably, when it comes to interpreting the term *ἄπειρος*, the two etymologies are not necessarily incompatible. Indeed, they fit rather well together insofar as something that has no limits cannot be traversed. Accordingly, also other authors (e.g., Dancy 1989, 163) have conceded that terms such as ‘impassable’, ‘untraversable’, ‘unsurveyable’, and ‘indiscernible’ might be good translations of *ἄπειρος*.

Yet another suggestion, going back to Tannery 1904, has been taken up recently by Couprie and Kočandrle 2013. They assume Anaximander’s notion to be an alpha privative of *πεῖρα* (deriving from *πειρᾶσθαι* and meaning ‘trial’, ‘inquiry’, ‘experience’) so that the term *ἄπειρος* would refer to something ‘beyond experience’. Indeed, the existence of the homographic adjective *ἄπειρος* is well documented and the term is used to denote a person who is ‘not acquainted with’ something or ‘inexperienced’ (Frisk 1973). However, what is strongly contested is (i) that there existed a corresponding passive usage of the term denoting something that is ‘beyond experience’ and (ii) that it is indeed this homograph that was meant or used by Anaximander.⁹

Of course, homographs usually tend to have very different and unrelated meanings, such as, for instance, ‘bat’ and ‘bat’. However, it is equally obvious that homography by itself does not rule out factual connections between etymologies, not to mention common connotations in the everyday usage of words. And, even though the following interpretation does not rely on this, one might argue that some such factual connections exist in the case of Anaximander’s notion of the *ἄπειρον*, especially when taking into account the above distinction between agent-independent and agent-indexed interpretations. As I argue in more detail in section 2, there is a striking compatibility

7 ‘Anaximandros qui posuit *indefinitum* ex quo fierent omnia, propter materiae ad quodlibet quod fit ex ea *indefinitatem*’ (quoted from Wohrle 2012, 216; my emphasis). Besides, also later on, during the early modern period, the use of the terms ‘infinite’ and ‘indefinite’ is often interchangeable (see, e.g., Gabbey 2008 on Spinoza). Note also that, in the study of language and grammar, we speak about ‘infinitive’ and ‘finite’ rather than ‘indefinitive’ and ‘definite’ verb forms, despite the fact that these verb forms are surely not endless but only indeterminate with respect to the grammatical person (including singular versus plural); ‘to go’ is in-de-finite in this respect, whereas ‘she goes’ is de-fined.

8 I defend an agent-indexed reading of this interpretation and I take it that such a reading is also the one preferred by Kahn (see Kahn 1995, 232).

9 As for (i): note, however, that a passive usage is documented for the cognate *ἀπείρατος* (Tannery 1904).

between (i) an agent-based reading of Kahn's etymology of something being untraversable or inexhaustible and (ii) something going beyond the experience of an agent such that the agent is inexperienced or unacquainted with something in some relevant manner.

1.4 Usage of ἄπειρος (and cognates) in Homer and Hesiod

Further important evidence when investigating the starting point of Anaximander's enquiry can be gained by looking at the actual sources of a prephilosophical usage of the term ἄπειρος. The only sources available for this are, of course, the *Iliad*, the *Odyssey*, and Hesiod's *Theogony*.

Rather than the nominalized form τὸ ἄπειρον, it is the predicative usage—that is, the adjective ἄπειρος and its equivalent forms ἀπείρων and ἀπείριτος—which occur in Homer and Hesiod. Indeed, these adjectives occur at various places and are used to specify quite a variety of nouns. What is called in(de)finite most often is the sea (πόντος ἀπείριτος—e.g. *Il.* i 350; *Od.* iv 510, x 195; *Theog.* 109) and the earth or land (ἐπ' ἀπείρονα γαῖαν—*Il.* vii 446, xxiv 342; *Od.* i 98, v 46, xv 79, xvii 386; *Theog.* 878). Other things—or rather their amount or size—which are occasionally said to be in(de)finite are, for instance, ransom (ἀπερείσι' ἄποινα—*Il.* i 14), a crowd of people (δῆμος ἀπείρων—*Il.* xxiv 776), goats (αἴγες ἀπειρέσιαι—*Od.* ix 118), and chains (δεσμοὶ ἀπείρονες—*Od.* viii 340).

From these passages one might distinguish two types of connotations going along with the term ἄπειρος.

First, the term describes a lack of spatial bounds and the fact that some spatial extension cannot be traversed—at least not by any standard human means. Arguably, it is the agent-indexed meaning that is used here to mark the existence of something like a horizon (understood in the original sense of ὀρίζειν meaning 'to demarcate', 'to confine'; Frisk 1973). The point is not that the earth or sea is infinitely extended or literally endless in an agent-independent sense.¹⁰ It is rather that humans cannot reach a definite limit or end (Gemelli 2007, 57). They can only encounter indirectly a possible end in terms of an imaginary and unreachable line—that is, in terms of an ever receding horizon. Roughly speaking, as one travels, there are always new things on the horizon. Herodotus v 9 will later describe the land beyond the Ister (Danube) as being ἄπειρος. Again, the point here is not about a literal or agent-independent infiniteness. It is rather that this land is indefinite in the sense that it has not been encountered, let alone surveyed by human agents.¹¹ Anachronistically speaking, one might say that this region is indefinite in the sense of having no established metric. More than that, its end or limit is indeed supposed to be unreachable by any standard human means—not least because

¹⁰ Pace Kahn 1995, 233 an agent-independent notion of 'infinite space' appears only later: arguably in the context of pre-Socratic atomism and Democritus's notion of the 'void' (see Taylor 1999, 183-184 and Gregory 2016); and then, more prominently and clearly, in relation to geometrical considerations and their Euclidean axiomatisation (see Cornford 1936).

¹¹ There are neither inner nor outer boundaries or demarcations—cf. Gottschalk 1965 and Gregory 2016, ch. 5.

this region is assumed to be uninhabitable anyway (cf. subsection 2.2 below). To return to the aforementioned interpretation by Tannery and others: this land lies ‘beyond experience’.

Accordingly, the absence of landmarks or of a metric need not be understood as a deprivation in any strict sense. Instead, it can be considered a positive characterisation of what land and earth are before humans traverse and measure it (Buchheim 1994, 18 21). This consideration also opens up an interesting interpretation of the claim that everything originates from the ἄπειρον (DK12A14)—at least if the term ‘originate’ is read in a weak sense compatible with a process in which humans wrest the inhabitable earth away from the uninhabitable and unmeasured ἄπειρον (cf. Subsection 2.3 below).¹² Such a reading seems possible, even though wresting away or conquering is an active process, because the ever newly grasped parts of the earth might still be described as some kinds of renegades of the ἄπειρον. This is not to say that these parts have been created or caused by the ἄπειρον. It is only to say that, from the perspective of the conquering human agent, they stem from the ἄπειρον. ‘Originally’ it was part of the ἄπειρον, but now it is part of the οἰκουμένη.¹³

So far I have discussed only the first type of connotations of the term ἄπειρος. While these connotations have been decisively spatial, the second type, to which I now turn, is numeric or quantitative in a more general sense.

Obviously, the point about the goats in Homer is not that there are literally infinitely many of them in the land of the Lotus-eaters—at least not in the modern (agent-independent) sense of having a cardinality equal to that of the natural numbers. The point is simply that, by agent-indexed human standards, there are so many goats as to be ‘innumerable for all practical purposes’. There are in(de)finitely many of them in the sense that a human being cannot count them. Thus, again, the point is about the encounter with something so vast that one cannot get through it, as it were. As in the case of the horizon, one cannot literally reach the end of something. The same can be said for the other cases mentioned above. A crowd of people might also be countless or innumerable in this agent-indexed sense. Similarly, for the amount of a claimed ransom or for the number of chains needed to fix a captured hero: for a human being a concrete counting might simply be a hopeless enterprise.

Obviously, both types of connotations fit in well with the interpretation from above according to which Anaximander’s ἄπειρον denotes something that cannot be traversed from end to end. On the one hand, ἄπειρος indicates spatial extensions that are too huge to be traversed. On the other hand, it characterises concrete bulks, masses, and crowds that are too big to be concretely quantified by an actual measuring or

12 Note that the term πείραρ also means ‘decision’ (Frisk 1973). Hence, possible connotations of ἄπειρον with something un-surveyed in the sense of something un-evaluated, un-aligned, undetermined are not that far-fetched.

13 Compare, for instance, the case of dispossessing someone of a football in a football game. Here, again, it seems sensible to say that the ball ‘stems’ from the opponents, that the current move has its ‘origin’ in the previous loss of the ball, etc.; but surely nothing is implied about the ‘origin’ or ‘source’ of the football in the sense of it being sewn by the opponents.

counting process. Thus, it is all about horizons in the sense of limits or boundaries that, from a given agent-indexed point or perspective, cannot be reached or grasped.¹⁴

Altogether then, the term ἄπειρος can be taken to denote ‘that which is inexhaustible by human standards’. It describes a quantitative indeterminateness given by things that, on the basis of our human capacities, are judged to be unlimited. Notably, this interpretation seems compatible with the aforementioned Aristotelian characterisation of the ἄπειρον as denoting something of which a traverse is *possible* (and now one might be eager to add ‘in principle’) but where an *actual* traverse would be overwhelmingly exhausting...or, for that matter, simply *too exhausting* by any common or given human standard.

2. Encountering in(de)finiteness or inexhaustibility

With the paraphrase ‘that which is inexhaustible by human standards’ at hand, I now explore the way in which things may actually appear or are encountered to be ἄπειρος. That is, emphasis will be placed on the (agent-indexed) experience of vastness and unreachable boundaries (horizons) in space and of inexhaustible processes of counting and measuring where one is not able to run through something from end to end—neither on foot (or other means of travelling) nor by counting (or estimating or measuring).¹⁵

2.1 Experiencing things to be ἄπειρος

Surely, Anaximander can be assumed to be acquainted, at least orally, with Hesiod’s *Theogony* as well as with the Homeric epics that formed, as it were, the decisive ethical, cosmological and ‘scientific’ teachings in those days (Gemelli 2005, 123). Thus, the fact that the adjectives ἄπειρος, ἀπείρων, ἀπείριτος are so widely used in Homer and Hesiod suggests that it was quite common to describe things as being ‘in(de)finite’ or ‘inexhaustible’ in the above sense.

More specifically, I would like to suggest that this is an important quality of the way in which Anaximander and his contemporaries in Miletus encountered the earth and the sea. The land towards the east, north, and south and especially the sea towards the west (extending beyond the Pillars of Hercules) were experienced to be bounded only by an agent-indexed horizon that constantly recedes and never can be reached. Moreover, the sea is also indefinitely large in the sense that its watery content is (again by any common human standards) inexhaustible. One might take an amphora, go to the Milesian shore and scoop water from the sea once, twice, three times, four times, without ever changing the sea level. The sea level will remain the same and so the watery content of the sea appears to be ἄπειρος in the above sense. Moreover, the

14 Moreover, note that all the aforementioned connotations of the term are non-temporal. It is generally agreed in the literature that interpretations in terms of an infinite time or eternity are either later or at least not part of the original meaning of the term ἄπειρον. See, for instance, Holscher 1968, 38-39, Stokes 1976, 12, Dancy 1989, 166, and Graham 2006, 30-31.

15 To some extent Buchheim 1994, 18-21, 57-58 has hinted at these issues, but undertakes no detailed discussion.

aforementioned Aristotelian interpretation according to which the ἄπειρον is none of the elements but rather ‘between’ them (203a18, 204b24-29) might be understood as a possible generalisation or abstraction from the fact that the term ἄπειρον itself denotes neither earth nor sea (water), while at the same time it is attributable to both these elements: both are in(de)finite.

In sum, the notion of the ἄπειρον arguably comprehends traces from common daily experiences and practices that are not infinite in a literal or agent-independent sense, but that, for all human intents and practical purposes, would not come to an end and that present us with only (agent-indexed) perceptual demarcations and limits. Notably, insofar as they are relative to the position or perspective of the beholder, these limits or horizons are themselves part of the experience of something being inexhaustible.

2.2 Depicting in(de)finiteness on a map

The assumption that the experience of things being ἄπειρος is rather prominent or straightforward for a sixth-century Milesian such as Anaximander is further corroborated by the first world map of ancient Greece, which indeed goes back to Anaximander himself (DK 12A6). Two reconstructions of this map are provided in Figure 1. The similarities and differences between these two reconstructions suffice to indicate the controversial and uncontroversial features of the map that are relevant in the present context.¹⁶

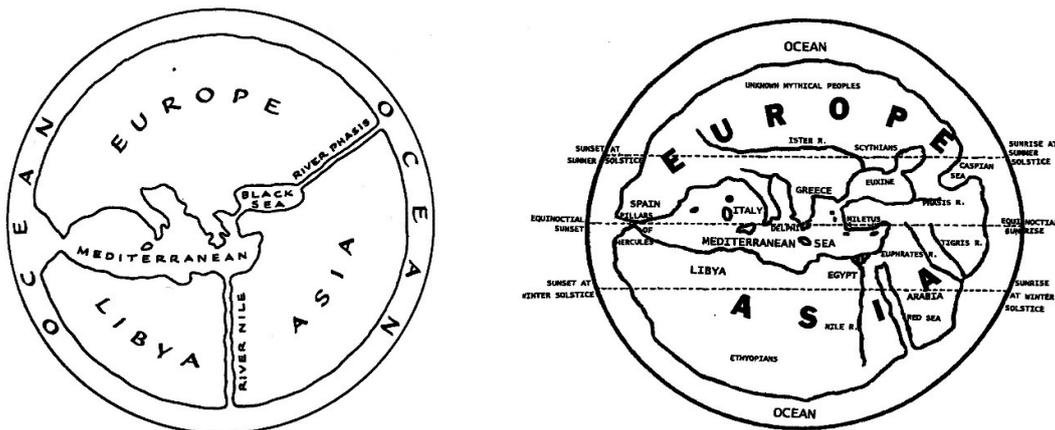


Figure 1: Two reconstructions of Anaximander's map (left: taken from Robinson 1968, 32; right: taken from Couprie 2003, 196).

¹⁶ For the historical transmission of the details of Anaximander's map through Hecataeus and Herodotus cf. Heidel 1937 and Naddaf 2003, 32-55.

Among the controversial issues is, for instance, the question of what figured as the centre of this map, as the navel of the earth (ὀμφαλὸς γῆς). Common suggestions are Miletus and, especially, Delphi (as in Figure 1). A different possibility would be the Nile River Delta (Naddaf 2005; Hahn 2010, 157, 265). Another controversial issue concerns the division of the earth into either two (Europe and Asia) or three (Europe, Asia, Libya) parts and their exact separation and further sub-division by seas and rivers (see *Hdt.* ii 16).¹⁷ Among the uncontroversial issues are the facts that the map was circular, that the earth was depicted as being surrounded by water, and that the map depicted both the inhabited part (the οἰκουμένη) and the uninhabited part of the world.

This means that, in addition to the well-known area around the Mediterranean Sea, what was depicted, or rather epitomised, were the in(de)finite landmasses of Europe and Asia (and Libya) that extend far beyond the then known and surveyed part of the earth. In fact, the unknown and unsurveyed parts were assumed to be uninhabitable and untraversable because of the extreme climate: the far north was supposed to be too cold, and the far south too hot (*Hdt.* iv 36, v 10; Heidel 1937, 19-20, 24, 31). Remember also the aforementioned claim by Herodotus about the in(de)finite land on the other side of the Ister and compare it to the course of the river drawn on the right map in Figure 1.¹⁸ This reconstruction of Anaximander's map is due to Couprie 2003, 194-197 and has been inspired by considerations about Anaximander's cosmology and possible astronomical measurements. Using a gnomon, Anaximander was able to measure the points on the horizon of sunrise and sunset at the summer solstice and at the winter solstice. According to Couprie, marking these two pairs of points on the map and connecting each pair with a straight line gives the bounds of the οἰκουμένη—that is, the borderlines of where the climate becomes too cold and too hot, respectively.¹⁹ So, just to emphasise this point again, the lands beyond the Ister—which happens to flow along the first of these two borderlines—and those in the far south are uninhabitable and untraversable: they extend beyond what can be reached by a human individual and in this sense mark the agent-indexed bounds of the earth; and what lies beyond them lies, as it were, 'beyond experience'.²⁰

If the standard for discussing and evaluating Anaximander's map would be that of a modern surveyor, then of course only the inner parts of the map would be worth serious consideration. However, the question is exactly whether a survey in the sense of a modern geographical map that is true to scale was actually what Anaximander aimed for. Once more, there is the danger of running one's own agenda over a pre-Socratic philosopher. In fact, it is pretty clear that Anaximander was not aiming to provide a serviceable chart of the Mediterranean and its environs, meant to guide travellers from,

17 See also the different opinions and interpretations in, for instance, Gigon 1945, 89-90, Kahn 1995, 82-84, Naddaf 2003, 34-36, 48-55, and Couprie 2003, 194-201.

18 As for the Ister going from east to west, see also Heidel 1937, 42.

19 Similar claims as in Couprie can already be found in Heidel 1921, 244-245; 1937, 17-20.

20 Note that if Miletus rather than Delphi figured as the centre of Anaximander's map, this would make no difference with respect to the position of the borderlines of the οἰκουμένη, since Miletus and Delphi have roughly the same latitude. Things would be different, of course, if the centre of the map was indeed the Nile River Delta.

say, Miletus to the Nile River Delta or to Sicily. A serviceable sea chart, for instance, must include much more detailed information about shallows and typical wind regimes.

By the same token, the famous critique by Herodotus iv 36—according to which the early maps of the world were embarrassingly naive because of their circular shape and the depiction of the bounds of the earth—needs qualification. First of all, historiography was an overtly competitive enterprise in the Graeco-Roman tradition so that a harsh tone against one’s predecessors is rather common (Lloyd 2009, 67-70). Second, what was seriously doubted by Herodotus was particularly, if not only, the encircling river (Heidel 1937, 20-22, 75). Here, however, the function of this circular limitation of the earth should be taken into account. Remember that, even if the shape of the whole Anaximandrian map was circular, the shape of the inhabitable and measureable part (οικουμένη) was very regular and polygonal; it was demarcated by straight lines deriving from gnomon observations.²¹ So the circular shape of the encompassing river might fulfil a different function, namely, that of indicating the limits of the uninhabitable and unsurveyed part of the earth. Of course, depicting this kind of bound or imaginary horizon on a map is not trivial. Perhaps one way of doing so would have been to drain off the landmasses, to have Europe, Asia (and Libya) ‘fizzle out’, as it were. A different option is to depict the limit itself as a kind of ideal or imaginary line—and this option or technique is obviously the one chosen by Anaximander. Surely, it is not my aim to make Anaximander the inventor of projective geometry. However, the way in which in(de)finite landmasses—that is, landmasses that by definition cannot be drawn true to scale—are depicted on his map might very well be considered as a clever geometrical manoeuvre rather than as being naive.²²

Thus, Anaximander’s map represents important aspects of his natural philosophy. It seems that one of his aims was to depict the relation between, on the one hand, the inhabited and accessible part of the world, the οικουμένη that could be encountered by standard human means of travelling, and, on the other hand, the uninhabited and inaccessible part of the world. Thus, it would really follow by definition that this latter part is not depicted true to scale. However, this does not imply that one must not take the outer parts of Anaximander’s map seriously. They may very well and deliberately depict the ἄπειρον by epitomising in(de)finite and uninhabitable landmasses and sea.

In fact, it is well known that in antiquity map drawing and also general geography figured as a means for depicting and epitomising central results and convictions of one’s ιστορία περὶ φύσεως (Gehrke 1998; see also Naddaf 2005, 92-112, Heidel 1921, 257 and 1943, 262). The latter term (ιστορία περὶ φύσεως) denotes the general enquiry into the development of the whole world from its origin to its present state, which is what pre-Socratic philosophers were typically aiming for (Heidel 1921, 263, 271; Lloyd 1999, 169). In particular, this involves convictions and assumptions not

21 Cf. Couprie’s reconstruction of Anaximander’s map above and see Heidel 1937, 13, 20, 55.

22 In fact, as I argue elsewhere (Sieroka 2019), this manoeuvre might be understood along the lines of what other Anaximander scholars called a ‘pre-conceptual symbol’ (cf. Seligman 1962).

only about how the cosmos came into existence, but also about how animals, human beings, and human society evolved. It is, so to speak, something like a combined cosmo-, zoo-, anthropo-, socio-, and politogenesis (Naddaf 2005, esp. 2-4).²³ Accordingly, Anaximander's map depicts and epitomises the 'conceptual space' of Anaximander's worldview, including emblematised assumptions about the origin and nature of the earth and its inhabitants (Naddaf 2005, 105).

Just to illustrate this point by means of a further example, let me briefly mention Anaximander's 'pupil' Hecataeus (c.560-c.480 BC). As far as known, Hecataeus delivered concrete travel reports that might have improved the topographical knowledge of the far east and west; the general shape of the map, however, and the concept of οἰκουμένη remained the same as on Anaximander's map (Heidel 1937, 48, 134; Schadewaldt 1982, 96-97). So, again, the main aim was not to provide a concrete map of the earth true to scale but to depict the conceptual space of a ἱστορία περὶ φύσεως (Jaeger 1934, 214-216). Besides, it has been claimed that in Hecataeus cartography and anthropology (and 'physiography') really are complementary projects and that his map is intended as an explicit means of showing the coming to be and frame of the οἰκουμένη (Heidel 1943, 262-266). I agree with this claim and may only add that much of this can be found already in Anaximander and his map.

However, there also seem to be important differences between the ἱστορία περὶ φύσεως of Anaximander and that of Hecataeus. Apparently, Hecataeus went as far as employing ideal elements and thereby aimed at turning geography and natural history into an exact science such as mathematics (von Fritz 1978, 39-43). As far as known, Hecataeus assumed that regions and countries can be depicted by idealized geometrical shapes, just like in geometry itself where the existence of ideal figures is assumed even though the shape of any concrete triangle scribbled in the sand is deficient in this regard. Also much later, Strabo (c.63 BC-c.23), for instance, still claimed that the geography of the earth as a whole is to be based on geometry and natural philosophy, rather than large-scale surveying.²⁴

Let me go back to the details of Anaximander's map to explicate how his 'conceptual space' might have figured in it. Notably, the circular shape of his map not only fits in with a (projective) depiction of the ἄπειρον but also with the fact that Anaximander assumed the earth to be shaped like a column drum (DK 12A10)—that is, the map provides a circular topview. In addition, the horizon of the map is given, first, by the demarcation line between the earth and the ocean and, second, also by the ocean itself. Like the earth, the ocean was claimed to be ἄπειρος by Homer and Hesiod and, again as in the case of the earth, this is epitomised by an imaginary (projective) circular rim.

23 The term ἱστορία (taken alone) refers to any kind of research or its end product, especially with regard to the plenty of what one sees when encountering the world (cf. Frisk 1973).

24 At this point, one may also wonder about possible debts between Anaximander and the Near East; or one may wonder about cross-cultural comparisons more generally (with archaic map drawing in, for instance, China). However, such considerations are not at the heart of the present inquiry.

Next, Anaximander's claim about the ἄπειρον 'encompassing everything' (τὸ πάντα περιέχειν—*Phys.* 207a19) receives a spatial sense now, since the circular boundary or horizon of the ocean encompasses both the inhabitable and the uninhabitable parts of the earth. Similarly, the claim that the ἄπειρον is 'encompassing all the [ordered] worlds' (πάντας περιέχειν τοὺς κόσμους—DK 12A11) can be made sense of by adopting the assumption that 'ordered worlds' (κόσμοι) refers to the inhabitable and accessible parts of the earth as suggested by several scholars (Kahn 1995, 49-53; Diller 1956, 59). The claim as depicted on the map would then be that the οἰκουμένη is surrounded by (metrically) in(de)finite landmasses in the north and south and by the ocean in the east and west.²⁵

At this point, it becomes tempting to consider again the interpretation of Anaximander by Tannery and others and even to push it a little further: If at least some of the connotations of Anaximander's ἄπειρον derive from the homograph meaning 'not acquainted with' or 'beyond experience', then it would make sense to characterise what lies *within* these bounds as being the ἐμ-πειρον or ἐμπειρία.²⁶ That is, the inhabitable inner parts of the world would be associated with what is empirically accessible to humans or what humans are acquainted with, whereas the in(de)finite surrounding parts extend beyond that into the empirically unknown and inexhaustible.

Thus, the empirical accessibility and inaccessibility of the inner and outer parts of the map would strongly reinforce communalities or even a rapprochement of the connotations of the two homographs. Also the aforementioned idea of a process in which humans have to wrest the inhabitable and surveyed earth away from the uninhabitable and unmeasured ἄπειρον would be substantiated further by the fact that the term ἐμπειρία and the notion of being experienced carry several related and prominent connotations of travelling and surveying (Schadewaldt 1978, 169-170).²⁷

This is not to claim that the Tannery etymology is the correct one. My aim is just to show likely reverberations of homographic semantic traces. Notably, the same reverberations and connotations are also made use of by Anaximander scholars who would otherwise strongly oppose Tannery's etymology. Time and again one finds claims about the ἄπειρον referring to something 'unknown to us' (Kahn 1995, 237), something 'removed from our perceptions by being out of reach' (Freeman 1966, 56), or something 'inaccessible and mysterious, beyond empirical scrutiny' (Graham 2006, 34).

25 This claim presumably holds good for, as it were, 'both lids' of the column drum earth. That is, our possible antipodes would live in their own κόσμος or κόσμοι. Besides, in DK 12A11 it says that Anaximander maintains that the ἄπειρον is the origin of the worlds (οὐρανοί—plural) and of the ordering (κόσμος—singular!) within them. Since the meaning of the plural οὐρανοί is particularly unclear in this context (cf. Kahn 1995, xii, 34-35, 43, 46-53), I refrain from speculations about possible further cosmogonical implications.

26 A similar opposition ἄπειρος—ἐμπειρος has been suggested by Tumarkin 1943, 56-58.

27 Notably, similar etymological relations can be found still today, especially when referring to (experienced) persons. In German, for instance, the words 'er-fahren' (to experience) and 'be-wandert' (to be experienced or knowledgeable about something) explicitly entail verbs of travelling and hiking. Compare also English expressions such as 'an untravelled person' that refers to someone who is rather provincial (*narrow minded*) and inexperienced.

Taken together and independently of the reference to Tannery’s interpretation, Anaximander’s world map is to be considered as an effort in conceptual cosmological and philosophical abstraction and construction. It abstracts from direct experience, depicts the bounds of what is directly accessible, and complements it in a speculative and constructivist fashion (Gehrke 1998, 182).²⁸

2.3 A cosmological objection?

Having discussed how the notion of an ἄπειρον figures in relation to earth and sea, questions may arise as to whether the heavens—more specifically, the cosmic wheels of the sun, moon, and stars as asserted by Anaximander—are in(de)finite as well and how they are related to the ἄπειρον as epitomised in Anaximander’s map.

Admittedly, the idea that the ἄπειρον is somehow the ἀρχή of the heavens is a firm point of ancient doxography (see the testimony of Simplicius from above: ‘from which come into being all the heavens and the worlds in them’) and of several modern interpretations—and, at the same time, it seems to be an important objection against my interpretation. However, it is also true that most interpretations take the exact ‘generic’ relation between the heavens and the ἄπειρον as being rather difficult and that there is hardly any direct or convincing connection which could be drawn (Couprie 2003, 237). Besides, it has also been explicitly argued that in Anaximander the heavens did not originate from the ἄπειρον but that they exist independently—that is, that they are ‘simply there’ (Gigon 1945, 62, 78).

Given these diverging claims, it seems that there are two general strategies available in order to relate things to the present interpretation.

First, one could claim that, after all, there are two ἄπειρα then—a terrestrial one as depicted on the map (and as argued for above) and an extra-terrestrial one (as argued for, e.g., by Kahn 1995). Such a duplication, however, does not seem very attractive because it would be *ad hoc* and would lack specific textual and contextual support.

Second, one might adapt the suggestion from subsection 1.4 about a weak (and agent-indexed) understanding of the term ‘origin’. The claim that the ἄπειρον is the ἀρχή of the heavens would then be understood not as a claim about some abstract entity literally producing or creating something. Instead, claims would be about how things appear from the perspective of the, as it were, conquering agent. From his or her perspective, whatever goes beyond the οἰκουμένη (be it land or sea or heaven) is part of the ἄπειρον; whatever gets wrested away might—at least from the agent’s perspective still and trivially be said to ‘stem’ or ‘originate’ from the ἄπειρον

I take this to be a viable interpretation. As already indicated (see subsection 1.2 above), it would suggest that Anaximander’s (pre-Aristotelian) notion of ἀρχή is one for which the later Aristotelian terminological separations between source, principle, cause, beginning, origin, explanatory feature, etc., are not particularly relevant. More precisely, the compatibility just discussed, between the spatial ‘beginning’ of the heavens and their

²⁸ As I argue elsewhere, this kind of abstraction was indeed of utmost importance for the further development and history of what, later on, one would call ‘science’ (Sieroka 2019).

(apparent) ‘origin’, suggests that some of these later separations might seem artificial from an agent-indexed perspective. It is in this sense that I would claim that various non-equivalent notions of ἀρχή are in play when Anaximander considers the role of the ἄπειρον in different contexts. Note, at this point, also the striking doubling of ἀρχή and στοιχεῖον in Simplicius (see above), a doubling that can also be found in Diogenes Laertius (DK 12A1) and in Hippolytus (DK 12A11) and that might be taken as an indication that these authors, too, thought of Anaximander’s ἄπειρον as not entirely fitting a specific reading of ἀρχή (Riedel 1987, 5-7).

Besides, whatever is to be said in detail about Anaximander’s cosmological claims (about the ‘origin’ of the heavens, about the finite numerical relations between the sizes of the different and closed cosmic wheels, etc.), it remains a fact that the notion of the ἄπειρον is most prominently related to contexts of empirical and earthly encounters with inexhaustibilities of common objects such as goats, water, and territories—and it is with regard to these contexts that the present interpretation does particularly well.²⁹

So let me come back to Anaximander’s map and to how it relates to or even depicts other everyday convictions. As already mentioned, here Homer and Hesiod were the canonical figures to engage with, even in natural philosophical contexts such as geography and map drawing (Gehrke 1998, 166).

2.4 Maps and myths

The above interpretation of Anaximander’s map bears striking parallels and analogies with ancient mythology as provided in Homer and Hesiod. Having already discussed the usage of the adjective ἄπειρος above, this is another opportunity to show continuities between the early epics and Anaximander. Indeed, it has been claimed that such continuities or congruences with Homeric and Hesiodian motives and terminology form the central characteristic of early Ionian philosophy (Kahn 1995, 148). Accordingly, showing continuities with earlier mythologies is surely not meant to diminish Anaximander’s ground-breaking role for later conceptual and metaphysical thinking (Gigon 1945, 9-11, 79, 98). The exact opposite is true: relating and partially reconciling the motives and terminologies of Anaximander’s ἱστορία περὶ φύσεως with those of his two most important predecessors can function as an illustration of the early beginnings of what Lloyd 1970, 8 calls ‘the practice of rational criticism and debate’ that gave rise to philosophy.

Famously, Oceanus already occurred at the outer rim on the shield of Achilles (*Il.* xviii 607-608). In both the *Iliad* and the *Odyssey*, Oceanus is repeatedly described as the outermost limit of earth and sea (cf., e.g., *Il.* viii 478-479; *Od.* iv 563, ix 284). Moreover, for human beings this limit behaves more or less like a receding and unreachable horizon (Schadewaldt 1978, 237). In Homer and also Hesiod, this limit or

²⁹ For a more detailed discussion of the sizes of the cosmic wheels and how they arguably derive from gnomon measurements and relate to political and social institutions, such a temple building, see Hahn 2001; 2003; 2010, 172-175, Naddaf 2003, 84-85; 2005, 77-86, and Couprie 2003, 211-218; 2011.

πέρας is only reached by gods, and especially titans such as Tethys are associated with it (see, e.g., *Il.* xiv 197-202, 300-304). Mythologically, this is perfectly straightforward, given that the titans are the offspring of Gaia and Uranus (Earth and Heaven).

It is tempting to read Anaximander's map even further in such a mythological and cosmogonic sense; all the more so since it fits in well with the above claim according to which the map depicts the 'conceptual space' of his *ἱστορία περὶ φύσεως* that, in turn, includes an anthropogenesis. In his prose texts, Anaximander aims to sketch the life history of the cosmos from its origin in indefiniteness (chaos, unsurveyedness) to the present (Naddaf 2005, 64). He aims to sketch the origin of world, earth, organic life, human life and civilisation—and heroic genealogies function as bridging 'the interval between the beginnings and the disposition of the peoples and their habitats in Anaximander's time' (Heidel 1921, 287). And this has direct repercussions on what is sketched on his map (Heidel 1943). The move from the rim to the centre of the map then might be understood as reflecting both a move from the ἄπειρον to the κόσμοι and a move from the world of the titans and gods to that of human beings (Naddaf 2005, 106-112). Think again also of the shield of Achilles and the way in which cosmological beliefs and genealogies figure on it.

This interpretation is reinforced by the fact that according to Homer, Oceanus is the creator of everything (γένεσις πάντεσσι—*Il.* xiv 246); in particular of the gods (θεῶν γένεσιν—*Il.* xiv 201, 302), but also of the seas, rivers and springs (*Il.* xxi 195-197). By the same token, the aforementioned claims about the ἄπειρον being godlike, immortal and steering everything (*Phys.* 203b11-15 = DK 12A15) would also make straightforward sense. One might even say that the ἄπειρον takes up the place of the gods and titans in a literal (spatial) sense. The place of birth or 'line of origin' of the titans and gods—a place unreachable by mortal humans—is now given by the horizon of the ἄπειρος earth and sea. Similarly, the innermost part of the map depicts not only that part of the earth that is inhabitable by human beings, but also depicts the origin and spread of human civilisation.³⁰

There is a further, tempting—but in fact rather misleading—similarity between the Homeric Oceanus and the ἄπειρον. Given that the river Oceanus is earth-encircling, there is a sense in which it lacks any end or boundary. As Heraclitus puts it in one of his characteristic paradoxical statements, on a circle 'beginning and end are falling together' (DK 22B103: ξυνὸν γὰρ ἀρχὴ καὶ πέρασ ἐπὶ κύκλου περιφερείας). However, in the early Greek texts this kind of property, which in modern terms is referred to as 'boundlessness' rather than 'infinity' or 'indefiniteness', usually is not described by the term ἄπειρος, but by ἀψόρροος and τελήεις—that is, by 'flowing back into itself' and 'ending in itself' (see *Il.* xviii 399, *Od.* xx 65; *Theog.* 242, 959).³¹ Moreover, the only

30 For further details on the relation between natural history and map drawing see again von Fritz 1978 and Gehrke 1998; cf. also Naddaf 2003, 32, 42. Notably, such an 'evolutionary view' of the map also fits the notoriously difficult idea that things 'separating out' of the ἄπειρον are not pre-existing as such beforehand (see, e.g., Gottschalk 1965, 45-46), especially since the Greek term for 'separating out' is ἐκκρίνεσθαι or ἀποκρίνεσθαι that carries organic associations.

31 See also *Phys.* 206b33-207a9 where Aristotle explicitly criticizes the occasional (and arguably later) usage of ἄπειρος in the context of circles and rings as being boundless.

explicit mentioning of a cycle in connection with Anaximander stems from a passage by Pseudo-Plutarch, and this passage was shown hardly to provide any convincing evidence that Anaximander had in mind the very specialized (and presumably later) usage of ἄπειρος as referring to something that is boundless qua being circular (Stokes 1976, 21-22).

Thus, even though there is a sense in which Oceanus might be said to be ‘infinite’ simply qua being a circle, the much more prominent association in early Greek times with the claim of Oceanus being ἄπειρος is arguably that of something vast providing limits to the earth. Of course, in the present case it follows that the ocean is also encircling (or for that matter περιέχειν), but it follows for reasons having to do with the assumed shape of the earth rather than with the conceptual necessity of circles being boundless.

Besides the similarities between the ἄπειρον and Oceanus (suggestive and misleading, respectively), there are also well-known and striking parallels between Anaximander’s notion of the ἄπειρον and Hesiod’s notion of χάος or χάσμα (Lloyd 1970, 19, 40; cf. also Schadewaldt 1978, 250, and, more critically, Holscher 1968, 61-63, 88-89). In Hesiod it is this ‘yawning gap’, this tremendous abyss or throat, from which everything originates (*Theog.* 116, 740). Notably, it is unmeasurable and untraversable: it is nothing like a gulf or cave, but something uninhabitable where all our measures and standards break down (Buchheim 1994, 59-61). In these respects it is like the ἄπειρον and it might also be thought of as being all encompassing in the sense of being able to devour everything. In a similar vein, it has been claimed that the χάσμα like the ἄπειρον—relates closely to the bounds of the earth and to the earth-encircling Oceanus (Riedel 1987).³²

As a remark on a more general level one might also argue that (notwithstanding all the important detailed differences to which I will turn immediately) the typical overall intellectual project of an early pre-Socratic such as Anaximander is similar to that of Hesiod, namely, to provide a ἱστορία περὶ φύσεως (Naddaf 2003, 10, 48; 2005, 3-9, 47-57).

Notably, all these comparisons with Homer and Hesiod are about *structural* similarities. The previous claims are not, for instance, about whether or to what extent Anaximander might have still believed in a personalised ocean—that is, in a titan called Oceanus being the oldest son of Gaia and Uranus. In fact, it seems that Anaximander did not believe in a personalised ocean and that he was viewing natural phenomena rather as forming classes of regular and maybe even determinable sequences of events (Naddaf 2005, 95; cf. also Naddaf 2003, 35 and Holscher 1968, 84-86). The point is that Anaximander retained several relational features or traits that were attributed to the ocean anyway and that it is exactly due to focussing on these traits that questions about mythological personification became marginalised.

³² In fact, one might further relate this to claims attributed to Xenophanes; claims according to which there is an upper and lower bound (πεῖρας) of the earth and the lower bound is maintained to be in(de)finite (ἄπειρος), which means that it transcends what is reachable or graspable by human beings (see DK 21A47 and especially 21B28; cf. also Kirk and Raven 1957, 110).

3. Summary

I have suggested ways in which, in everyday life, people in the time of Anaximander presumably encountered and claimed things to be ἄπειρος: landmasses and sea were claimed to be in(de)finite or inexhaustible insofar as they are unknown and untraversable (and limited by an ever receding horizon); and immense masses of particular objects were claimed to be in(de)finite or inexhaustible insofar as they cannot be counted by a human being. In both cases the inexhaustibility is an agent-indexed one. It is ‘by human standards’ or ‘for all practical purposes’ that these regions cannot be traversed or that these objects cannot be counted.

Based on the fact that the usage of words is part of everyday experience and practice, I suggested that these semantic traces shaped the background of Anaximander’s notion of the ἄπειρον and that this is partially visible also from Anaximander’s world map; from the way inexhaustible landmasses and sea are depicted (or rather epitomised) in a fashion that is often also congenial to further cosmological and natural philosophical considerations. Thus, the map turns out to be a representation of Anaximander’s ἱστορία περὶ φύσεως more generally.

Moreover, the investigation of both the world map and the semantic traces suggests that the prominent agent-indexed connotations of the two homographs—ἄπειρος as deriving from πέρασ or πεῖραρ versus ἄπειρος as deriving from πεῖρα—may partially run together or at least in parallel. That is, Anaximander’s notion may well have carried connotations of something going beyond the empirically familiar.³³

ETH Zurich
CLW C3 (Clausiusstrasse 49)
8092 Zurich, Switzerland

³³ Here a brief and supplementary remark on methodology might be in order (for more details, see Sieroka 2019). Combining such considerations about map drawing on the one hand and everyday experience or practice in terms of language usage on the other is legitimate, given that pre- Socratic philosophy encompasses all objects of experience and every, at least non-artificial, subject of rational enquiry. Besides, historiographical methods similar to the one applied here can be found, for instance, in Graham 2006 and, in particular, in Hahn 2010. I am very grateful to Richard Allen, Dirk Couprie, Max Creswell, Andrew Gregory, Michael Hampe, Pieter Sjoerd Hasper, Joe Karbowski, Sir Geoffrey Lloyd, Jonathan Lorand, Gerard Naddaf, Christopher Shields, Gerhard Tiecke, and an anonymous referee for their very helpful comments and suggestions on earlier versions and drafts of this article. I also would like to thank audiences in philosophy and history at the University College London, the University of Cambridge, and the ETH Zurich.

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