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Olearius on Atomism and Theism in Heraclitus:
A Presocratic in late 17th century Germany

Abstract: In a 1697 monograph, Gottfried Olearius (1672–1715) endeavours to establish Heraclitus as an important new witness for a general thesis upheld by Ralph Cudworth in 1678. According to Cudworth, Greek philosophers earlier than or independent of Leucippus combined a version of atomism with the belief that the world is ruled by God(s). Olearius tries to improve on Cudworth by showing that Heraclitus, who does not figure among Cudworth’s authorities, also upheld both atomism and theism. As to Heraclitean atomism, Olearius starts from a contradiction within the doxographical tradition: According to some authors, the first principle of Nature in Heraclitus is fire, according to others it is exhalation, i.e. air. Olearius suggests that neither “fire” nor “exhalation” can bear their ordinary meaning here, but that Heraclitus uses both terms to hint at very small, swiftly moved, indivisible particles; yet defining such particles as principles of nature must count as atomism. This result is confirmed by a metallurgical simile, apparently used by Heraclitus, which was taken by Aristotle and the doxographical tradition to imply that Heraclitus traced back everything there is to very small and indivisible fire particles prior to the One. The ascription of theism to Heraclitus, in turn, rests on two further texts which report that Heraclitus ascribed the periodical condensation and rarefaction of matter to a Fate (εἱμαρμένη) functioning as Demiurge, and that this power is to be identified with Logos and God.

Keywords: Air, Atomism, Cudworth, Fire, Heraclitus, Olearius, Physics, Principle, Theology

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The milestones of the early reception of the Presocratics in the modern period have recently been reviewed in a volume published in 2011 on the reception of the Presocratics up to Diels:¹ Henri Estienne’s seminal collection of fragments called


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Poësis philosophica (1573), Thomas Stanley’s History of Philosophy (1655–1662), Ralph Cudworth’s True Intellectual System of the Universe (1678), or Johann Jacob Brucker’s Historia critica philosophiae (1742–1744). On the continent, in particular, the historiography of ancient Greek philosophy made a fresh start in the early 18th century, thanks to German scholars who translated English books into Latin. Cudworth’s Intellectual System of the Universe (1678) for instance, was translated into Latin by Johann Lorenz Mosheim in 1733 and also equipped by him with numerous additional comments, the learnedness of which even exceeds that of the English original. Thomas Stanley’s History of Philosophy was made accessible to a wider European audience only via the Latin translation published by Gottfried Olearius (1672–1715) in 1711.

Olearius, however, also made an original contribution to the historiography of Greek philosophy. For in his 1697 monograph on “The Principle of Nature in Heraclitus” (De principio rerum naturalium ex mente Heracliti),² he tried to improve on Cudworth’s Intellectual System in an important respect. Cudworth had tried to show that atomism, the triumph of which seemed to be inevitable in the second half of the 17th century, is quite compatible with believing in a divine ruler of the world, i.e. with theism — quite contrary to what might be suggested by atheistic Atomists like Leucippus, Democritus, and Epicurus. Thus, Cudworth had aimed at rediscovering and disseminating the thought of those ancient natural philosophers who were both (i) Atomists and (ii) Theists. In bringing these authors to the fore, he took arms against the influential attempt, by Pierre Gassendi (1592–1655), to establish Epicurus as the one truly relevant figure of ancient natural philosophy and ethics. By contrast, Cudworth’s central claim was that there was not just one form of atomism in Greek philosophy, but two: the bad variety upheld by Epicurus, which amounts to materialistic reductionism and was introduced by Leucippus and Democritus, and the good one, which was adopted by all previous thinkers, as for instance Pythagoras, Parmenides, and Empedocles, and which confines its claims to corporeal substances while acknowledging the existence of incorporeal substance, too:³

Before Leucippus and Democritus, the Doctrine of Atoms was not made a whole entire Philosophy by it self, but look’d upon only as a Part or Member of the whole Philosophick System, and that the meanest and lowest part too, it being only used to explain that which was purely Corporeal in the World; besides which they acknowledged something else,

² Olearius (1697). The treatise was reprinted in Olearius’ 1711 Latin translation of Thomas Stanley’s Historia Philosophiae, pp. 839–855, in the form of an appendix to Stanley’s chapter on Heraclitus.
which was not mere Bulk and Mechanism, but Life and Self Activity, that is, Immaterial or Incorporeal Substance; the Head and Summity whereof is a Deity distinct from the World. So that there has been two Sorts of Atomists in the World, the One Atheistical, the Other Religious.

Now Olearius, in his 1697 monograph, finds himself in complete agreement with both the general aim and the method of Cudworth’s System, but he wants to demonstrate that Heraclitus, who had been passed over in silence by Cudworth, is in fact one of the most important witnesses for the compatibility of atomism and theism. To this monograph the present paper will be dedicated. An analysis of his second treatise on Heraclitus, which he wrote as a dissertation for his pupil Jacob Immanuel Hamilton, and which deals with the notion of Becoming in Heraclitus,⁴ has to be deferred to another occasion.

To start with, we will take a look at the author’s life.⁵ Gottfried Olearius was born in 1672 as son of Johannes Olearius, who was then professor of Greek at the University of Leipzig. After having achieved a Master’s degree in his native Leipzig, Gottfried spent a year of study in Oxford, where he acquainted himself not only with the Greek manuscripts kept in the Bodleian Library, but also with the work of Cudworth. In 1699, he was appointed, at the age of 27, to the chair of Greek and Latin at the University of Leipzig; in 1708 he was promoted to the chair of divinity. His lasting fame rests on his excellent 1709 edition of the complete works of the two Philostrati, one of the most challenging corpora of imperial Greek literature.

§ I⁶

In the introduction to his 1697 monograph on Heraclitus, Olearius announces his intention to investigate the thought of Heraclitus while, at the same time, pointing to the difficulty of the task. For already in antiquity, grammarians and philosophers alike tried in vain to make sense of the riddles of both Heraclitus’ language and his thought.⁷ As far as the grammarians are concerned, their failure

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⁴ Hamilton (1702).
⁵ For a fuller account see Lechler (1886).
⁶ Since Olearius’ essay is lacking page numbers, we will subdivide our analysis according to Olearius’ own section divisions.
⁷ The ancient authors and works quoted in the following are, where possible, abbreviated in accordance with “A Greek-English Lexicon” by Liddell-Scott-Jones. All texts referring to or quoting Heraclitus are additionally equipped with the corresponding number in Part II (“Traditio”) of
is attested to by Sextus Empiricus.⁸ “Is there a passage in which any one of these reverend grammarians can understand Heraclitus?” But according to Aristotle, it is not the grammarians that are to blame but Heraclitus himself, since he phrased his thoughts in such a way as to produce perpetual doubts as to where to place full stops. As evidence for his claim, Aristotle quotes from the very beginning of Heraclitus’ *sungramma* the following line:⁹ τοῦ λόγου τοῦδ’ ἐόντος αἰεὶ ἀξύνετοι ἀνθρώπωι γίγνονται. Here it is hard to tell whether ἀεὶ belongs with the preceding participle (ἐόντος) or with the succeeding words (ἀξύνετοι ἀνθρώπωι γίγνονται). While Olearius does not take up a position on that particular question, he proposes reading not τοῦδ’ ἐόντος but τοῦ δέοντος instead, taking his cue from the fuller version of the passage quoted by Clement.¹⁰ He suggests translating the line with emphasis on its ethical character: *Rationem eius, quod oportet [siue decet] semper minime homines intellegunt.* Even beyond such grammatical ambiguities, the philosophical contents of Heraclitus’ sayings have always posed unsurmountable difficulties: Jerome reports that, despite considerable efforts, Philosophers are almost incapable of understanding Heraclitus:¹¹ *Heraclitum quoque, cognomento σκοτεινὸν, sudantes Philosophi vix intelligunt.* A discussion of similar passages from other ancient authors is postponed by Olearius to a more comprehensive treatment of Heraclitus, since practically every ancient author who mentions Heraclitus at all includes a reference to the difficulty and obscurity of Heraclitus’ language and style.¹²

Serge Mouraviev’s *Heraclitea* (with T = *Traditio* and M. = Mouraviev); where possible, the relevant number in Marcovich’s 1967 edition has been added.

⁸ S.E. M. I.301, Mau (1954), p. 77.18–20 = T 686,7–8 M.
⁹ Arist. Rh. Γ.5 1407a11–18 = T 142 M.; 1 (d) Marcovich.
¹¹ Hieronym. *Adv. Iovinianum* I.1, Migne (1883), p. 222 = T 871 M.
§ II

Timon of Phlius’ severe criticism of Heraclitus’ recondite style, denouncing him, in his Silloi, as a mere αἰνικτής,¹³ is most likely due to Timon’s notorious misanthropy.¹⁴ In fact, obscure language may fulfil the quite legitimate function of warding off unworthy readers. This can be seen in texts whom Sextus Empiricus enumerated as being as difficult as the sayings of Heraclitus: Plato’s Timaeus, the logical treatises of Chrysippus, the mathematical works of Archimedes and Eudoxus, and, last but not least, the poems of Empedocles.¹⁵ This defence strategy was employed by Cicero particularly in respect to Heraclitus himself. Cicero acknowledges two legitimate ways of using obscure language. Firstly, it may be used on purpose, as did Heraclitus ὁ σκοτεινός; secondly, it may be required, as in Plato’s Timaeus, by the obscurity of the subject matter.¹⁶

Olearius even adds that Cicero’s second line of defence is applicable to Heraclitus, too, his philosophy being no less concerned with Nature than the Timaeus: according to Sextus Empiricus, Heraclitus was generally agreed to be a natural philosopher, while there were doubts in some quarters as to whether his philosophy covered Ethics, too.¹⁷ It follows that his subject matter (or at least the greater part of it) was identical with and, by implication, as obscure as the subject matter of the Timaeus. What is more, the obscurity of that subject matter, i.e. of Nature, was emphasised by Heraclitus himself, as we happen to know from a quotation in Themistius:¹⁸ “The nature of things is wont to hide itself” (φύσις κρύπτεσθαι φιλεῖ). In this famous saying, Heraclitus thus provides himself with a justification for the difficulty of his style.

§ III

Olearius postpones a full discussion of Heraclitus’ language and style to a more comprehensive treatment of Heraclitus, which he plans to produce in the future. For the time being, his motive for raising the problem at all has been an entirely

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¹⁴ Plin. HN VII.19, Mayhoff (1909), p. 28.7–8 = T 560.7–8 M.
¹⁵ S.E. M. I.301–303, Mau (1954), pp. 77.18–78.22.
¹⁶ Cic. Fin. II (5.) 15, Reynolds (1998), p. 44.15–20 = T 301 M.
¹⁷ S.E. M. VII.7, Mutschmann (1914), p. 4.4–6 = T 687.10–12 M.
selfish one: considering that Heraclitus’ language is so very obscure, Olearius himself can feel entitled at least to a certain degree of obscurity in expounding the sayings of Heraclitus. Olearius frankly admits that he is certainly not the Delian diver once invoked by Socrates when he was struggling with Heraclitus.¹⁹ Possible shortcomings in Olearius’ essay will be all the more pardonable as the scholar had to cope with the additional difficulty of Heraclitus’ book being not only obscure, but having been destroyed in what Angelo Poliziano famously called the “great shipwreck of ancient literature”:²⁰ what Olearius will have to deal with, therefore, is an assortment of mere fragments.

§ IV

Before Olearius can address his subject proper, i.e. the principle of Nature according to Heraclitus, he has first to define what he means by “principle”, which he does by quoting two ancient texts, Ps.-Plutarch’s Placita Philosophorum and Aristotle’s Metaphysics Δ. Although he claims to pass over what he labels the over-subtle distinctions between “principle” (archē) and “element” (stoicheion), his quotation from the Placita comes precisely from the chapter captioned On the Difference between Principle and Elements:²¹ “We call principle, what has nothing prior to it out of which it is produced, but from which (all other things) have been produced”. This is supported by Aristotle’s statement in the Metaphysics²² according to which the common feature of all principles is that they are the first item, whence other things exist, come to be, or are understood.

²⁰ The metaphor goes back to Angelo Poliziano’s Miscellanea from AD 1489 (chapter 91); see Poliziano (1522), pp. 115recto–115verso: gratum puto futurum studiosis, si … tabulas ueluti quaspiam ex hoc litterarum naufragio collectas in corpus aliquod restituamus.
²² Arist. Metaph. Δ.1 101317–19.
With this conception of “principle” in mind, Olearius addresses the question of what Heraclitus assumes to be the principle of Nature. His first point is that Heraclitus is said by more than one ancient author to take fire as his principle. Although this notion is seemingly uncontroversial, Olearius provides evidence for it with remarkable diligence: no less than nine authors are quoted on the matter, among whom five Christian fathers loom large alongside their four pagan counterparts:

1) According to Aristotle, the principle of the simple bodies, or the principle among the simple bodies, was held to be fire by Hippasus of Metapontium and by Heraclitus of Ephesus.
2) According to the Placita Philosophorum transmitted within Plutarch’s Moralia, Heraclitus and Hippasus taught that the totality of individual things once came to be from fire and will eventually dissolve again into fire.
3) According to Stobaeus, Heraclitus and Hippasus call fire the principle of all things.
4) According to Diogenes Laertius, Heraclitus thought that everything was composed of fire and would be dissolved into fire. The cosmos being one, it is engendered from fire and is burnt up by fire.

Now the Christian fathers:
1) According to Ps.-Justin, Heraclitus calls fire the principle of everything.
2) Witty Hermias, in his derision of pagan philosophy, assures us that he would certainly be convinced by Democritus and join in his laughter, were it not for Heraclitus who won him over by tearfully asserting that the principle of everything is fire.
3) Clement of Alexandria, whose authority Olearius considers to outweigh all authors quoted up to now, even has a verbatim quotation of Heraclitus which runs like this: “The cosmos always was, is, and will be an ever-living fire.

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25 Stob. Ecl. I.10, 14; Wachsmuth (1884), p. 126,7–8, Diels (1879) 283*3–4 = T 400,1–3 M.
28 Ps.-Justin Cohortatio ad gentiles 3,2, Riedweg (1994), pp. 535–536 = T 606,8–9 M.
29 Herm. Irris. 13, Hanson-Jousset (1993), p. 110,5–10 = T 678,4–8 M.
kindling in measures and going out in measures.” Olearius is convinced that
this quotation is taken from the book “On Nature” which is ascribed to Hera-
clitus by more than one author.³¹
4) The testimony of Eusebius,³² according to which the totality of individual
things came to be from fire and will eventually dissolve into fire, cannot
count as independent evidence. Olearius points out that Eusebius himself
acknowledges that he is quoting from the Placita Philosophorum.³³
5) Theodoretus, by contrast, is considered as an independent authority.³⁴ He
says that Hippasus and Heraclitus thought the universe to be one, unmoved
(ἀκίνητον),³⁵ and finite, and that it has fire as its principle.

§ VI

Olearius foresees that at this point even the most benevolent reader will impa-
tiently ask why the unsurprising fact that Heraclitus assumed fire to be the prin-
ciple of Nature had to be illustrated by this long list of quotations. The reason sub-
sequently given is that there are other ancient authors who attribute a divergent
view on the principle of Nature to Heraclitus. But first, in order to forestall them
even more forcefully, Olearius further expands the number of witnesses in favour
of fire by adding two Roman authorities.
1) According to Lucretius, Heraclitus heads the party of those who think fire and
fire alone to be the matter of things.³⁶ Olearius remarks that this contention
does not necessarily come into conflict with the view held by other sources,
according to which already Hippasus championed fire: for describing Hera-
clitus as the leader of the fire faction does not make him the first in terms of

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κολυμβητοῦ), Adler (1994), p. 37.20–30 = T 1119 M., are also apt. By contrast, in Plutarch’s refer-
ἀπορουμένων, the name of the author has been emended since from Ἡρακλείτου to Ἡρακλείδου,
see Heracleides fr. 68 Wehrli.
33 Cf. T 399 M.
fr. 225,15–21 Fortenbaugh = T. 199 M.
35 ἀεικίνητον Zeller apud Diels (1879) 292b in apparatu (accepted in T 200 M.).
36 Lucr. DRN 1.635–638, Flores (2002), p. 88 = T 312 M.
chronology; whereas Hippasus lived earlier, Heraclitus was doubtless the far more prominent and important character. Incidentally, Olearius leaves open the question of whether Hippasus’ view on fire can be regarded as a historical fact in the first place.

2) According to Cicero, Heraclitus said that all things come to be from fire.\(^{37}\) The Stoics reworked Heraclitus’ view into their own doctrine of fire as a cosmic principle.\(^{38}\)

§ VII

One might think that the question of what Heraclitus held to be the principle of Nature should be settled with that. Yet the matter is more complicated. In a passage in Aristotle’s *De anima*,\(^{39}\) Heraclitus is quoted as saying that if the exhalation out of which the other things consist is to be equated with the soul, then the principle in question must be equated with the soul too. The principle thus defined is something thoroughly incorporeal held in permanent flux. Olearius freely admits his initial incomprehension, while complaining that the Renaissance translation of the *De anima* into Latin by John Argyropoulos failed to provide assistance.\(^{40}\) That much seems clear: the principle is equated with the soul. Therefore, Olearius will look for further information on Heraclitus’ theory of the soul.

According to Theodoretus, Heraclitus ascribed a fiery *nature* to the soul;\(^{41}\) according to Tertullian,\(^{42}\) Heraclitus claimed that the soul *consists of* fire. Taken in isolation, the two statements might seem to lead to the conclusion that Heraclitus equated the principle with the soul in the sense that the principle is fire and the soul is of a fiery nature too. But Olearius immediately sees that this solution is too simple. For, according to the *De anima* passage quoted at the beginning of the present section,\(^{43}\) the middle term linking the two terms “principle” and “soul” is *not* “fire” but “*anathumiasis*”, which ordinarily means vapour or exhalation.

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37 Cic. *Lucullus* 37, 118, Plasberg (1922), p. 86.12–13 = T 304, 12 M.
40 Aristoteles latine (1831) 211*: Heraclitus quoque principium ait animam esse, quippe cum exhalationem esse, ex qua cetera dicit constare, et maxime incorporeum esse et semper fluere dicat.
42 Tert. *An*. 5,2, Waszink (1947), p. 6.4–12 = T 650 M.
tion. It must, therefore, be equivalent with air in Heraclitus, as the fundamental passage from the *Placita* to which Olearius has already referred (see section V above) puts beyond doubt: according to this passage, our world comes to be when the fire is quenched. The central feature of that cosmogony is the way in which the remaining simple bodies emerge, i.e. earth, water, and air. The transformations succeed each other in a slightly unorthodox way. The more solid parts of the initial fire are condensed and thus produce earth; then those parts of earth which are slackened under the influence of the remaining fire become water, and finally the water is subjected to *anathumiasis*, i.e. evaporates, thereby becoming air. In other words, *anathumiasis* seen as a process is the coming-to-be of air out of water, and *anathumiasis* seen as a product is air.

If soul is *anathumiasis* in the sense of air, and if, at the same time, soul is the principle, inasmuch as it is of the same nature as the substance which Heraclitus thinks to be the principle, it follows that the principle of nature is *anathumiasis* in the sense of air. Olearius uses this argument to gain access to the difficult *De anima* passage which opened the present paragraph: “Heraclitus, too, says that the soul is of the same nature as the principle, provided that the soul is air, since the other things consist of air, which is the most basic of substances and in permanent movement.”

But if this paraphrase has the virtue of being intelligible, it also has the most unwelcome implication that the principle of nature, out of which all other things consist, is air. Olearius baulks at the idea. For it is one thing to attribute to Heraclitus the view that the soul is of an airy nature: that much is attested to independently by Tertullian (the colour of the soul is like that of air), and, above all, by the *Placita* according to which the world soul is an *anathumiasis* of the moisture within the world, with the soul of individual animals being of the same kind, produced by both the external and the internal *anathumiasis*. But what Olearius bristles at is the idea of *anathumiasis* (in the sense of air) being regarded by Heraclitus as the *principle of nature*; all the more so since, according to the former *Placita* passage, *anathumiasis* (in the sense of air) is directly traced back

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to water while very indirectly coming back to fire as to its ultimate principle, taking the detour via water and earth.

Nor will it do to emend the De anima passage introduced above: Olearius was at first tempted to replace εἴπερ by ἤπερ in that passage, so that anathumiasis (in the sense of air) would be introduced only as an alternative to fire, i.e. as an ultimate principle ascribed to Heraclitus by a small minority.⁴⁹ But how is one to explain Aristotle’s subsequent remark that all other things come to be out of anathumiasis in the sense of air?

And yet: Olearius still thinks that in a sense his attempt at emendation was a step in the right direction. Although the Aristotle passage cannot be changed so as to yield the required meaning, it still remains true that fire and air can be perceived as two competing candidates for the principle of Nature as assumed by Heraclitus. That much is attested to by Sextus Empiricus,⁵⁰ according to whom Heraclitus is said to have identified air as the most fundamental element by some and fire by others.

§ VIII⁵¹

How are we to explain the coexistence of two such mutually exclusive interpretations in antiquity? Olearius is not prepared to believe Heraclitus to have been inconsistent by saying in some passages this and in others that. Interestingly, Olearius does not discuss, in that context, the Aristotelian passages in Topics VIII, Physics I, and Metaphysics Γ,⁵² according to which Heraclitus held that contrary or contradictory predicates may belong to one and the same subject.

As far as the acumen and sincerity of Heraclitus’ mind are concerned, Olearius disagrees with Lucretius who claims that Heraclitus was admired by the foolish only (clarus ob obscum lingam magis inter inanis ...);⁵³ and prefers to

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⁵⁰ S.E. M. IX.359, Mutschmann (1914), pp. 286.21–287.32 = T 696 M., 116(b) Marcovich.
⁵¹ Due to a printer’s mistake, the paragraph numbering erroneously jumps back to section VI at this point. The 1711 reprint of the treatise keeps the wrong numbering.
⁵² See T 146–152 M.
⁵³ Olearius quotes Lucr. DRN I.639–644, Flores (2002), p. 90 = T 312 M.
side with better men, like Socrates who admired the depth of Heraclitus’ book,\textsuperscript{54} like the Heracliteans who based a philosophical school on that book alone,\textsuperscript{55} and like Clement who called Heraclitus “noble”.\textsuperscript{56}

But how can we otherwise explain the coexistence of two candidates, fire and air, competing for the role of Heraclitus’ first principle of Nature? A possible way out could be to ascribe that peculiar feature of the ancient reception of Heraclitus to his famously obscure way of expressing himself. Heraclitus has as first principle of Nature \emph{neither} air nor what we usually call fire, but very small indivisible particles which are being moved permanently at a very high speed, and which, because of their extreme smallness, are not perceived by the senses the way they are. Yet Heraclitus refers to them as fire or air \emph{metaphorically}, as their nature comes very close to that of fire or air.

As far as fire is concerned, the smallness and swiftness of its particles is also emphasized by Plato;\textsuperscript{57} and from Aristotle’s \textit{Meteorologica} Olearius quotes the pertinent remark that there exists an important difference between what we usually \emph{call} fire and what really \emph{is} fire.\textsuperscript{58} From a continental point of view, one might think of the well-known statement by Georg Wilhelm Friedrich Hegel according to which the water presented as principle and origin of everything by Thales is not ordinary water but “speculative water”.\textsuperscript{59}

\textsuperscript{54} D.L. II.22, Dorandi (2013), p. 164.52–55 = T 12 M. Olearius does not spare a thought for the possible presence of irony in Socrates’ famous saying about the Delian diver.
\textsuperscript{56} Clem. Strom. II, 2, 8, 1, 117.3 Stählin-Früchtel = T 628 M.
\textsuperscript{57} Pl. Ti. 61e.
\textsuperscript{58} Arist. Mete. A.3 340\textsuperscript{b}21–23.
\textsuperscript{59} Hegel (1833), p. 201: „Die Flüssigkeit ist ihrem Begriffe nach Leben, – das spekulative Wasser, als selbst nach Geistesweise gesetzt, nicht wie die sinnliche Wirklichkeit sich darbietet“.
In Aristotle’s *Metaphysics* A.8, there is a passage to which Olearius pays particular attention, taking as a starting point the paraphrase offered by Ernst Soner⁶⁰ in his *Commentarius in 12 Libros Metaphysicorum Aristotelis* (1609).⁶¹

<table>
<thead>
<tr>
<th>Arist. Metaph. A.8 988b32–989a3</th>
<th>Soner’s paraphrase according to his autograph</th>
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<tbody>
<tr>
<td>τὰ μὲν γὰρ συγκρίσει [33] τὰ δὲ διακρίσει ἐξ ἄλληλων γίγνεται, τούτῳ δὲ πρός τὸ πρό-[34] τερον εἶναι καὶ ὑστερον διαφέρει πλεῖστον· τῇ μὲν γὰρ ἄν [35] δόξει στοιχειωδέστατον εἶναι πάντων ἐξ οὐ γίγνονται συγκρί-[989a1] σει πρῶτου, τοιοῦτο δὲ τὸ μικρομερέστατον καὶ λεπτότατον ἄν [2] εἶ θῶν σωμάτων</td>
<td>multum referebat ad prius et posterius i.e. ad assignandum principium, quod prius esse debet omnibus, attendisse, quodnam corporum tenuissimarum et minima partium esset, hoc enim maxime elementi racionem subire posse videtur, ex quo primo res minima partium et tenuissimorum corporum conjungi possunt.</td>
</tr>
<tr>
<td>διόπερ δοσι πῦρ ἁρχήν τιθέσαι, μάλιστα [3] ομολογημέννων ἃν τῷ λόγῳ τούτῳ λέγοιεν…</td>
<td>Quare huic racioni maxime consentanea locuti sunt, qui ignem principium fecerunt, is enim est subtillissimarum partium;</td>
</tr>
</tbody>
</table>

Here fire is identified as the simple body *with the smallest particles* (μικρομερέστατον) in terms of both size and weight, and this is taken to speak

⁶⁰ Ernst Soner (1572–1612) was appointed professor of medicine and philosophy in 1605 at the academy in Altdorf, a town close to Nuremberg. Previously, on an educational trip in Leiden, he had been converted to the antitrinitarian creed of Fausto Sozini by the Socinians Christoph Ostorod and Andreas Woydowski; see Wallace (1850), p. 435. Back in Altdorf, he developed, in the context of private lectures on Aristotle’s *Metaphysics*, his theory of the *eternity of matter*, which he set forth in a commentary on the *Metaphysics* (1609). He never came into conflict with protestant authorities, however, because his commentary was published only posthumously by Johann Paul Felwinger in an abridged version in which the number of offensive passages had been reduced (Jena 1657). For a more detailed account on Soner see Wallace (1850), pp. 434–440; Vollhardt (2013), pp. 226–227, 231–232.

⁶¹ For the text of Aristotle’s Greek and for the manuscript readings indicated in the apparatus we have drawn on our edition of *Metaphysics A* (Primavesi 2012, p. 494). The text of Soner’s Latin paraphrase is given here as it appears in Soner’s autograph (Soner 1609, p. 185), which is kept in the University Library in Erlangen (Ms. 714) and from which we quote. In the present passage, however, Felwinger’s abridged version (Soner 1657, p. 137) does not deviate from the autograph.
in favour of identifying fire with the primary simple body, given that the primary simple body must be of a kind that makes it easy to understand that the others are composed of it.

On the basis of this general consensus about the nature of fire, we can see the point in Heraclitus’ fire metaphor. But a similar case can be made for air, too, since air is almost as famous as fire for the smallness and mobility of its particles. In the *De anima*, for instance, Aristotle characterizes Heraclitus’ air both as most incorporeal and as being in permanent flow,⁶² whereas according to Aristotle’s own views in *De iuventute*, it is fire which is in permanent flow.⁶³ So both terms, fire and air, seem to be appropriate metaphors for small, indivisible, and swiftly moved particles – provided, of course, that it can be shown that Heraclitus really thought such particles to be the first principle of nature. At this point, Olearius becomes aware of the danger of being taken for someone who, suffering from a fashionable kind of jaundice, thinks to be bumping against elementary particles everywhere, although, in fact, there is nothing of the kind:

> Ast forsan me corpusculari philosophiae, quae, hodie apud omnes celebratur, favere, corpusculaque – adeo particulæ atque ramenta – offendere aliquis opinabitur, ubi nihil eorum occurrit, similis quodam cum ictericis morbo laborantem.

Therefore, he is eager to show that, at least in the case of Heraclitus, the ascription of a version of atomism is based on firm evidence. According to the *Placita*, not only did Empedocles assume very small particles that are prior to the four elements, being, as it were, elements before the elements, but Heraclitus also introduces very small and indivisible particles (ψηγμάτια τινα ἐλάχιστα καὶ ἀμερῆ).⁶⁴ In a similar vein, Stobaeus reports that – at least according to some – Heraclitus held there to be small particles (ψήγματα) which are prior to the One.⁶⁵ Yet Olearius deems Stobaeus’ passage to remain ambiguous until we have made our choice between two possible readings of the term “the One”.

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Reading A: “The One” refers to our world – a usage well attested for Heraclitus by Diogenes Laertius, Theodoretus, and Stobaeus. Reading B: “The One” refers to the one principle of Nature, i.e. to fire.

At first sight, reading B seems to entail a serious problem. For reading B forces us to accept that Heraclitus referred to fire in two different senses.

Sense (i): The ordinary fire, which is already composed of small particles and which is called principle and element in virtue of being the primary simple body. Olearius justifies the attribution to Heraclitus of this derivative notion of “principle and element” by pointing to the habit of calling the four simple bodies “elements”, evidence for which he finds in the Placita.

Sense (ii): The small, indivisible, swiftly moved particles (ψηγμάτια). The assumption of this meaning rests on the fact that Heraclitus refers repeatedly to fire in a way which does not correspond to the ordinary simple body of fire but only to what is absolutely prior, i.e. to fire in the sense of indivisible particles. Olearius gives three examples:

According to the Placita, Heraclitus says that absolutely everything emerges from fire and passes away into fire. According to Stobaeus, Heraclitus says that there is an eternal fire. What is eternal, however, admits of no antecedent. According to Clement, Heraclitus says that the world was, is, and will be everlasting fire. Again, there can be no antecedent to a fire that always was, is, and will be.

Olearius concludes that reading the Stobaeus passage along the lines of B is possible: fire in the sense of small, indivisible, swiftly moved particles can well be said to be prior to fire in the sense of the ordinary simple body.
§ IX

So it seems that Heraclitus, too, has adopted the one and only true principle of nature, i.e. simple, indivisible, imperceptible matter, which you may call σωμάτια and μονάδες with Leucippus, ναστά with Democritus, ἀδιαίρετα with Metrodorus of Chios, ἀτομοὶ with Epicurus, or, finally, ψηγμάτια with Heraclitus, no matter whether you define it with Pierre Gassendi, in Epicurean terms, as *plena quaedam, seu vacui expers, solidaque adeo natura, quae non habet, qua ex parte, aut quomodo fissuram admittat, sicque dissolatur*, or as *materia simplex, indivisibilis, & insensibilis*.

§ X

The interpretation proposed so far cannot be refuted by popular opinion, according to which atomism in antiquity was strictly confined to Leucippus, Democritus, and Epicurus. Atomism is much older than that. We know from Strabo and Sextus Empiricus that, according to Posidonius, Moschus of Sidon invented atomism even before the Trojan War.

Himerius the Sophist emphasizes that the atomism of Epicurus does not at all differ from the archaic Chaos theories. This is of particular interest in the present context, since Chaos was treated in Orphic philosophy, from which, according to Clement, Heraclitus took over several aspects into his own thought.
Further demonstration is considered superfluous, since Ralph Cudworth already showed, in his book *The Intellectual System of the Universe*, that differing versions of atomism were held by practically all ancient philosophers. Olearius knows this from browsing through Cudworth’s book during his year in Oxford. In his home town of Leipzig, however, he finds himself unable to obtain a copy of Cudworth’s book, but he remembers Cudworth’s failure to prove his point in the case of Heraclitus: *Quod tamen de Heraclito speciatim demonstrasse eum non memini.*

§ XI

One feature of the Heraclitean particles remains to be elucidated: what does Stobaeus mean when he reports that according to Heraclitus fire is both eternal (ἀΐδιον) and subject to periodical change (περιοδικὸν)? It seems that fire, i.e. the particles of fiery nature, is eternal in itself and that the totality of things cyclically comes to be out of these fiery particles and passes away into them.

According to Clement, we may also say that Heraclitus postulates two universes, one of which is eternal and the other perishable, as long as we realize that the perishable universe is nothing but the eternal one in a certain state (τὸν κατὰ τὴν διακόσμησιν εἰδώς ὦν ἐτερὸν ὅντα ἑκεῖνον πως ἥχοντος). On this reading, there is no contradiction between the reference to two universes and the Heraclitean assertion, quoted earlier, that the universe is one. In this context,
Clement even provides a literal quotation from Heraclitus on the various states of the one fire:⁸⁵

> “the transformations (turnings) of Fire: first sea, and of the sea the half is earth the half prester (burning)”.

But really, there are only two states of the universe: the first, in which fire or the fiery particles are not transformed and distributed, and the second, in which they have been transformed, by changes and condensation, into the other simple bodies. They make up our world until, by rarefaction, they are dissolved again into fire. That is why he calls our world the perishable universe.

The two passages from Stobaeus and Clement make it sufficiently clear that Heraclitus thought his principle, i.e. fire in the sense of fiery particles, to be eternal. But the particles are not only eternal, they are also eternally moved: according to a passage from the Placita,⁸⁶ Heraclitus denies that there is anything like rest and immobility in his living universe: “that is for corpses” he says and attributes eternal movement to eternal things, and perishable movement to perishable things. Those eternal things must be the fiery particles (ψημάτια).

Heraclitus’ unswerving belief in the eternal existence of fiery matter was only to be expected, since virtually none of the first natural philosophers could disentangle himself from what Olearius, from his Christian point of view, must consider insane superstition (delirium). The creatio ex nihilo is a mystery to be grasped only by those who are deemed worthy of divine revelation. The rest of humanity, including the wisest, stubbornly adhere to the dogma so well put by Lucretius: Nullam rem e nihilo gigni diuinimus quam.⁸⁷

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⁸⁷ Lucr. DRN I.150; Flores (2002), p. 52.
§ XII

The principle of Nature according to Heraclitus can thus be regarded as identified. But a theologian cannot help asking whether this is the end of the matter. An affirmative answer seems to be suggested by Aristotle’s accusation of all earlier natural philosophers, including Heraclitus.⁸⁹ Although, says Aristotle in *Metaphysics* A, there are four types of causes – the material cause, the formal cause, the efficient cause, and the final cause – the only cause properly grasped by the first naturalists prior to Anaxagoras is the material one, i.e. the eternal substratum of all change. They refrained, however, from asking the obvious question of what brought about this change. Before Anaxagoras managed to finally introduce the νοῦς, thinkers were ignorant of the efficient cause, the first mover of the universe, the demiurge. It is true that Aristotle’s treatment of his predecessors is often inordinately aggressive for entirely self-interested reasons. Yet in this case, he is joined in his harsh judgement by other scholars. But if Aristotle is right in *Metaphysics* A, the early naturalists up to and including Heraclitus were not only incapable of grasping the *creatio ex nihilo*, they were downright atheists.

§ XIII⁹⁰

Ralph Cudworth, in his book on *The Intellectual System of the Universe* (1678), strives to deliver the early Ionian naturalists from being suspected of atheism. In the same year of AD 1678 Cudworth was joined by Samuel Parker, then archdeacon of Canterbury, later also bishop of Oxford. From Parker’s book *On God, and Divine Providence*⁹¹ Olearius quotes the suggestion that the early Naturalists did not purposefully abolish the efficient cause. It simply never occurred to them to mention it, their purpose being to identify the material substratum, which in itself was demanding enough. As an alternative way-out, Parker suggests, drawing on a passage in Simplicius,⁹² that the early philosophers, precisely because they assumed the efficient cause to be a *super-natural* one, had no reason to mention it when examining the *natural* causes. Olearius refrains from commenting on Par-

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⁸⁸ § X in Olearius (1697).
⁹⁰ § XI in Olearius (1697).
⁹¹ Parker (1678), sectio V, p.10, Disputatio I. *An Philosophorum ulli, & quinam Athei fuerunt?*
oker's second suggestion, but he supports the first one quoting Aristotle's description\(^93\) of how the later natural philosophers were gradually led by truth itself, as it were, to discover further causes: Aristotle's account speaks against the first philosophers having deliberately abolished these causes.

§ XIV\(^94\)

But Olearius is afraid that the defence strategies achieve nothing in the case of Heraclitus who was, or so Olearius believes, a contemporary of Anaxagoras. The latter's discovery of the \textit{nous} could and should have induced Heraclitus to consider the possibility of an efficient cause.

So we seem to be stuck in a dilemma: while there are tenets ascribed to Heraclitus which seem to cast a very unfavourable light upon his religious beliefs, we also encounter testimonies which suggest that he did \textit{not} eliminate God, as first cause, mover, and demiurge. It remains to be seen which of these two assessments has better credentials.

§ XV\(^95\)

The first reason for denying Heraclitus the belief in a \textit{divine creator} is that he seems to have regarded his natural principle itself – i.e. “fire” – as a god. According to Clement,\(^96\) both Hippasus and Heraclitus proclaimed fire a divinity. According to the more detailed account of Stobaeus,\(^97\) Heraclitus' divine fire is both eternal and periodically returning. Against the gnostic doctrine of Marcion, according to which our world is too corrupt to be the creation of a good God, Tertullian argues the converse: while the Greek word for “world”, \textit{kosmos}, emphasises the beautiful order of our world, the pagan philosophers, among them Heraclitus, introduce strange gods unworthy of this world, one such being fire.\(^98\)

\(^{93}\) Arist. \textit{Metaph.} A.3 984b8–14.
\(^{94}\) § XII in Olearius (1697).
\(^{95}\) § XIII in Olearius (1697).
\(^{96}\) Clem. Al. \textit{Protr.} IV.64.2, Marcovich (1995), p. 97, 9–10 = T 611,4–5 M.
\(^{97}\) Stob. \textit{Ecl.} I.1.29\(^b\), Wachsmuth (1884), p. 35.7–8, Diels (1879) 303\(^b\)8–10 = T 788,4–6 M.; 28(d') Marcovich.
Olearius refutes this criticism by pointing out that treating the elements or the material principles of the world as gods has been nothing but a poetic convention from Hesiod onwards. Heraclitus’ adherence to this convention was correctly pointed out already by the author of the *Homeric allegories*, presumably intended to further enhance the deliberate and proverbial obscurity of his text.⁹⁹

It is more promising to charge Heraclitus with claiming that this world has never been created by anyone, either god or human, since it has always existed. For the relevant Heraclitean statement is quoted *verbatim* by both Plutarch¹⁰⁰ and Clement.¹⁰¹ The crucial point here is to keep in mind the Heraclitean distinction between eternal universe and perishable universe, also attested by Clement.¹⁰² The world whose createdness Heraclitus denies is of course not our perishable world, but its eternal substratum, namely fire or the fire particles. Given that fire always was, is, and will be it goes without saying that it cannot have been created. But stating that much is only to say what all ancient natural philosophers say: matter is eternal, there being no *creatio ex nihilo*. Denying the *creatio ex nihilo* does of course not entail denying creation altogether. On the contrary: some natural philosophers effortlessly combine believing in eternal matter with believing in a divine demiurge.

Instead, one should focus on the coming-to-be of the perishable universe from the eternal universe. This is the place where we must look for the presence or absence of a divine creator.

At first sight, Heraclitus appears to think that fire is capable of doing the job. For this fire is no inert matter, devoid of movement, but is characterised as ever-living and eternally moving, as we know from the *Placita*.¹⁰³ On that count, a divine mover might seem superfluous.

Nor does Heraclitus make mention of a divine creation anywhere in his chronicle of the coming-to-be of the perishable cosmos. It is all about condensation and rarefaction, the two πάθη of the eternal fire, as Hermias puts it.¹⁰⁴ It it true, that they are said to be brought about καθ’ εἱμαρμένην, *secundum fatum*, as we know

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¹⁰⁴ Herm. *Irris.* 13, Hanson-Joussot (1993), p. 110.5–10 = T 678,4–8 M.
from Diogenes Laertius,\textsuperscript{105} the \textit{Placita},\textsuperscript{106} and Theodoretus.\textsuperscript{107} But according to the \textit{Placita} and Theodoretus, εἰμαρμένη is just another word for ‘necessity’.\textsuperscript{108} So a system emerges, where ever-living and eternally moved particles are, of necessity, subject to condensation and rarefaction in fixed intervals, which causes the coming-to-be and passing-away of our perishable world. At first glance, it seems to follow that there is no room for a divine creator. And yet Olearius endeavours to show that Heraclitus ascribed the periodical condensation and rarefaction of these particles to God. The crucial point here is the nature of εἰμαρμένη, regulating the periodical condensation and rarefaction. To claim that Heraclitus uses both εἰμαρμένη and ἀνάγκη in order to characterise events as taking place of necessity certainly falls short of providing a conceptual analysis of that necessity.

Stobaeus provides such a conceptual analysis by defining the Heraclitean meaning of εἰμαρμένη in the following way:\textsuperscript{109} \textit{a logos that, acting as a demiurge, creates beings out of the alternation of contrary movements} (λόγος ἐκ τῆς ἐναντιοδρομίας δημιουργός τῶν ὄντων). It seems plausible to take ἐναντιοδρομία to denote periodic alternation of condensation and rarefaction. Besides the Stobaean definition of the Heraclitean εἰμαρμένη, Olearius can quote yet another one, this time from the \textit{Placita}:\textsuperscript{110} “εἰμαρμένη is a logos permeating the substance of the universe” (λόγον τὸν διὰ τῆς οὐσίας τοῦ παντὸς διήκοντα). In both definitions the ontological status of the Logos remains to be clarified. Olearius takes the bold step of locating the Heraclitean Logos firmly within the first category, i.e. within the category of substance: he paraphrases Logos by means of “A substance equipped with intellect or mind” (\textit{substantia, intellectu siue mente praedita}).

From his interpretation of the two definitions Olearius infers that Heraclitus’ εἰμαρμένη is to be identified with Anaxagoras’ νοῦς – which is the mind that administers the Universe (νοῦς πάντα διοικῶν) – that is to say: with God. Olearius feels reassured by Stoic philosophy, about which Cicero\textsuperscript{111} says that it owes much to Heraclitus. For the Stoics explicitly equated εἰμαρμένη, or \textit{fatum}, with God, as

\textsuperscript{106} Plu. \textit{Plac.} I.27 (884 f) Lachenaud (1993), p. 98, Diels (1879) 322\textsuperscript{2}–4 = T 415 M., 28(d') Marcovich.
\textsuperscript{107} Theod. Gr. aff. cur. IV.13, Canivet (1958), p. 258.9–10 = T 417 (c) M.
\textsuperscript{108} See T 415 M. and T 417 (c) M.
\textsuperscript{109} Stob. Ecl. I.1, 29\textsuperscript{b}, Wachsmuth (1884), p. 35.7–8, Diels (1879) 303\textsuperscript{8}–8 = T 788,4–6 M.; 28(d') Marcovich.
\textsuperscript{111} Cic. \textit{ND} III.14.35, Ax (1961), p. 131.5–8 = T 303 M.
Olearius goes on to illustrate by quoting Diogenes Laertius on Zeno,¹¹² Tertullian on Zeno,¹¹³ and Lactantius on Chrysippus and Zeno.¹¹⁴ The inference from the Stoics back to Heraclitus is shown to be a valid one precisely by the two definitions of Heraclitean εἱμαρμένη already quoted.

Olearius considers his reading of Logos warranted both by the fact that it can act as a demiurge, and by the use made of the concept of the Logos in Platonism and (as already shown) by the Stoics: “Vbi si liberius λόγου vocem, per substantiam intellectu, menteque praeditam, me interpretatum esse quis dixerit, interpretationem illam adiecta voce δημιουργός, acceptione item vocis λογος apud Platonicos, imo & Stoicos ... tuebor”.

But the decisive confirmation of this interpretation of Logos in Heraclitus is provided by Clement of Alexandria according to whom Heraclitus wants to say that fire is transformed and everything is administered by Logos and God.¹¹⁵

Finally, Olearius tries to give a comprehensive account of the activity of this God by merging the two definitions of εἱμαρμένη in the following way: “*a substance equipped with intellect or mind, which is permeating the substance of the universe and thereby acts as a demiurge and creates beings out of the alternation of contrary movements” (*λόγος ὁ διὰ τῆς οὐσίας τοῦ παντὸς διήκων, καὶ ἐκ τῆς ἐναντιοδρομίας δημιουργός τῶν ὄντων).

§ XVI¹¹⁶

Olearius concludes that Heraclitus should be acquitted of the charge of atheism, unless further evidence to the contrary is provided, and that we should rather say that, for some unfathomable reason, he simply failed to mention God among his first principles. Olearius further claims that in the ethical fragments of Heraclitus there is not the slightest trace of atheistic corruption; the demonstration of that point is, however, postponed. For the time being, he is content to bring to the fore three crucial pieces of evidence:

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¹¹⁶ § XIV in Olearius (1697).
– Divine Socrates would scarcely have held the writings of Heraclitus in the high esteem illustrated by the anecdote of the Delian diver,¹¹⁷ had he felt that these writings were tainted by the plague of atheism.

– The Church Father Athenagoras counted him – because of his exile and alongside Pythagoras, Democritus, and Socrates – among the martyrs of the ubiquitous struggle of baseness against virtue.¹¹⁸

– Justin Martyr even deemed both him and Socrates worthy of being called Christians, because they lived according to Scripture, even though they were considered atheists.¹¹⁹

Conclusion: Olearius, Heraclitus, and Aristotle De Caelo Γ.5

As to the putative theism of Heraclitus, Olearius found in Stobaeus the doxographical report according to which Heraclitus ascribed the periodical condensation and rarefaction of the “atoms” to the activity of a Logos acting as a demiurge.¹²⁰ Furthermore, Clement of Alexandria interprets this power by means of the formula “Logos and God”.¹²¹ But we will, of course, doubt that the dogmatic use of the latter formula would have been approved of without qualification by Heraclitus himself, who held that

„One (being), the only (truly) wise, is both unwilling and willing to be called by the name of Zeus“.

¹¹⁸ Athenag. Legatio Pro Christianis 31.1.5–10, Marcovich (1990), p. 99 = T 605 M.
¹²⁰ Stob. Ecl. I 1, 29ª; Wachsmuth (1884), pp. 35.7–8, Diels (1879) 303ª8–10 = T 788,4–6 M.; 28(d) Marcovich.
As far as the *Atomism* of Heraclitus is concerned, Olearius quotes two texts, by Ps.-Plutarch\(^{123}\) and Stobaeus respectively,\(^{124}\) which ascribe to Heraclitus the assumption of very small and indivisible particles (ψηγμάτια or ψήγματα) prior to the One. But in fact, these two texts cannot count as two independent testimonies, since they go back to one and the same doxographical source.\(^{125}\) That doxographical source, in turn, owes the key term ψῆγμα neither directly to Heraclitus himself, nor, as the late Karl Reinhardt thought, to Posidonius,\(^{126}\) but, as Andrei Lebedev has pointed out, to Aristotle.\(^{127}\)

In *De caelo* Γ.5, Aristotle mentions those material monists who, as does for instance Heraclitus, posit fire as the element without reducing it to particles of a specific geometrical form:\(^{128}\) “Others, again, do not express any opinion on the geometrical figure – viz. of fire particles –, but simply regard it – viz. fire – as the body of the finest particles, and they further say that the other bodies come to be out of its combination as if gold-dust were melted down” (οἱ δὲ περὶ μὲν σχήματος οὐδὲν ἀποφαίνονται, λεπτομερέστατον δὲ μόνον ποιοῦσιν, ἕπειτ’ ἐκ τούτου συντιθεμένου φασὶ γίγνεσθαι ἄλλα καθὰ περὶ ἀπερ ἄν εἰ συμφυσωσμένον ψηγματος).

Aristotle quotes a *metallurgical simile* (καθὰ περὶ ἀπερ ἄν εἰ συμφυσωσμένον ψηγματος) and he reports that this simile was used by the philosophers in question in order to illustrate the composition of *other* simple bodies out of fine-grained fire. Andrei Lebedev has both plausibly attributed the simile quoted

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\(^{124}\) Stob. I, 14, I\(^{5}\), Wachsmuth (1884), p. 143.15–22 = T 406 M.

\(^{125}\) This is shown by the juxtaposition of the two chapters Περὶ ἐλαχίστων in Diels (1879) 312\(^{2}\)–7 and 312\(^{2}\)–10. The common source is plausibly called “Aëtios” by Diels, but nothing hinges on the name.

\(^{126}\) Reinhardt (1926), p. 33: “Doch wie dem auch sei, hier drängt sich die Vermutung auf, daß auch Aëtius in seinem Kapitel περὶ ἐλαχίστων (I 13, S. 312 Diels Doxogr.) sich auf Poseidonios gründe”.

\(^{127}\) See Lebedev (1980), p. 48 (English summary), on the relationship between Diels (1879) 312\(^{2}\)–7 / 312\(^{2}\)–10 and Arist. *Cael.* Γ.5 304\(^{4}\)–18–21 (= T 181 M): “In § 9 the dependence of Aëtios on Aristotle is demonstrated”. We are dealing here with an important piece of evidence for the more general claim, by Jaap Mansfeld, according to which the doxographic tradition which was summarized in the *Placita philosophorum* did not start with Theophrastus, as Hermann Diels would have it, but owes much to Aristotle himself. See most recently Mansfeld-Primavesi (2012), p. 32: “Die spätere doxographische Literatur ... geht also zum Teil auf Aristoteles selbst zurück”.

\(^{128}\) Arist. *Cael.* Γ.5 304\(^{4}\)–18–21 = T 181 M.
by Aristotle to Heraclitus, and claimed that Aristotle has distorted the original meaning of the simile.¹²⁹

The crucial term here is ψῆγμα, the term which has been preserved by the doxographical tradition on Heraclitus.¹³⁰ It is a vox Ionica (Lebedev) which denotes crude metal, especially gold dust.¹³¹ Accordingly, the clause συμφυσωμένου ψήγματος refers to the purification of impure gold dust by way of smelting, or to the melting down of relatively pure gold dust in order to cast it in moulds.¹³² By and large, the simile can well be meant to fulfil the function reported by Aristotle, i.e. to illustrate the composition of other elements out of fire. It is, of course, true that the simile itself does not describe the transformation of gold into another element; such a pedantic correspondence is not to be expected in a successful simile anyway. But transforming unsightly gold dust into a gleaming, solid bar of gold bullion changes the outward aspect of the material to such an extent that the comparison with elemental change from fire to a more solid element would not seem inappropriate at all. On the other hand, Aristotle seems to be mistaken in inferring from the “gold dust” image a corpuscular theory of fire, and, accordingly, in ascribing to Heraclitus the concept of small, indivisible fire particles as the ultimate substratum of elemental change:¹³³ in that respect, Lebedev’s criticism is entirely justified. But it seems all the more likely that the simile was meant to illustrate elemental change from fire to other elements already in Heraclitus, or

¹²⁹ See Lebedev (1979), p. 22: “The contradiction between the authentic wording and unauthentic meaning of ΣΨ [= the συμφυσωμένου ψήγματος-comparison] may be resolved only on the assumption that the simile is genuine but in H. had different connotations and was misunderstood by Aristotle who ascribed pyknosis to all “monists” on a priori grounds”.

¹³⁰ Diels (1879) 312²-7 and 312³-10.

¹³¹ Lebedev (1979), p. 23: „a) ore, alloy, μίγμα of gold and silver, electrum, since the term was often applied to unpurified gold-dust; b) as roughly equivalent to „gold“, metallum rude intended for casting in moulds if (relatively) pure ψῆγμα is meant.“

¹³² Lebedev (1979), p. 23: „Συν- in συμφυσάω does not necessarily express the idea of syn-thesis (against LSI): cf. the meaning of συν- in συντήκω, συγχωνεύω. The most natural meaning of συμφυσάω (cf. Latin confiare) is either a) to smelt, to purify metal, to separate the compounds of the alloy, or b) to melt, to cast, to mould. Thus we are faced with two possibilities in interpreting ΣΨ [= the συμφυσωμένου ψήγματος-comparison]: a) the smelting – διάκρισις – interpretation and b) the melting – μετασχήματις – interpretation ...“

else it would have scarcely occurred to Aristotle to misinterpret the simile in the way refuted by Lebedev.

Aristotle’s “corpuscular” interpretation of the simile was, in any case, adopted by the doxographical tradition, so that Olearius’ attribution of “atomism” to Heraclitus is based on the correct interpretation of an unequivocal, if partly misleading, piece of ancient evidence.

In order to win Heraclitus over to Cudworth’s *Intellectual System* – or rather, to the kingdom of God –, Olearius has worked through the extensive evidence with such meticulous attention to detail that he must count as a pioneer of early modern research on Heraclitus. In particular, he has been able to track down a few texts which say *expressis verbis* all that he needs in support of his picture of Heraclitus as a pious Atomist: according to the doxographic tradition, Heraclitus regarded fire atoms as the ultimate material cause, according to Clement of Alexandria, he identified the efficient cause with *Logos* and *God*.

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