The five short case studies that I present here invite us to exercise caution when we try to reconstruct what early cosmo-philosophers, to coin a term, might have thought about the relationship between world and soul. My question is a limited one. It does not bear on Preplatonic theories of the soul in general, although it does affect the way we would have to deal with the question. But even within these limits, the review of the evidence is not complete, not so much because taking into account some thinkers such as Diogenes of Apollonia or certain Hippocratic treatises such as *On Breath* would exceed the limits of this chapter,

but above all because my point is methodological: it is meant to illustrate the general difficulty of raising questions of philosophico-doxographical nature (‘What did they think about the soul?’) when we have good reasons to think that a certain notion of soul, broadly speaking the Platonic or quasi-Platonic notion that is still with us, was not available to them. What I want to show is how two basic and interrelated meanings of *psukhē* – namely ‘breath’ and ‘life’ – which are pervasive in the archaic period, may have helped Platonizing, or for that matter Stoicizing, interpreters to justify their distorted reading of the evidence. The upshot is in a sense negative. I do suggest, however, that framing it in terms of ‘breath’ and ‘life’ helps us in getting a more adequate understanding both of the authentic evidence and of the history of its reception.

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1 The interested reader can find the relevant material in Laks 2008 (cf. also Section 1.3 on Heraclitus T6 and n. 60.) Karfik 2014 deals with Anaxagoras and Empedocles, but from an angle that does not concern me here (cf. Laks 2018: 2 n.1).

2 On the ‘doxographical’ nature of many contemporary philosophical approaches of ancient material, see Frede 1992.

3 For an approach based on premises radically opposed to those adopted here, see Finkelberg 2017.
The representative cases I shall consider are those of Thales, Anaximenes, Heraclitus, as well as some Pythagoreans and Alcmeon, but it will be helpful to begin with a chapter in Aëtius’s doxographical handbook (Book 2, chapter 3) promisingly entitled ‘Whether the world (kosmos) is ensouled (empsukhos) and administered by providence’:

1. All the others: the world is ensouled and administered by providence.
2. But Leucippus, Democritus and Epicurus and all those who introduce the atoms and the void: it is neither ensouled nor administered by providence, but by some unreasoning natural entity.
3. Ecphantus: the world is constituted of atoms, but administered by providence.
4. Aristotle: it is neither ensouled through and through nor endowed with sense-perception nor rational nor intellective nor governed by providence. For the heavenly region shares in all these [sc. features] because it contains ensouled and living spheres, while the region around the earth does not share in any of them but participates in good order by accident and not in a primary way.

As Mansfeld and Runia have shown in their pathbreaking work, the chapters in Aëtius’ handbook are structured according to a recurring pattern (which they call ‘dialectical’). In the present case, the first two entries exhibit two opposing views on the pair of questions featured in the title: the Atomists, ancient and recent, reject the ensoulment of the cosmos as well as the notion that it is governed by providence; ‘all the others’, on the other hand, accept both tenets. This ‘main diairesis’ is followed by two particular cases – those of Ecphantus and Aristotle – which do not fall under either of the two broad options.

The first lemma, which is anonymous, is the one in the present context that interests us most, not in spite of the fact that the position Aëtius reports is anonymous, but because of its very anonymity. It is highly probable that the formula ‘all the others’ is the result of the progressive abridgement of a list of names featuring in previous versions of the handbook. Who the

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4 The translation is from Mansfeld and Runia 2009: 344, with some modifications. The second entry follows Ps.-Plutarch’s version, rather than Stobaeus 1.21.3.c.
5 Unless otherwise noted, translations are from Laks and Most 2016 (henceforth, ‘LM’) with occasional slight modifications. The translations of the few passages not from LM (indicated by (≠ LM)) are my own unless otherwise indicated.
6 See e.g. Mansfeld 1990.
7 For a detailed reconstruction and analysis of the chapter, see Mansfeld 1990: 337–46. Some details in Laks 2018: 4f.
8 On this well-attested doxographical process of reduction, see Mansfeld and Runia 1997: 192.
authors concerned? Plato, as represented by his *Timaeus*, is certainly the first one that comes to mind. But the mention of Leucippus and Democritus in the second entry, as well as of Ecphantus in the third, is enough to remind us not merely that the authors mentioned in Aëtius’s handbook extends from the first Greek thinkers to the Stoics, but also that those we call ‘Presocratics’ often constitute the bulk of the authors considered. As a matter of fact, there is little doubt that a number of these ‘first philosophers’, if not all of them, lurk behind the formula ‘all the others’.

In what follows, I reproduce and comment on a representative sample, for each of the five authors I have selected, of the evidence for the notion of ‘ensouled world’. To the extent that it is possible or relevant, the passages appear in reverse chronological order, i.e. from the most recent to the older ones, so as to highlight the process by which, to put is crisply, Presocratic worlds became ensouled. In the clearest cases, the words that triggered the appropriation, Platonic or otherwise, can be identified. I have italicised those; the main terms or formula that I take to be the result of this appropriation, on the other hand, are printed in bold.

### 1.1 Thales

The evidence concerning Thales may be conveniently broken down into three sub-topics: cosmic soul, immortality of the soul and divinity of the principle.

**Cosmic Soul**

T1 Diogenes Laertius 1.27 (= A1 DK = R34b LM)

[... he, Thales, thought] that the world is anima et full of divinities.

T2 Aëtius 1.7.11, ‘On god’ (= A23 DK = R35 LM)

Thales: god is the intelligence [noun] of the world, but the whole is ensouled [empsykhon] and at the same time full of divinities; and a divine power passes also through the elementary moisture and moves it.

T3 Aristotle, *On the soul*, 1.5, 411a7–8 (= A22, R34a LM)

Some people say that it [i.e. the soul] is mixed in the whole, which is perhaps also the reason why Thales thought that all things are full of gods.

**Immortality of the Soul**

T4 Diogenes Laertius 1.24 (= A1 DK = R37 LM)

Some people also say that he was the first to say that souls are immortal; one of them is Choerilus the poet.

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9 There are some exceptions, due to some complications, see infra, nn. 22 and 49.
Thales was the first to state that the soul is a nature which is always in motion or which moves itself.

Divinity of the Principle
T6 (Ps.-?) Hippolytus, Refutation of all the heresies, 1.1 (= Th 210 Wöhrle = R39 LM)

[Thales said] ... and all things are borne along and flow, carried along by the nature of the first principle [arkhēgos] of their becoming. This is god, that which has neither beginning nor ending.

T7 Cicero, On the nature of the gods, 1.10.25 (= A23 DK = R38 LM)

For Thales of Miletus, who was the first to investigate these matters, said that water is the beginning of things, but that god is the intelligence capable of making all things out of water.

The idea that ‘all is full of gods’ is one of the most famous sayings attributed to Thales. It is not only difficult, but also vain, to try to settle its original meaning; statements of this sort are by nature open-ended. Hesiodic gods are so numerous that the world could be said to be full of them; and the formula may be a rewording of a passage in Hesiod’s Works and days that presents the deceased members of the golden race as ‘fine divinities’ now taking care of humans ‘everywhere upon the earth’.

Aristotle, who knows the dictum – as with everything else he knows about Thales – by hearsay, may not have been the first to link it to the notion of soul (in T3): according to Diogenes Laertius’s testimony (T4), the poet Choerilus (end of the fifth century BC, if this is the one in question) had already attributed to Thales the idea that souls are immortal (the implicit argument for the assertion being that they are divinities). Indeed, Diogenes Laertius’ phrasing suggests that Choerilus was only one among those who made this interpretive move. If so, this is the tradition that Aristotle is taking up in T3 and adapting with characteristic caution (‘perhaps’) to the specific perspective of his doxographical presentation. Immortality of the soul is not at stake for him. The view that interests Aristotle in the present context is the one according to which soul (apparently taken as a mass noun) is mixed in the whole, that is, I suggest, dispersed throughout it.

Aristotle’s formula ‘in the whole’, which paraphrases Thales ‘all things’ in the formula ‘all things are full of . . . ’, is here combined with the idea that

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10 See also above, T1 and T2.
12 v. 122–25, ‘By the plans of great Zeus they are fine spirits upon the earth [. . .] clad in invisibility, walking everywhere upon the earth [. . .’ (trans. G. W. Most).
13 The identity of this Choerilus is uncertain.
Thales’ ‘divinities’ or daimones, which Aristotle calls ‘gods’, thereby relaxing the connection between daimones and souls, fill the world. This double move opens avenues to later interpretations, for it allows Thales’ statement to be read in terms of a cosmos animated by a world soul. To be sure, this is not yet the view Aristotle has in mind, since ‘to be mixed with’ is not the same as ‘to be ensouled’. Still, we are making our way towards the formulas we find in T1 (’ensouled world’) and in T2 (’the whole is ensouled’). At a more restricted level, T5 also testifies to the Platonization of Thales’ saying, since the disjunction ‘always moving or self-moving’ reflects a celebrated textual problem in Plato, *Phaedrus* 245c. T2 contains one further interpretative step, whereby soul is now specified as intelligence or mind (cf. T7). Taken by itself, this identification could point to an even stronger Platonized reading of Thales’ dictum, with the integration of the demiurge, itself identified with the intellect, into the world soul. But the use of the verb ‘to pass through’ strongly suggests a Stoicization, rather than a simple Platonization, not only of this particular saying, but of Thales’ position in general. Thales’ water is animated by a force equivalent to that of the Stoic pneuma. Thales’ primary element has now become a living, organising intelligence (cf. T6 and T7).

2. Anaximenes

   T1 Aëtius 1.3.4, ‘On principles’ (= B2 DK = D31 and R5 LM)
   Anaximenes, son of Eurystratos, asserted that the principle of beings is air. For it is out of this that all things come about and it is into this that they are dissolved in turn. He says, ‘Just as our soul, which is air [αέρ], holds us together, so too breath [πνεῦμα] and air surround the whole world’. (‘Air’ and ‘breath’ are being used synonymously). But he too [sc. like Anaximander] is mistaken in that he thinks that animals are composed out of simple and uniform air and breath. For it is impossible to posit the matter of the beings from which all things come as the sole principle: it is also necessary to posit the efficient cause – for example, the silver is not enough for the cup to come about, if there is not what makes it, that is the silversmith; and so too for bronze, wood, and all other kinds of matter.

   T2 Aëtius 4.3.2, ‘On soul’ (= A23 DK = D30 LM)
   Anaximenes [...] [sc. the soul is] of air.

   T3 Aëtius 1.7.13, ‘On god’ (= A10 DK = D5 LM)
   Anaximenes: air [sc. is god] [...].

   T4 Cicero, *On the nature of the gods*, 1.10.26 (= A10 DK = D6 LM)
   [...] Anaximenes declared that air is god, that it is born, and that it is immense and unlimited and always in motion [...].

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14 On this issue, see Section 1.5.
The apparent quotation at the beginning of T1 (‘Just as ... the whole world’, introduced by ‘he says’) plays a crucial role in the assessment of Anaximenes’ thought. Almost all interpreters agree that the wording of the sentence does not go back to Anaximenes. The main arguments against literal authenticity are (1) that the verb sunkratei is not otherwise attested before the first century AD at best and (2) that the mention of pneuma besides aēr looks like a paraphrase (Stoicizing or otherwise). There are further concerns about the use of kosmos in the sense of ‘a well-ordered world’ at an early period and about the use of hoion in a comparison. As for the initial ‘he says’, it does not necessarily signal a literal quotation and may well introduce an interpretation (‘he says’ = ‘what he says, in substance, is ...’). But whereas some interpreters think that the terminology points to later, non-Anaximenean views, others maintain that the sentence, if not its literal wording, does reflect Anaximenes’ original thought. On this latter option, the next step is to decide between a strong interpretation, according to which air (or pneuma) not only ‘surrounds’ the whole cosmos but also ‘dominates’ it (kratei, here represented by the dubious compound sunkratei) – i.e. governs it in the way that human soul governs us – and a weaker interpretation, whereby air dominates or governs the world just as a soul dominates or governs human beings, that is, not in the sense that the surrounding air is actually a soul, but only that it is soul-like, whatever we think that likeness entails.

Two preliminary remarks are in order here. First, given that the verb ‘surround’ is associated with ‘govern’ in a passage of Aristotle’s Physics certainly referring to Anaximander, there should be no objection to taking the surrounding air as representing the governing force of the world. Second, there is nothing problematic in attributing to Anaximenes a notion of all-embracing governance, if only because it is already present in Anaximander. But what about the soul and its cosmic role? The problem here is that whereas the dubious sentence does not imply the notion of a world soul, it does lend itself to being read that way. Taken by itself, the analogical scheme a/b = c/d posits a certain relation between

15 Cf. Alt 1973: 129: ‘whether the comparison microcosmos/macrocumos is to be dated to the sixth century and whether we can show that there was already an interest in the human soul among the Milesians’ (my translation).
17 Problematic, because the verb really means ‘hold together’, cf. LSJ s.v.
18 Aristotle, Physics, 3.4, 203b11–12 = 12A15 DK = Anaximander D9 LM.

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four different terms, namely a, b, c, d, which would usually be substantially different. But as far as Anaximenes is concerned, the notion that a (= ‘the soul in us’) is really, i.e. substantially, different from c (= ‘the surrounding breath’) is made less pregnant by the fact that an Anaximenean soul is itself made of air, or at least of an airy nature (see T2). One might consequently be tempted to say that the difference implied by the analogy is not between the soul in us and some other governing power, but between two kinds of soul, one human and one cosmic, and then address the further question whether the notion of a cosmic soul should be attributed to Anaximenes himself or to some of his interested readers (Diogenes of Apollonia and the Stoics in the first place, but there are also other candidates), which is a related, but nevertheless separate matter. But if we think, as I do, that (1) we should not erase the difference between human soul and cosmic breath and that (2) the analogy, if not its wording, goes back to Anaximenes himself, we should still recognise that denying to Anaximenes the notion of a world soul does not imply that the world for him is not ‘alive’ in some sense. If air is taken to be the source of life for us and in us, one understands why Anaximenes might have inferred that it is also the source of life in the world and for the world. And in this sense, one could even say that that the world is ‘ensouled’, meaning simply that it is ‘living’.

Whatever position we adopt in the tricky case of Anaximenes, it is obvious that the link between air and soul is crucial for the question of the relationship between world, soul and life not only for him, but also for other Presocratic thinkers – whether they take air as principle (Diogenes of Apollonia and the author of the Hippocratic treatise On Breath) or not (some Pythagoreans, according to Aristotle’s testimony, and the Atomists). It is also at the centre of a controversial report of Sextus Empiricus about Heraclitus, which I now want to consider.20

3. Heraclitus

T1 Sextus Empiricus, Against the logicians 1 (= Adv. Math. 7) 127–34 (= A16 DK = R59 LM)

< A1 > [127] […] this natural philosopher [i.e. Heraclitus] holds the view that what surrounds us is rational and endowed with thought [φρενήρες]. . . [129] So according to Heraclitus, it is by inhaling this divine reason when we breathe that we become intelligent [noēroi], and

19 See Section 1.4, T4–T6.
whereas we forget it when we sleep, we become intelligent [emphrones] again when we are awake. <A2> For when we sleep, the channels of perception are closed and the mind within us is separated from its natural connection with what surrounds, and only the point of attachment, respiration, subsists like a kind of root, and when it is separated it loses the faculty of memory that it had before; [130] but then when it awakens, leaning towards the channels of perception as though towards windows and encountering what surrounds, it takes on the faculty of reason once again. In the same way as pieces of charcoal brought near to a fire are kindled according to a transformation but are extinguished when they are removed from it, so too the portion coming from what surrounds, which resides with our bodies, in the state of separation becomes almost unreasoning, but in the state of union by most of the channels it is restored to its affinity with the whole. <B1> [131] Heraclitus says that this reason, which is in common and divine, and by participation in which we become rational, is the criterion of the truth; <B2> this is why what appears to all in common is reliable (for it is apprehended by the reason that is common and divine), while what is evident to one man alone is unreliable, for the opposite reason. <C> [132] For this is what the above mentioned man says at the beginning of his book On Nature [or: of his remarks about nature], when in a certain way he is indicating what surrounds: ‘Of this reason that is humans are uncomprehending, both before they hear it and once they have first heard it. For, although all things come about according to this reason, they resemble people without experience of them, when they have experience both of words and of things of the sort I explain when I analyse each [scil. of them] in conformity with its nature and indicate how it is. But other men are unaware of all they do when they are awake, just as they forget all they do while they are asleep’ [= B1 DK = D1 LM]. [133] After he has indicated explicitly in these words that it is by participation in divine reason that we do and think everything, a little later he adds that we ought to follow the reason that is in common (for xunos [i.e. the Ionic term] means ‘in common’): ‘But although the reason is in common, most people live as though they had their own thought’ [= B2 DK = D2 LM]. This is nothing other than an explanation of the way in which the whole is organized.

T2 Aëtius 4.3.12, ‘Whether the soul is a body and what is its essence’ (≈ A15 DK = R48a LM)

Heraclitus: the soul of the world is an exhalation of the moisture it contains, and the one that is in animals, which derives from the external exhalation and from the one that is in them, is of the same kind.

T3 Aëtius 4.7.2, ‘On the indestructibility of the soul’ (≈ A17 DK = R48b LM)

Heraclitus said that the souls that leave the body return to the soul of the whole, since their genus and substance are of the same nature.
T4 Aëtius 2.17.4, ‘What is the source of the illumination of the stars’
(= A11DK = R65 LM = SVF 2.690)
Heraclitus and the Stoics: the stars are nourished by the exhalation
coming from the earth.

T5 Macrobius, *Commentary on Cicero’s ‘Dream of Scipio’*, 1.14.19
(= T 782 Mouraviev = R48c LM)21
Heraclitus, the natural philosopher, [sc. calls the soul] a spark of the
stars’ substance.

Diogenes similarly to some others too [sc. says that it, i.e. soul, is] air,
thinking that this is of all things the one that is most rarefied and that it is a
principle. And it is for this reason that the soul both knows and moves:
because it is first and everything else comes from it, it knows, and because it
is the most rarefied, it is able to impart motion. Heraclitus too says that the
principle is the soul, since it is an exhalation, from which he constitutes the
other things. And surely it [sc. the soul] is most incorporeal and continually
flowing; and what is moved is known by what is moved.

The Heraclitean material on the topic at hand is richer than that available
for other Presocratics. In spite of the many obscurities and uncertainties
that beset the evidence – obscurities and uncertainties that, given the state
of our knowledge, are not likely to be removed by scholarly acumen – it
gives us a good sense of the interpretive processes that lead to the ensoul-
ment of his world (as well as of other Preplatonic worlds). This is because
in this case we can, up to a certain point, confront the doxographical
evidence with some of Heraclitus’s original fragments.

The two most important doxographical reports are, at the beginning of
the story, Aristotle’s lines in the first book of *On the soul* (T6), which are
seminal for all later interpretations, and, at a much later stage, Sextus
Empiricus’s long exposition of Heraclitus’s alleged ‘psycho-atmospheric’
doctrine (T1). As far as Heraclitus is concerned, the fragments in question
are essentially 22 B1, B2 (quoted in T1), and, among others, B12 and B36
DK. The key notion, which features in Aristotle’s passage, is that of
‘exhalation’ (ἀναθυμίασις), which makes the link between Heraclitean
souls (B12), a number of physiological and cosmic processes or realities,
and the cosmos itself.

Sextus’s passage clearly breaks down into three sections, with a further
subdivision for the first two:

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21 Macrobius T5 comes after Aëtius T2–T4 for thematic, not chronological reasons.
A. *Exposition* of Heraclitus’s ‘psycho-atmospheric’ thesis about the relationship between human reason and divine reason

A1 Statement of Heraclitus’s psycho-atmospheric thesis

A2 Explanation of the physiological mechanism presupposed by the thesis

B. *Identification* of Heraclitus’s (alleged) criterion of truth

B1 Identification of the criterion with atmospheric ‘reason’

B2 Short epistemological commentary

C. *Justification* of the initial statement concerning Heraclitus’s psycho-atmospheric thesis (A) on the basis of two original quotations (B1, B2 DK).

Heraclitus’s alleged psycho-atmospheric thesis is plain enough. Reason is up there, literally in the air; as we breathe, we inhale reason in quantities that differ depending on our physiological states. That such quantitative variations occur while we are aware might be implied, but the most significant difference (which may be paradigmatic of other possible ones) is between the state of being awake, during which we are ‘intelligent’, i.e. participating in reason, and the state of sleep, during which we lose this intelligence or, as Sextus says, using the Heraclitean term that will appear in the fragments quoted in section (C), ‘forget’ it. There is a physiological basis for this alternation, which the report mentions through a somewhat elliptical description that can be expanded in the following way: as we sleep, we keep breathing and thus inhaling reason, but reason is prevented from reaching the places in us where it could be active, the centre or centres of perception. This is because the channels through which these places could be reached, namely the ‘channels of perception’, are blocked during sleep, with the result that our internal reason becomes isolated from the source that is able to activate it when we are awake. Two metaphors, one taken from the domain of plants, the other from everyday experience, illustrate the two-sided nature of sleep. On the one hand, we keep breathing during sleep, which means that our contact with the surrounding atmosphere is not lost – the ‘roots’ of life are not broken off; on the other hand, life during sleep is deprived of intelligence, because inhaled atmospheric reason cannot connect with internal reason. There is an effective break with our surroundings, even though we can reestablish connection, just as fire can reanimate extinguished charcoal.

The picture of Heraclitus’s theory that emerges from Sextus’s report is surprising on more than one count, compared with what we otherwise know about Heraclitus’s thought and especially about his principle.
Although Heraclitean fire can still be faintly spotted, with some charity, in the metaphorical charcoal representing the state of sleep, the mechanism described may remind us, as far as the Presocratics are concerned, of Diogenes of Apollonia. Diogenes’ principle is air: this air is divine, or more exactly, it is the god; a small part of this divinity dwells inside us; allowing air to diffuse, thus endowing living beings not only with sensation, but also with intelligence – thanks, in particular, to a strong continuity between sensation and intelligence, both of which fall under the term *noēsis* or ‘apprehensions’. The animals that lacks those channels – e.g. birds – range from less intelligent to entirely stupid. Other, more recent models, dependent on or close in inspiration to the one provided by Diogenes but possessing a greater topicality in the Hellenistic period and derived from texts both philosophical and medical, may lurk behind the picture conveyed by Sextus. It seems fairly obvious that what we have to deal with here is a rather forceful interpretation of Heraclitus, related to a Hellenistic debate about the relationship between reason and the senses. Heraclitus himself is no doubt implicated in this debate at some level. But at what level and to what degree exactly? Some interpreters think that the report contains at least one important idea going back to Heraclitus himself, namely that of a continuous process of transformation from watery stuffs (which individual souls are said by Heraclitus in B12 to exhale) to fire – a stage of which is represented by the mass noun ‘soul’ referring to a stuff like any other. That might be true to some extent, as we shall see shortly – after all, soul and air are closely related. But what is clear is that Sextus’s presentation relies on a physiological interpretation of the phenomenon of sleep, which is mentioned in fragment B1 DK only by way of analogy – a clear-cut one that does not present the ambiguities of Anaximenes’ analogy – and in a context that evidently is neither physiological nor cosmological.

The properly doxographical (Aëtian) tradition on Heraclitus’s ensouled cosmos – of which Sextus’s report is, I take it, a version, adapted for specific purposes – has been characterised by Mansfeld in the following terms:

22 B5 DK = D10 LM.  
23 A19 §42 DK = D13 LM.  
24 B6 DK = D27 LM.  
25 Cf. B4 DK = D9 LM and the last sentence of B5 DK= D44 LM.  
26 On birds’ stupidity, see A19 §44 DK = D44 LM.  
29 Most probably related to the way in which Aenesidemus read and used Heraclitus. On this complex and much discussed question, see Burkhard 1973; Polito 2004; Pérez-Jean 2005.
‘Though according to the verbatim fragments of Heraclitus there is something out there that is both dominant and rational (22 B32, B64 DK), the uninhibited use of the concept of a world soul, of which the souls of human are parts, shows the mark of a later interpretatio. I fully agree with this assessment (which mutatis mutandis would apply, too, in Anaximenes’ case), and I also think that Mansfeld is right to consider T2 and T3 as ‘two not entirely but still sufficiently different attempts to make sense of Heraclitus’ utterances about the relation of the human soul to the Fire that, as he claims, dominates the cosmos’. The interpretation in question, which clearly fits a Stoic picture of the world (cf. the notion that ‘soul that leaves the body returns to the soul of the whole’ in T3), also rings, more generally, Platonic bells (cf. Macrobius’s phrasing in T5).

Of course, the situation here is in some respect similar to the one we faced in the case of Anaximenes’ alleged quotation. We might be inclined to believe that the formula ‘Heraclitus and the Stoics’ (in T4) indicates that the Stoics took their doctrine from Heraclitus, rather than that they read it into some of Heraclitus’s fragments; or, alternatively, that the content of the doxographical reports about Heraclitus’s world soul is authentically Heraclitean, although its wording might be late. However, we are in a somewhat better position to assess the evidence in the present case, both because we are reasonably well informed about Stoic resolutely appropriative practices, especially when it comes to Heraclitus, and because we are able to confront the relevant doxographical reports about Heraclitus with some of his authentic fragments. Since we must elicit the meaning and implications of these fragments on the basis of elaborate interpretation – a practice no less necessary for the ancients than for us – we can be fairly confident that our doxographical reports reflect assimilative interpretation rather than containing direct information to be taken at face value.

At the beginning of the story stands Aristotle’s intriguing testimony on Heraclitus in chapter 1.2 of On the soul (T6). The lengthy and complex doxography occupying this chapter aims at establishing that previous theories about the nature of the soul depend on a double assumption, namely (1) that soul is an entity endowed with a capacity for both moving

30 Mansfeld 2015: 63. Mansfeld also stresses the overall rarity of the concept of the world soul in Aëtius’s doxographical handbook.
31 Mansfeld 2015: 64.
32 Cf. also Diogenes Laertius 9.9 = R46 LM.
33 The technical term is sunnikēioun (‘to assimilate’), cf. Philodemus’ testimony about Chrysippus’ interpretive practice in On piety, col 7.12–8.13 (= SVF 2.636).
34 For the question of the relationship between Heraclitus’s original fragments on sleep and the doxographical tradition, see further Laks 2015: 29–50.
(the animated being) and knowing, and (2) that these two capacities belong to the principle (arkhê).\textsuperscript{35} Aristotle looks to previous thinkers for declarations that can support his own assumptions about their reasons for asserting what they said concerning the nature of the soul.

As far as we can see on the basis of independent information – essentially, a few original fragments from the authors in question – Aristotle’s doxographical scheme does not apply with equal facility to all of them. Things are simple in the case of Diogenes of Apollonia, for example, who on the one hand certainly thought of soul as being (a kind of) air\textsuperscript{36} and on the other hand made air the principle.\textsuperscript{37} Even if we cannot be certain that Diogenes used the word ‘most subtle’ to qualify air, nor that he related air’s subtleness to its moving capacity, Aristotle’s report about Diogenes is no doubt closer to Diogenes’ actual pronouncements than what he says about Heraclitus.

This is especially clear in the final lines of T6, which explain that the Heraclitean soul’s cognitive capacities exist because the soul is ‘most incorporeal’ and therefore ‘continuously flowing’, i.e. in movement, which enables it to apprehend a world that is itself continuously flowing – for ‘the same knows the same’.\textsuperscript{38} That this argument is a construct based on Plato’s treatment of Heraclitus in the Cratylus and the Theaetetus\textsuperscript{39} is obvious.

The main problem with Aristotle’s report, however, is to understand whether psykhê can really be claimed to be Heraclitus’s principle, an assertion that Aristotle needs for the sake of his argument. In the first book of the Metaphysics, Heraclitus’s principle is said, unsurprisingly, to be fire.\textsuperscript{40} In the passage from On the soul, the phrase ‘exhalation, from which he constitutes the other things’ refers not to a material principle, but to the effect that fire has on watery stuff.\textsuperscript{41} The function of the clause introduced


\textsuperscript{36} Cf. B5 DK = D10 LM, on which Aristotle is obviously relying.

\textsuperscript{37} Cf. 13 A4 DK = D7 LM.

\textsuperscript{38} The beginning of the report illustrates Aristotle’s other hermeneutical assumption, which is that knowledge must belong to the principle, because the principle is, of all things, in the best position to know what it itself is the origin of.

\textsuperscript{39} Cratylus, 401d–402d; Theaetetus, 152d-e.

\textsuperscript{40} Cf. Aristotle, Metaphysics 1.3.984a47 (= 18 [Hippasus] 7 DK = Hippasus D3 LM). Aristotle probably relies mainly on Heraclitus’ B31 DK (= D86 LM): ‘Turnings of fire: first sea; then half of the sea, earth; the other half, lightning storm […]’.

\textsuperscript{41} The verb thumiaiô that Heraclitus uses means ‘to burn so as to produce smoke’, especially as happens in incense offerings. The secondary substantive anathumiasis specifies that the smoke in question goes upwards.
by ‘since’ (with the nuance of ‘if it is true that’) is to justify Aristotle’s unexpected assertion, prompted by his argument.  

Is Aristotle relying on original Heraclitean material that is no longer at our disposal? His explanation assumes the following two propositions: according to Heraclitus: (1) the source of (other) things is the exhalation, \textit{anathumiasis}, and (2) soul is not only an exhalation among others but the exhalation \textit{par excellence}, and hence the principle. Now the word \textit{anathumiasis}, which features in later doxographical reports, especially in Diogenes Laertius’s uniquely detailed exposition of Heraclitus’s cosmology in Book 9.7–11 of his \textit{Lives of Eminent Philosophers}, does not appear in the fragments of Heraclitus and is unlikely to have occurred in his book (the word is not attested before Aristotle). On the other hand, a passage from Arius Didymus’s Stoic doxography, which reports Cleanthes’ exposition of Zeno’s views about the soul, contains a sentence that constitutes a clear parallel to Aristotle’s \textit{On the soul} 1.2: ‘and souls are exhaled from moist things’. Although some interpreters refuse to consider these words as constituting an authentic fragment of Heraclitus, the words could be an echo of the Heraclitean utterance on which Aristotle is himself relying in T6 when he equates ‘soul’ and ‘exhalation’. If so, Aristotle will have extracted the idea that soul in Heraclitus is an exhalation (Aristotle talks of the exhalation) from the Heraclitean sentence that Zeno the Stoic was also to quote later in favour of his own definition of the soul as ‘an exhalation endowed with perception’.

Taken by itself, this sentence only says something about souls (in the plural), not about any large-scale cosmic process of the kind that is implied, on the one hand, by Aristotle’s statement about exhalation being the origin of everything else, and on the other hand by Heraclitus’s fragment B36 DK, where \textit{psukhé} is mentioned as the first and the last stage (the first time in the plural, the second time in the singular) in a cycle of transformation: ‘For souls it is death to become water, for water it is death to become earth; but out of earth, water comes to be, and out of water, soul’.

\begin{footnotesize}
\begin{enumerate}
\item Sánchez Castro (2021) talks rightly of the ‘hypothetical hue’ implied by the use of this ‘since’ \textit{eiper}.
\item Contra Finkelberg 2016, p. 70. Diogenes Laertius’s report is usually considered to ultimately go back to Theophrastus (whose name appears in 9.6), but its reliability is open to serious doubts, especially although by far not only because of its mentioning not one, but two exhalations, which injects Heraclitus’s (alleged) cosmology with a typically Aristotelian doctrine.
\item In Eusebius, \textit{Evangelical preparation} 15.20.2 (SVF 1.141 = Arius Didymus, Fr. 39 Diels in Doxographi Graeci, p. 471f.).
\item Cf. B12 DK \textit{sub fine} = Heraclitus D102 LM.
\item References in Marcovich 2001: 213 n. 1 ad fr. 40 M. \item B36 DK = D100 LM.
\end{enumerate}
\end{footnotesize}
Just how the entity called *psukhē*, which we translate as ‘soul’, can be named on par with water and fire in B36 DK and how it can be said to proceed from water and be associated with *anathumiasis* on the basis of B12 DK becomes much clearer if we recall that the first meaning of *psukhē* is ‘breath’: a certain kind of ‘breath’, namely a vapour, that is ‘exhaled’ from water when it is heated. Indeed, one might consider simply translating *psukhē* in Heraclitus’s B12 and B36 not as ‘soul’, but as ‘breath’. In any case, we can now see better how Aristotle’s *ad hoc* interpretation of Heraclitus in the doxographical section of *On the soul* contains *in nuce* a reading of Heraclitus’s principle as being not fire, but ‘air’ (‘breathing’, ‘soul’), which is at the basis of Sextus’s report.

4. Pythagoras and Pythagoreans


Pythagoras, Empedocles, and most of the other Italians say that there exists for us a community not only with regard to one another and with regard to the gods, but also with regard to the irrational animals. For there exists a single breath that extends through the whole world like a soul, which also unifies us with them.

T2 Ps.-Philolaus, *On the soul* (Stobaeus, Anth. 1.20.2 = 44 B21 DK; cf. Pythagorean Reception R51 LM)

... But the world, which is one, continuous, by nature traversed by the breath [*pneuma*] and rotating from the beginning, also possesses the principle of movement and change. ... The unchanging part reaches from the soul that embraces the whole to the moon.

T3 Cicero, *On the nature of the gods*, 1.11.27 (≠ DK, ≠ LM)

For Pythagoras, who thought that the soul [*animus*] was extending and circulating through the whole nature, and that our souls were taken from there [...]


There can be no disagreement about whether the Pythagoreans do or do not accept a generation. For they say clearly that once the One had been formed, whether out of planes, out of a surface, out of a seed, or out of something that they have difficulty in naming, the nearest part of the unlimited was immediately *drawn in* and limited by the limit.

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48 Translation (slightly modified) from Huffman 1993: 341f. This pseudo-Pythagorean forgery and Cicero’s testimony (T3) reflect material that is either earlier than or more or less contemporaneous with Sextus’s source.
T5 Aristotle, *Physics* 4.6, 213b22–7 (= 58 B30 DK = Pythagorean Doctrines D29 LM)

The Pythagoreans also said that there is a void, and that it is introduced into the heavens from the unlimited breath as though it were inhaling the void too, which produces a distinction in the natures of things, on the idea that the void is some kind of separation between the elements of a series and a distinction. And this happens first of all in numbers. For the void produces a distinction in their nature.

T6 Aristotle fr. 201 Rose = Aëtius 1.18.6, ‘On void’ (= 58 B30 DK = Pythagorean Doctrines D30 LM)

In the first book of his *On the Philosophy of Pythagoras*, he [i.e. Aristotle] writes that the heavens are one, but that into them, coming from the unlimited, were introduced time, breath, and also the void, which always produces a distinction in [or: defines] the places of each thing.

T1 and T3 are unanimously recognised as Hellenistic projections of Platonic and Stoic tenets onto the founder Pythagoras, and T2 as a Neopythagorean forgery.49 The comparison with Aristotle’s testimonies about ‘the Pythagoreans’, who in all probability represent Philolaus’s doctrine, speaks for itself. None of the three relevant passages by Aristotle mentions the soul, nor its extending throughout the world. What they speak about is the origin of the world and how breath first penetrated it from the outside.50 The model is clearly that of respiration, and interpreters have rightly pointed to the parallelism existing in Philolaus’s thought between the generation of the world and that of human beings: just as a newborn begins to breathe in order to cool the hot embryo, so the formation of the central fire is followed by the inhalation of the ‘unlimiteds’, which include pneuma – breath.51 Given Philolaus’s views about the world’s primeval breathing, Platonists wishing to argue that the world soul was already known by the ancient Pythagoreans would have had an easier task than those interpreters who had to deal with Heraclitus’s pronouncements. But as T1–T3 show, the association between world, soul, and breath could be even more easily be implemented by reference to the Pythagorean doctrine of transmigration: both soul and air circulate throughout the whole world.

50 Cf. also Aristotle’s famous testimony about the ‘the view one finds in the so-called Orphic verses’ in *On the soul* 1.2. 410b27–30: ‘the soul penetrates from the whole when they inhale, carried by the winds’ (fr. 421 Bernabé, ≠ LM).
51 Huffman 1993: 213.
5. Alcmaeon
   T1 Diogenes Laertius 8.83 (B1 DK = Alcmaeon D10 LM)
   He said that the soul is immortal and that it moves continually like the
   sun.
   T2 Clement of Alexandria, *Protrepticus* 66.2 (A12 DK = Alcmaeon
   R4 LM)
   Alcmaeon of Croton thought that the heavenly bodies are gods *endowed
   with a soul.*
   T3 Boethus in Porphyry in Eusebius, *Evangelical Preparation* 11.28.8–9
   (Mras (= Porph. 243F Smith = A12 DK, ≠ LM)
   But that nothing of what is ours becomes more similar to god than the
   soul, one would trust it without needing to treat the matter at length, not
   only because of the continuity and the uninterrupted character of the
   movement that it [i.e. the soul] produces in us, but also of that of the
   mind which is in it. It was with this in view that the natural philosopher
   from Croton too said that it is immortal and because of its nature avoids
   every form of rest, just as those bodies which are divine.52
   T4 Aëtius 4.2.2, ‘On the soul’ (A12 DK = Alcmaeon R3 LM) 
   Alcmaeon: [scil. the soul is] a nature *that moves itself* (*autokinētos*)
   with an eternal motion, and it is for this reason that he thinks that it is
   immortal and similar to divine things.
   T5 Cicero, *On the nature of the gods* 1.27 (A12 DK = Alcmaeon R5 LM)
   Alcmaeon of Croton, who attributed *divinity* to the sun, the moon, and
   all the other heavenly bodies, and besides those to the soul, did not
   understand that he was attributing immortality to things that are mortal.
   T6 Aristotle, *On the soul* 1.2, 405a29–b1 (A12 DK = Alcmaeon D9 LM)
   Alcmaeon too seems to have had a conception about the soul similar to
   these [sc. those who explain the nature of the soul with reference to its
   mobility, namely, Thales, Diogenes of Apollonia, and Heraclitus]. For he
   says that it is immortal because it resembles the immortals. This belongs
   to it because it is always in motion. For everything that is divine always
   moves continually: the moon, the sun, the heavenly bodies, and the
   whole heavens.

Mansfeld has shown beyond any doubt53 that later interpretations are in
play in Aëtius’s ‘self-moved’ soul, Cicero’s ‘divine’ soul, and Clement’s
‘ensouled’ stars; moreover, the only reliable evidence about Alcmaeon’s
views on the soul (and the stars) is to be found in Aristotle’s testimony, of
which the testimonies of Boethus (of Sidon) and Diogenes Laertius are
close variations without independent value.

52 Translation is mine (the last sentence is taken with slight modifications from Mansfeld 2014: 3).
Alcmaeon’s case illustrates clearly the mechanism by which an originally analogical scheme is stripped of its analogical dimension and turned into a substantive determination.

What can be extracted from Aristotle’s testimony are the following three indications:

a. Soul in general – this certainly means individual soul – is immortal.

b. This is because soul bears a resemblance to the stars.

c. This resemblance consists in that soul, like the stars, is always in movement.

On this basis, we may easily reconstruct the Platonization of Alcmaeon’s views, once we are aware of the mediating role played by a famous development in Plato’s *Phaedrus*. At 245c, Plato argues that the soul is immortal (*athanatos*) because it is always in movement (*aeikinētos*) and that it is always in movement because it is something that moves itself (*to hauto kinoun*): it is the principle of movement, its ‘source and beginning’. The word *autokinētos* that occurs in Aëtius T4 is not Platonic. It occurs for the first time in Aristotle’s *Physics* 8.5, 258a2 in an argument, *pace* Plato, that the principle of movement must be immobile and not self-moving. The word *autokinētos*, a *hapax* in the whole Aristotelian corpus, clearly takes the participial phrase occurring in Plato’s *Phaedrus* to a higher conceptual level. There has been ongoing discussion about whether the argument in the *Phaedrus* is meant to pertain to the individual soul or the soul in general, i.e. the celestial soul (or world soul) of which individual souls are fragments. This question does not affect the matter at stake here. The relevant consideration is that, since Alcmaeon had, on the one hand, declared soul to be immortal and, on the other hand, compared it on this basis to the (immortal) stars, his views could easily be harmonised with Plato’s in the *Phaedrus* (and in a more systematic way in the *Timaeus*): it is not only that both soul and stars are, because of their continuous motion, immortal, but that (1) soul is self-moving, (2) self-moving stars have souls, and (3) since to be immortal is what it is to be a divinity, soul itself is a ‘divinity’.

There is abundant evidence, in the rest of the chapter in Aëtius’s handbook from which the notice on Alcmaeon is extracted, that the process of Platonization and more generally Academization affected other pre-Platonic thinkers as well. We have already met the first entry of this chapter, Thales (cf. *supra*, Thales T5, p. 11). After Thales and Alcmaeon

54 Cf. Mansfeld 2014: 5.  
55 Section 1.1.
comes Pythagoras (closely associated with Xenocrates), then Plato, before Aristotle, Dichaearchus and Asclepiades. Although the order of the chapter is chronological up to a certain point, it is also co-determined by a conceptual progression that goes in part from the less determinate position to the more determinate one and, in part, from a more ‘idealistic’ stance to a ‘materialistic’ one. The section that interests us here is restricted to the first five entries (up to Plato), before Aristotle introduces the problem of the relation between soul and matter through his doctrine of the soul as ‘the first entelechy of a natural, organic body’. (The doxographer refers to Aristotle, On the soul, 2.1.412a27f.) Whereas Thales anticipates Plato (cf. Thales T3 above) at the most possible general level, both on the question of the substance of the soul and in the question of its relation to movement, Alcmaeon is already more specific: soul is still a simple ‘natural substance’, but its resemblance to the gods (referring to the stars, as we know from Aristotle’s testimony) provides it with an incipient determination. It is only in the third and fourth entries (as Diels prints them), respectively devoted to Pythagoras and Xenocrates, that the nature of the soul is fully determined, namely as ‘a number which moves itself’ – more exactly, the additional exegesis wants us to believe, as a (self-moving) intellect:

Aëtius. 4.2.3–4, ‘On the soul’ (= Pythagorean Reception R30 LM, ≠ DK).

Pythagoras: it [i.e. the soul] is a number that moves itself; he understands number instead of the mind.

So too Xenocrates.57

Obviously, Pythagoras’s alleged doctrine is in reality Xenocrates’ – a condensation of Plato’s views on the mathematical structure of the world soul in the Timaeus projected back on to Pythagoras.

Plato is – remarkably – introduced as a correction of Xenocrates’ overdetermined reading of his own doctrine: soul is not a number that moves itself, still less an intellect, but only an intelligible substance. This characterisation, which of course is much clearer than the underdetermined ‘nature’ of Thales with which we began, opens the way to Aristotle’s definition of the soul as the form or actuality of a body. There would be more to say about the overall structure of this chapter.58 In the present

56 See next note.
57 Xenocrates fr. 60 Heinze. The entry on Pythagoras would represent the first chronological reversal of the chapter, if Pythagoras were really himself here and not another name for Xenocrates. In reality, what Diels prints as two separate entries (and now Mansfeld and Runia 2020: 1393) can be considered as building a unity.
context, however, the important point is to clarify the condition under which the Platonization of Alcmaeon is possible. If the analogical relationship implied by Alcmaeon’s comparison between the soul and the divine stars – i.e. both are immortal and eternally moving – is set aside in favour of substantial determination, stars become part of a psychic system paradigmatically represented by the doctrine of the world soul that is adumbrated in the *Phaedrus* and elaborated in the *Timaeus*.

### 1.2 Conclusion

Bremmer 1983, p. 5, wrote that ‘the fact that *psychê* once had a connection with breath does not necessarily means that it has this meaning in Homer’ and recommended: ‘our point of departure must always be the assumption that the meaning of a word can only be derived from its use in the language’. The application of this principle to three of the thinkers we have considered here (Anaximenes, Heraclitus, and Philolaus), however, confirms the force of this very association, so far as early Greek philosophers are concerned. The fact that the Greek word usually translated with ‘soul’ – namely *psukhê* – means ‘life’ and was felt to be closely associated with ‘breath’ illuminates the way in which a pre-Platonic world could become ensouled, in a sense that was neither meant nor anticipated by the original authors. Another, related but different scheme leading to the same result is provided in Thales’ and Alcmaeon’s cases, where the mediating terms are not ‘air’ and ‘breathing’, but rather ‘divinities’ – either indeterminate ones (Thales’ gods), or specific ones (Alcmaeon’s stars). Moreover, the evidence concerning Anaximenes, Heraclitus and above all Alcmaeon illustrates how easily what may have been only an analogy for Anaximenes and was certainly only one for Heraclitus and Alcmaeon (although analogy had a very different purpose in each case) was read as an assertion of substantial identity between the terms implied. In spite of the scarcity of source material, we are still in a position to see how a heavy reading of the Platonic tradition homogenised the views of a number of Presocratic thinkers up to a point where most of them could become ‘all the others’.

59 ‘It is also well known that the feminine substantive *psukhê*, despite its already diverse uses in Homer, originally signifies the ‘breath’ that is present in a human while alive and departs temporarily during fainting and permanently in death’. Jouanna 1987: 203, my translation). Philolaus’s analogy between the birth of the cosmos and that of the embryo (see Section 1.4) is also relevant here.

60 For a few further observations about the ‘others’ I have deliberately left aside here, see Laks 2018: 32 n. 86.
Interpreters are generally aware that using the doxographical material available to us in order to reconstruct the theories of ancient philosophers requires a fair amount of caution and critical acumen. This is true in general, but particularly true in the case of early Greek philosophers, who represent an extreme and for that reason paradigmatic case because they do not share the conceptual world that Plato devised for the entire history of philosophy after him. The analysis I have developed here of course confirms this trivial and basically negative point. But there is a positive side to it too. For the doxographical material, which is heterogeneous in its form as well as in its substance (Aëtius is not Aristotle, nor Sextus Empiricus) offers, at least in the most favourable cases, traces of the process by which a view, generally encapsulated in a certain formula or term, has been interpreted, sometimes in a legitimate way, sometimes interestingly, sometimes flatly. To reconstruct this process is not only interesting in itself, because it teaches us a great deal about reading practices, in this case philosophical reading practices, in antiquity and more generally about the history of the ancient reception of early Greek philosophy. It is also the unique way which is open to us when we care to identify not only what our own interpretations but perhaps also and more importantly ancient interpretations could rely on when they assessed those texts – for example phrases such as Thales’ ‘everything is full of gods’ or Heraclitus’ use of the verb ‘exhale’ in a certain context. I hope to have shown in the five cases here presented how we can to various degree (depending of the material available), work our way back to the points where interpretation, on which so much of what we say depends, starts and in some cases see or fathom why they go in a certain direction.