

THE FIFTH ELEMENT IN ARISTOTLE'S *DE PHILOSOPHIA*: A CRITICAL RE-EXAMINATION

TWENTY-FIVE years ago Paul Wilpert called for a thorough re-examination of our knowledge of the content of Aristotle's lost work *De Philosophia*. Expressing his reservations about the validity of our current reconstruction of the work, he wrote: 'On the basis of attested fragments, we form for ourselves a picture of the content of a lost writing, and this picture in turn serves to interpret new fragments as echoes of that writing. So our joy over the swift growth of our collection of fragments is clouded by the thought that we are not thereby really nearing the original character of the work, but we are entangling ourselves ever more tightly in a picture we ourselves have created.' As a corrective Wilpert called for a critical retracing of our steps since 1830 to establish a more secure reconstruction of this important lost work.¹

Since then there have been numerous, searching analyses of the ideas and fragments of *De Philosophia*, but at least one venerable old theory has escaped critical reappraisal: namely, the theory that in *De Philosophia* Aristotle discussed his doctrine of a fifth element, i.e. his belief that the heavenly bodies are composed of an element distinct from the four earthly elements, earth, water, air, and fire. This theory has become so widely accepted that it has virtually become a fact.² When support is needed, most modern authors simply cite one or both of the two modern authorities on the early Aristotle, namely W. Jaeger and E. Bignone.³ The more meticulous restate the traditional evidence with complete confidence that this evidence proves their case. If Wilpert's hope for a firmly grounded reconstruction of the *De Philosophia* is ever to be achieved, one of the important *desiderata* today is a critical re-examination of the evidence for the fifth element in this work.

In modern discussions of the fifth element in *De Philosophia* two fundamentally different approaches can be discerned, one based on a passage in Cicero, and the other on the doxographic evidence. Let us begin with the approach based on Cicero *De Natura Deorum* i 33 (= Arist. *De Phil. fr.* 26 Ross). Here Velleius, an Epicurean, is attempting to refute earlier views about the gods by showing how contradictory they are. He observes that in Book Three of *De Philosophia* Aristotle 'sometimes assigns all divinity to mind, sometimes says the cosmos itself is god, sometimes places some other being in charge of the world and assigns to it such parts that it may regulate and preserve the movement of the cosmos by some kind of rolling, and sometimes, too, says that the *ardor* of the heaven is god.' The crucial question is what Cicero meant by *ardor*. Jaeger, who is the chief advocate of this passage as evidence for the doctrine of the fifth element, comments, 'Cicero translates "ether" by *Caeli ardor*. This is usual, and the description of it as divine is further evidence that what is meant is Aristotle's hypothesis of ether as the fifth element. (Cf. Cic. *De Natura Deorum* i 14, 37; *ardorem, qui aether nominetur* to which Plasberg refers in commenting on our passage).'⁴

¹ P. Wilpert, 'Die aristotelische Schrift "Über die Philosophie"', *Autour d'Aristote: Recueil . . . A. Mansion* (Louvain 1955) 99–116 (quotation, 102–3); cf. also 'The Fragments of Aristotle's Lost Writings', in I. Düring and G. E. L. Owen, edd., *Aristotle and Plato in the Mid-Fourth Century*, Stud. Gr. et Lat. Goth. xi (Göteborg 1960) 257–64. A similar concern in connection with specific problems has been voiced by others, e.g., A. Mansion, 'L'immortalité de l'âme et de l'intellect d'après Aristote', *RPh Louvain* li (1953) 450 and P. Moraux, 'Quinta Essentia', *RE* xlvii (1963) 1219.

² To my knowledge, the only published rejections of this assumption are W. D. Ross, *Aristotle's Physics* (Oxford 1936) 96–7, and D. J. Furley, 'Lucretius and the Stoics', *BICS* xviii (1966) 22–3; but neither has affected the state of the question. See, for example, the recent

reconstruction by A. H. Chroust, 'A Tentative Outline for a Possible Reconstruction of Aristotle's Lost Dialog *On Philosophy*', *AntClass* xlv (1975) 553–69, esp. 561–3. One authority, B. Effe, *Studien zur Kosmologie und Theologie der aristotelischen Schrift "Über die Philosophie"*, *Zetemata* l (Munich 1970) 127–8, is so convinced of the truth of this assumption that he is prepared to doubt Cicero's reliability as a witness to Aristotle's *De Philosophia* on the grounds that Cicero *Nat. D.* ii 42 does not acknowledge the existence of the fifth element.

³ W. Jaeger, *Aristotle: Fundamentals of the History of His Development* (Oxford 1948) 139, 142–54; E. Bignone, *L'Aristotele perduto e la formazione filosofica di Epicuro* (Florence 1936).

⁴ Jaeger (n. 3) 139, n. 1. Bignone (n. 3) ii 352 n. 1, accepts this interpretation of the passage but does not

At first glance, Jaeger's comment seems plausible; but if we trace this interpretation of Cicero's statement back to its original scholarly setting, we can see why it must be tested before it can be accepted. Among Aristotelian scholars this interpretation goes back at least as far as J. Bernays, who in 1863 laid the foundations for the reconstruction of *De Philosophia*. Citing the parallel in *Nat. D.* ii 41 (*in ardore caelesti qui aether nominetur*), Bernays translates *caeli ardor* as 'the heavenly fire-material, the ether'.⁵ Bernays, trying to establish that references in the extant works of Aristotle to 'exoterikoi logoi' and 'enkykliā philosophēmata' were really references to the lost dialogues, was eager to find similarities between the fragments attributed to *De Philosophia* (like the passage from Cicero) and the extant works. Hence he had polemical reasons to welcome this interpretation of Cicero's statement.⁶ Moreover, Bernays wrote before anyone came to suspect an evolutionary development in Aristotle's thought, and he shared the common tendency to synthesize and harmonize apparent discrepancies. Consequently, he was predisposed to see *caeli ardor* as a reference to the fifth element of *De Caelo*. But this interpretation was not originated by Bernays. By 1850 it was already entrenched among commentators on Cicero, as the influential commentary of G. F. Schönmann shows.⁷ Commentators on Cicero, both before and after Bernays, followed the good philological principle that an author should be allowed to interpret himself; so they looked to Cicero's discussions of Stoicism, where Cicero explicitly states that the *ardor* of the heavens is called *aether* (*Nat. D.* i 37; ii 41; cf. ii 91–2). From this they reasoned (1) that *ardor* in i 33 translates the Greek word *αἰθήρ* and (2) that this Greek word refers to Aristotle's fifth element. Following these Ciceronian commentators Aristotelian scholars concluded that Aristotle promulgated the doctrine of the fifth element in *De Philosophia*.

Before we can accept this conclusion, however, we must ask whether the two premises are correct. There can be no doubt that the Stoics believed that the cosmos consists of only four elements and that the element of the celestial region is a subtle, fiery substance which can be called by various names, including heat, fire, and ether.⁸ Thus when Cicero attributes to the Stoics the belief that both *ardor* and *aether* are legitimate names for the element of the heavens, we can accept this as a correct statement of Stoic doctrine. But can we infer from Cicero's statement of Stoic doctrine that it is a peculiarity of Cicero's Latinity to translate the Greek word *αἰθήρ* by the Latin word *ardor*? The evidence of *De Natura Deorum* suggests that we cannot. In *Nat. D.* ii 91 Cicero tells us that *aether*, like *aer*, had originally been a Greek word but had been taken over by the Latin language and was being used as a Latin word. He quotes a line from Pacuvius, in which Pacuvius provided his audience with a translation, which is perhaps a sign that the word was unfamiliar to them. But the word had also been used by Ennius in his *Euhemerus* (*apud Lact.* i 11.63) and *Annales* (line 472); and in the century since Ennius and Pacuvius it must have become increasingly more common, at least in Latin poetry, so that Lucretius could use it frequently without any reservations to describe the celestial region.⁹ Since Cicero admits the Greek word

use it as a proof that the fifth element was discussed in *De Philosophia*. This approach is adopted as proof by a number of more recent writers, e.g., E. Berti, *La filosofia del primo Aristotele* (Padua 1962) 369; A. H. Chroust, *Aristotle: New Light on his Life and on Some of his Lost Works* (London 1973) ii 183–4 (originally published as 'The concept of God in Aristotle's *On Philosophy* [Cicero, *De Natura Deorum* I.13.33]', *Emerita* xxxiii [1965] 205–28); P. Moraux (n. 1) 1196–1209; J. Pepin, *Théologie cosmique et théologie chrétienne* (Paris 1964) 151–2; and W. Pötscher, *Strukturprobleme der aristotelischen und theophrastischen Gottesvorstellung*, *Philosophia Antiqua* xix (Leiden 1970) 34, 41.

⁵ J. Bernays, *Die Dialoge des Aristoteles in ihrem Verhältnis zu seinen übrigen Werken* (Berlin 1863) 99–100.

⁶ For the polemical purpose of his work, see Bernays (n. 5) 30–42; cf. also Berti (n. 4) 19–21.

⁷ G. F. Schönmann, ed., *De Natura Deorum* (Leipzig 1850, 1857, 1865, 1876) notes on i 13.33. It should be noted that Jaeger cites Plasberg, a commentator on Cicero, to support his interpretation. The other major commentators on this work concur; cf. J. B. Mayor (Cambridge 1891) i 122; and A. S. Pease (Cambridge, Mass. 1955) i 242.

⁸ Cf. H. von Arnim, *Sto. Vet. Fr.* (Leipzig 1903–5) ii *fr.* 413, 527, 555, 558, 580, cf. 434. The use of 'fire' and 'ether' as alternative names for the celestial element is stated explicitly by Diog. Laert. vii 137 (= von Arnim ii *fr.* 580). In general, Stoic texts use 'fire' and 'ether' interchangeably.

⁹ Cf. J. Paulson, *Index Lucretianus* (Göteborg 1911) s.v. 'Aether'. The meaning of the term in Lucretius is not completely clear, perhaps because the traditional elements play only a small part in the Epicurean system (cf. C. Bailey's edition [Oxford 1947] iii 1393–4). On the

can be simply transliterated to form a Latin word *aether* and his usual practice is to use the established Latin philosophical vocabulary wherever possible, there is no reason to think he could ever translate the Greek term *αἰθήρ* with the Latin word *ardor*, a misleading word closely associated with heat and burning. Thus Jaeger's contention that *ardor* must be Cicero's usual translation for *αἰθήρ* cannot be maintained.

We might try to escape this conclusion by suggesting that Cicero was so imbued with the language of Stoicism that it made little difference to him whether he called the celestial element *ardor* or *aether*. But if his translation was so free, we cannot claim with any more certainty that he was translating *αἰθήρ* than that he was translating *θερμότης* or *πῦρ*. We are forced to conclude that we cannot really prove that Cicero used *caeli ardor* to translate the Greek word *αἰθήρ*, and the first step in the line of reasoning leading from Cicero's words to Aristotle's fifth element must be considered pure conjecture.

Nevertheless, let us temporarily assume that Cicero was translating the Greek word *αἰθήρ*. Does the presence of the term *αἰθήρ* in *De Philosophia* presuppose the presence of the fifth body? In *Cael.* i 3.270b20–4 and *Meteor.* i 3.339b21–7 Aristotle approves the traditional term *αἰθήρ* for the celestial element because its assumed etymology (from *ἀεὶ θεῖν*) suggests its eternal movement, but he himself does not use this term. He consistently calls it *τὸ πρῶτον σῶμα* (or *στοιχείον*), *τὸ ἄνω σῶμα* (or *στοιχείον*), *τὸ ἐγκύκλιον σῶμα*, or some similar term referring to its position or movement. As a matter of fact, in the genuine treatises Aristotle rarely uses the term *αἰθήρ* except when speaking of Empedocles, Anaxagoras, or common usage. The only exception is *Phys.* iv 5.212b20–2 where Aristotle gives the stratification of the cosmos: 'The earth is within the water; the water within the air; the air within the ether; and the ether within the heaven; but the heaven is not in anything else.' Here, when he does use the term 'ether', he does not use it of the fifth element, but rather of fire, a practice for which he chides Anaxagoras in *Cael.* i 3.270b24–5; iii 3.302b4–5.¹⁰ Perhaps we can infer that when Aristotle discovered the fifth element, he refrained from calling it 'ether' because 'ether' had always been associated with fire. In any case the occurrence of a Latin translation of the term *αἰθήρ* in *Cic. Nat. D.* i 33 is no guarantee whatsoever that Aristotle discussed his theory of the 'first body' in *De Philosophia*.

To be sure, nothing prevents us from conjecturing that Cicero's Epicurean source read Aristotle's exposition of his newly discovered fifth element, perhaps without a name attached to it (just as in *De Caelo*), and then gave to it the name that had subsequently become common for this element. But this is no more likely than that this Epicurean reader saw Aristotle's enraptured discussion of celestial fire and gave to this the name 'ether'. We could, if we like, even imagine that Aristotle himself called this fire 'ether'. Nevertheless, the fact remains that we are left without evidence that in *De Philosophia* the element of the stars is a fifth element, distinct from fire, air, water, and earth.

Jaeger's proof for the fifth element in *De Philosophia* rested primarily on the words *ardor caeli*, but he found further evidence in Cicero's characterization of this element as divine (*deum*), and we may yet be able to discover in this description a proof for the presence of the fifth element in

development of the Latin philosophical vocabulary before Cicero and Cicero's attitude toward and use of this vocabulary see O. Gigon, 'Cicero und die griechische Philosophie' in *Aufstieg u. Niedergang d. röm. Welt* ed. H. Temporini, Sect. 1, iv 1 (Berlin 1973) 250–4.

¹⁰ The statement in the *Physics* presents some problems. It occurs in a chapter whose authenticity has been questioned (cf. P. H. Wicksteed and F. M. Cornford, *Aristotle: The Physics* [Loeb 1963] 314–19). Furthermore, it is unclear whether by *οὐρανός* Aristotle means the universe as a whole, as the previous lines suggest (*Phys.* iv 5.212b17–20), or the heavenly region

consisting of the spheres of the heavenly bodies, as a parallel passage in *Cael.* ii 4.287a32–b4 suggests. If *οὐρανός* means the universe as a whole, the passage would seem to presuppose a four-element cosmology (cf. F. Solmsen, *Aristotle's System of the Physical World* [Ithaca 1960] 301), and 'ether' then refers to the celestial fire. If, on the other hand, *οὐρανός* means the heavenly region, the region of the celestial element, it probably presupposes Aristotle's standard five-element cosmology (cf. H. J. Drossaart-Lulofs [n. 33] 127). In that case 'ether' refers to the sublunar element, fire. In either case, the word 'ether' refers to fire, not to the fifth element.

De Philosophia.¹¹ To do so, however, requires the supposition that whereas Aristotle could call the fifth element 'divine', he could not, or at least would be unlikely to, make that claim about the fire that constitutes the heavenly bodies in a four-element cosmology. That he could call the fifth element 'divine' is clear enough, for he says that there is a substance 'different from those here, more divine and prior to all these' (*Cael.* i 2.269a30–2), and he calls the heaven a 'divine body' (*Cael.* ii 3.286a10–12); but it is not so clear that he would have refrained from using the term 'divine' of the celestial fire at an earlier time when he still agreed with the rest of mankind that the heavenly bodies are made of fire. The very fact that he called his newly discovered fifth element 'more divine' (*θειοτέρα*) suggests that he could admit at least some lesser degree of divinity to the other elements. Moreover, he claims that all parts of the cosmos, including the lowest part, earth, share in the divine principle as far as they are able, though less directly than the first heaven (*Cael.* ii 12.292b21–5). For Aristotle to call the element of the heavens 'divine', even if he believed the heavens were composed of fire, does not seem to be incompatible with Aristotle's view of the role of divinity in the cosmos.

Furthermore, it was not unheard of to distinguish sharply between the creative heat of the heavens and ordinary fire. Xenophon deplores the insanity Anaxagoras showed in attempting to explain the phenomena of the heavens and in claiming that the sun is fire. He accuses Anaxagoras of utter ignorance in failing to observe the vast difference between fire and sunlight (*Mem.* iv 7.6–7). Xenophon clearly implies that the heat of the heavenly bodies is far superior to fire. Euripides had earlier gone so far as to use the term god (*θεός*) of the bright, celestial substance, the *aither* (*fr.* 941 Nauck). Aristotle himself, like Xenophon, distinguished two types of heat when he claimed that the heat in living things is more akin to the element of the stars and the heat of the sun than to ordinary fire (*Gen. An.* ii 3.736b33–737a7). Obviously, in talking of the celestial fire, Aristotle was not bound to treat it in the same way as ordinary fire. He could easily have assigned it a dignity far above that of the material substances we encounter in our immediate environment. Moreover, Plato was quite explicit in calling the fiery heavenly bodies 'gods', even though he could not refer to their constituent fire itself as 'god' (*Tim.* 39e–40b; cf. *Leg.* vii 821b–c; x 886d, 899a–b).

If in *De Philosophia* Aristotle distinguished the heat of the heavens from ordinary fire or talked of celestial heat as the material of the celestial gods, it is at least possible that he used the term 'divine' of the celestial heat. Moreover, even if Aristotle himself did not call this element 'divine', but showed the same care as Plato and used the term 'divine' only of the heavenly bodies composed of celestial heat, we cannot rule out the possibility that Cicero or his Epicurean source might have misquoted him slightly. Thus, although the characterization of the celestial substance as divine might at first glance seem to point more strongly to the fifth element than to fire as the substance of the stars, there are too many other possibilities for us to feel any security in resting a proof on Cicero's statement alone; and we are left without firm ground for the theory that Aristotle mentioned the fifth element in *De Philosophia*.

The alternative approach to the theory that Aristotle's *De Philosophia* discussed the fifth element is based on doxographic evidence. This approach occurs in so many variations that no single author will serve as spokesman. In modern times Bignone gave this approach its biggest impetus, but it goes back at least as far as E. Heitz, who made the second big advance in reconstructing *De Philosophia* just two years after Bernays published his work.¹² Unlike Bernays, Heitz had no preconception that *De Philosophia* was doctrinally similar to the Aristotelian treatises. In an adumbration of Jaeger's evolutionary hypothesis, Heitz suggested Aristotle's early philosophy was still under Platonic influence. Hence he saw no justification for the attempts to explain away apparent differences between *De Philosophia* and the later works. In fact, he exploited these differences to add to our knowledge of the early works. His method was approximately as follows: If a later writer attributes to Aristotle any doctrine that cannot be

¹¹ In this Jaeger is followed by Chroust (n. 4) ii 403–4 n. 78.

¹² Bignone (n. 3); E. Heitz, *Die verlorenen Schriften des Aristoteles* (Leipzig 1865) 179–89.

found in the extant works, this writer has either misunderstood the extant Aristotle or has derived the doctrine from one of his lost works. It is obvious that as the probability of misunderstanding decreases, the probability increases that a given doxographical item goes back to the lost Aristotle. Since we can measure the probability of misunderstanding by an evaluation of the reliability of the doxographer and his sources and by the extent of consensus among witnesses, we can add somewhat to our knowledge of the lost Aristotle. To be sure, the doxographic approach initiated by Heitz is subjective and at best produces probability; but it has been widely accepted because it has achieved dramatic results, especially for *De Philosophia* Book iii, where the general content (cosmology and theology) is established, but specific references are few.

Let us look specifically at the application of this approach to the fifth element. In the first place, there are a large number of references in later literature to a 'fifth body' (πέμπτον σώμα) or a 'body moving in a circle' (κυκλοφορικόν or κυκλοφορητικόν σώμα). A number of these are assigned to Aristotle, but not to any specific work; and a few say explicitly that Aristotle called this element the 'fifth body' (Aet. i 7.32; ii 30.6). Our first thought, of course, will be that all such references are derived from *De Caelo*. But closer examination shows that in *De Caelo* Aristotle never speaks of a fifth body and never uses the adjectives κυκλοφορικόν or κυκλοφορητικόν. Hence some scholars conclude that these doxographies must derive from some lost discussions which did use these terms.¹³ Moreover, Cicero and the Clementine *Recognitions* say that Aristotle added to the traditional four elements a 'fifth nature' or 'class' (*quinta natura, quintum genus*), which constitutes the heavenly bodies and human souls (*fr.* 27 = Cic. *Acad.* i 26; *Tusc.* i 22, 41, 65–6; Clem. Rom. *Recog.* 8.15). This fifth nature is 'without name' (ἄκατονόμαστον). In the extant works Aristotle neither says it is without name, nor does he say it is the substance of the soul. Therefore some conclude that these reports too go back to *De Philosophia*.¹⁴

Further confirmation for the presence of the fifth element in *De Philosophia* may be garnered by the same method. Cicero says, 'Since some living beings are born on earth, some in water, and some in the air, it seems absurd to Aristotle to think that no living being is born in that element which is most fit for giving birth to living things. Moreover, the celestial bodies occupy the region of the ether. Since this is most subtle and is always lively and in motion, it is necessary that the living being which is born in it be endowed with the keenest sense and swiftest mobility. Therefore since the heavenly bodies are born in the ether, it is reasonable that sensation and intelligence be present in them' (*Nat. D.* ii 42). Though this passage mentions ether, the presence of the word itself does not point to the fifth element, for the argument offers a series of only four elements. However, some of the variations of this argument preserve the same analogical reasoning and also make use of a series of five elements.¹⁵ Taking all of these together, some have inferred that originally Aristotle used an analogical argument to prove that since there are living things in each of the four elements, there must be living things in the fifth, i.e. the heavenly bodies.¹⁶ Since this argument is not found in the extant writings, it too must be from *De Philosophia*.

Once we are convinced that this method has proven the presence of the fifth element in *De*

¹³ Cf., e.g. Heitz (n. 12) 185–6 and J. Pepin (n. 4) 222–3. I have presented the proof in its bluntest form. It is usually toned down somewhat and qualified with a word like 'probably'. For example, Pepin, after admitting these expressions could be derived from *De Caelo* by an imprecise doxographer, continues, 'But nothing prevents us from supposing that these expressions in reality belong to an earlier state of his terminology'. He then chooses the latter interpretation because Cicero's divergence from the extant treatises has convinced him that the doxographic tradition is inspired by *De Philosophia* as well as *De Caelo*. Jaeger (n. 3) 144, n. 2,

uses the doxography only as evidence for Aristotle's terminology, since he has already accepted the presence of this element on the basis of the text of Cicero.

¹⁴ Cf., e.g. Heitz (n. 12) 186–8; and Pepin (n. 4) 223 and n. 2, for explicit discussion of attribution. Most writers, however, simply accept the attribution without discussion.

¹⁵ Philo, *De Gig.* 2.7–8; *De Plant.* 3.12; *Aet. Mund.* 14.45 (collected by R. Walzer, *Aristotelis Dialogorum Fragmenta* [Florence 1934] 87–8 as *De Phil. fr.* 22). Cf. also Plato, *Epin.* 984d–5b.

¹⁶ Jaeger (n. 3) 143–6.

Philosophia, we may use it to add almost any reference to the ether or the fifth element, if not as a fragment, at least as an echo of Aristotle. As some writers have observed, either all the doxographies regarding the fifth element already assigned to *De Philosophia* can be considered misinterpretations of *De Caelo* or else all the remaining references to a fifth element will have to be considered, at least hypothetically, echoes of *De Philosophia*.¹⁷ Every one that diverges from *De Caelo* may be adding to our stock of information on *De Philosophia*. This line of reasoning has produced a flood of alleged echoes.¹⁸ Even the apparently generalized polemics of Epicurus as found in Lucretius v and elsewhere may be interpreted as directed against *De Philosophia*.¹⁹

In spite of the dangers of circular reasoning inherent in the doxographic approach, the method is valid if it is carefully applied. The key to its application is the careful and critical assessment of the accuracy of the doxographic accounts. Only when accuracy can be confirmed, can a doxographic account that deviates from the doctrine of the treatises be enlisted as evidence for Aristotle's lost works. Finally, after the reference has been reliably established as evidence for a lost work, we may attempt to identify the specific work to which it refers. This identification requires further careful analysis and rigorous demonstration of close logical affinity between the reference in question and a fragment explicitly attributed to that work by a reliable ancient witness.²⁰ Clearly, then, the entire process depends for its success on the evaluation of the accuracy of the doxographic accounts and of their relation to the extant treatises.

To test the validity of the doxographic approach to the theory that *De Philosophia* discussed the fifth element, we may begin with the terminology for the fifth element. The most important term in question is 'fifth body', a term obviously different from the one Aristotle uses in *De Caelo*, namely 'first body'. This discrepancy, at first sight, suggests that the doxographies were derived from a lost work, not from *De Caelo*. Yet, if we consider the question a little further, we cannot avoid backing off somewhat from our initial impression. The term 'first body' implies a value judgment and is appropriate only for one who believes in the exalted value of this body, as Aristotle indeed did (cf. *Cael.* i 2.269a18–32, b13–17). The term 'fifth body' is an objective term; and, though it could be used by one who believes that the fifth element is best, in itself it merely describes an element of a cosmological system without judging it. This is precisely the term that one would expect to find preferred by a doxographer who grew up in a world that had to a great extent come to accept as canonical the four elements of Empedocles, Plato, and the very popular Stoics. Consequently, it is just as easy, if not easier, to explain the term 'fifth body' as a doxographer's term rather than a term taken from a lost work of the young Aristotle.²¹ Even Aetius' allegation that Aristotle himself called it 'the fifth body' (Stobaeus, *Ecl.* i 502) is insufficient evidence to establish the presence of the fifth element in a lost work, for the term 'fifth element' was eventually accepted not only by doxographers and late commentators, but even by Aristotelians as a suitable term for the celestial element in *De Caelo* (cf. Xenarchus of Seleucia and Nicolaus of Damascus *apud* Simplicius, *Cael.* 13.18; 20.12; 21.33 Heiberg). Confusion in the doxographic terminology is quite understandable.

Furthermore, even if the doxography is not in error, the most it can prove is that Aristotle used the term at some time in some work; the specific work cannot be determined.²² In fact, if

¹⁷ S. Mariotti, 'Nuove testimonianze ed echi dell' Aristotele giovanile', *Atene e Roma* xlii (1940) 56 n. 22; Pepin (n. 4) 223.

¹⁸ Cf. the list of the books and articles in Moraux (n. 1) 1215 and Berti (n. 4) 103–7. The book by Pepin (n. 4) is another work in this vein. The method has even been applied to Aristotle himself to attribute *Cael.* i 3.270b16–25 and *Meteor.* i 3.339b19–30 to *De Philosophia* because these passages do not fit into their contexts very well (Effe [n. 2] 39–41).

¹⁹ Cf. Bignone (n. 3) ii 406–503. Bignone, 425 and n. 3, takes the term 'ether' in Lucretius v 128 and 143 as further confirmation of the presence of the fifth element in *De*

Philosophia. He apparently has not noticed that in Lucretius v 143 it occurs in a series consisting of earth, fire, water, and ether, and therefore more likely designates air than Aristotle's fifth element.

²⁰ Cf. Wilpert, 'Lost Writings' (n. 1) 262–3.

²¹ Cf. H. J. Easterling, 'Quinta Natura', *MusHelv* xxi (1964) 79–80.

²² The doxographic tradition as a whole is drawn from too many Aristotelian sources to allow us to trace a given *placitum* back to a single work. H. Diels, *Doxographi Graeci* (Berlin 1929) 215 lists some of the references to extant treatises.

we had only the doxographies and none of Aristotle's actual works, we would have to conjecture the theory occurred in *De Caelo* or the *Physics*, since the one doxographic reference that mentions a source for the discussion of the 'fifth body' (Act. ii 10.3) attributes it to these works. Hence, we can only conclude that the term 'fifth body' is a doxographer's term, not a term used by Aristotle himself; and it is no evidence at all that Aristotle discussed this subject in a lost work.

If the term 'fifth body' cannot be used to prove that the doxographies go back to a lost work, the terms *κυκλοφορικόν* and *κυκλοφορητικόν* are of even less value, for in *De Caelo* Aristotle calls the celestial body *τὸ ἐγκύκλιον σῶμα* (*Cael.* ii 3.286a11–12, b6–7), *τὸ κυκλικόν σῶμα* (*Cael.* ii 7.289a30) and even *τὸ κύκλω φερόμενον σῶμα* (*Cael.* i 3.269b30). As long as doxographers were passing down a tradition rarely, if ever, checked against the sources, their terminology is no satisfactory indication of the terminology of the original source and hence no evidence for the source of the doxographic material.

The references of Cicero and the Clementine *Recognitions* (cited as *De Phil. fr.* 27 Ross) to a fifth, nameless nature, which serves as the common substance of the celestial bodies and human souls, or at least of the intellective faculty of the soul, present a somewhat different situation. Here it is not only the terminology (*ἀκατονόμαστον*) that appears to be absent from the treatises, but the very idea itself, that the soul consists of a substance as corporeal as the substance of the celestial bodies.²³ If Aristotle actually held this theory, its absence from the extant treatises virtually assures its presence in a lost work. However, it is very difficult to reconcile a corporeal view of the soul with Aristotle's philosophy in general, even if we make allowance for development. Aristotle's earliest view of the soul as expressed in his dialog *Eudemus* was that it was an incorporeal form (*fr.* 8 Ross), a view similar to that of Plato's *Phaedo*. Over the years his views changed, but nowhere is there the slightest suggestion that he ever departed from the basic Platonic position that the soul is incorporeal.²⁴ Now if we postulate a corporeal theory of soul in some lost work, we shall be faced with the problem of fitting a materialistic phase into the evolution of his theory of the soul. Shall we postulate a double change from immaterialist to materialist and back to immaterialist again? Or shall we assume that the fifth element is incorporeal, and risk the problem either of harmonizing such a theory with *De Caelo* or of accounting for a change to the mature doctrine of *De Caelo*, where the element of the stars is considered corporeal?²⁵

Such questions have caused a considerable amount of discussion and widespread doubt that Cicero's statements can be taken to refer to a belief that the soul consists of the fifth element. One alternative interpretation is that Cicero's fifth, nameless nature refers to some incorporeal entity, constituting the souls of both men and heavenly bodies.²⁶ If this is the case, Cicero's statements have no value for establishing the presence of the fifth element in any work. Alternatively,

²³ The term 'nameless' (*ἀκατονόμαστον*), which late doxographic accounts claim is Aristotle's own term for the substance of the heavens (*cf.*, e.g., Clem. Rom. *Recogn.* 8.14 [= *De Phil. fr.* 27 Ross] and Psellus, *De Omniafaria Doctrina* 131 [p. 69 Westerink]), is itself as inadequate as the term 'fifth body' for grounding the hypothesis that the fifth element was discussed in a lost work. Aristotle's non-committal account of the traditional name 'ether' and his explicit criticism of Anaxagoras' use of this term (*Cael.* i 3.270b16–25), combined with his own preference for descriptive paraphrases rather than a single name, is sufficient to account for the doxographical term. Furthermore, it occurs only in the later doxographies and may well be influenced by the doxographies regarding the substance of the soul. In that event, the term loses its value as independent evidence for Aristotle's cosmological doctrine and must be taken as part of the doxography of Aristotle's

doctrine of the nature of the soul.

²⁴ *Cf.* F. Nuyens, *L'évolution de la psychologie d'Aristote* (Louvain/Paris 1948). The evolution of Aristotle's psychology has been the subject of much debate since Nuyens. For a brief survey see W. Fortenbaugh, 'Recent Scholarship on the Psychology of Aristotle', *CW* lx (1967) 318–20.

²⁵ These suggestions have been made in attempts to save Cicero's credibility. C. Lefevre, '“Quinta Natura” et psychologie aristotélicienne', *RPhLouvain* lxi (1971) 5–43, accepts the double change, whereas Pepin (n. 4) 245–7 suggests that Aristotle regarded the fifth element as incorporeal. Pepin's suggestion, which cannot be proven for *De Philosophia* and flies in the face of *Cael.* i 3, seems to be an act of desperation to save Cicero's reputation.

²⁶ *Cf.*, e.g., Moraux (n. 1) 1213–26 and Easterling (n. 21) 73–85.

Cicero's references may reflect a misunderstanding of something in the extant treatises and therefore cannot be used as evidence for a lost work.²⁷ The much disputed question of Cicero's reliability and interpretation is too complex to be discussed here and need not be.²⁸ For even the possibility of alternative interpretations or of some form of misunderstanding undermines Cicero's value as a witness to the presence of the fifth element in *De Philosophia*. For Cicero's reference these possibilities are too many and too likely to be ignored. Finally, regardless of Cicero's reliability or the interpretation one gives his statements, there are no grounds for assuming this doctrine on the nature of the soul occurred in *De Philosophia*, rather than in another lost work.²⁹ The net result is that the testimony of Cicero and the Clementine *Recognitions* is all but useless as evidence for the presence of the theory of a fifth element in the lost *De Philosophia*.

The only way still to find a path from Cicero's testimony to the hypothesis that the fifth element occurred in *De Philosophia* is to claim that Cicero's knowledge of Aristotle came primarily from the lost published works. Then, regardless of the accuracy of the reported information, the mere mention of a fifth element, or perhaps even of a fifth 'nature', may become evidence for the hypothesis that Aristotle presented the doctrine of the fifth element in some lost work like *De Philosophia*. This claim is based on the observation that Cicero was familiar with Aristotle's early published works and quoted them freely, but knew relatively little about Aristotle's treatises. It can also be buttressed by the once common hypothesis that Aristotle's treatises were virtually unknown up to Cicero's time. According to Strabo xiii 1.54 (608–9 C) and Plutarch, *Sulla* 26.1–2, Aristotle's treatises were willed by Theophrastus to his student Neleus of Skepsis in Asia Minor. Neleus' descendants hid them in a cellar or cave to keep them from the book-collecting kings of Pergamum, until they were sold to Apellicon of Teos, a book collector who took them to Athens and perhaps tried to copy the mutilated text early in the first century B.C. When Sulla returned from his capture of Athens, he brought them back to Rome and added them to the growing book collections there.³⁰ These manuscripts may have

²⁷ One possible ground for misunderstanding is that Cicero or his source learned that Aristotle considered the soul to be of a nature totally distinct from that of the four corporeal elements of the body (whether the view of the *Eudemos* or the view of the extant treatises that the soul is the first actuality of the body) and then mistakenly identified this nature with that of the element of the celestial bodies, which in the treatises is regarded as a fifth corporeal element distinct from the earthly four. If this misunderstanding did not afflict Cicero, it certainly did later writers. (For full discussion see Easterling [n. 21] 73–85; cf. also Effe [n. 2] 148–55; and Moraux [n. 1] 1213–24.)

Another possibility is that Cicero's statement reflects a distortion of the unique account of how faculties of soul are passed on to offspring (*Gen. An.* ii 3.736b29–737a1; on this passage cf. F. Solmsen, 'The Vital Heat, the Inborn Pneuma and the Aether', *JHS* lxxvii [1957] 119–23). Here Aristotle claims that the faculty of soul is 'associated with (κεκοινωνηκένας) a body that is different from and more divine than the so-called [four] elements', a body that he goes on to identify as 'the pneuma . . . and the natural substance within the pneuma that is analogous to the element of the stars'. He does not actually claim that the soul consists of pneuma or of the unnamed substance in the pneuma, but he does bring the soul into close association with it by saying it shares in (κεκοινωνηκένας) this corporeal substance, and he clearly states that the unnamed component of the pneuma that is significant

in the transmission of psychic faculties is analogous to the element of the stars. It would not be too difficult for a reader of this text to identify the soul with this unnamed substance in the pneuma and then go on to identify this substance with the fifth element that constitutes the heavenly bodies.

²⁸ For a summary of the controversy with relevant bibliography see Berti (n. 4) 395–9 and Chroust, *Aristotle* (n. 4) ii 194–205. To the works cited there add Pepin (n. 4) 226–34; P. Moraux, *Aristote: Du Ciel* (Budé, 1965) li–lvi; E. Berti, 'Studi recenti sul *Peri Philosophia* di Aristotele', *Giorn. Metafisica* xx (1965) 310–11; A. P. Bos, *On the Elements: Aristotle's Early Cosmology*, *Bijdragen tot de Filosofie* iii (Assen 1973) 138–40; Lefevre (n. 25); and A. H. Chroust, 'The Akatonomaston in Aristotle's "On Philosophy"', *Emerita* xl (1972) 461–8.

²⁹ The *Eudemos* has frequently been suggested, e.g., by S. Mariotti, 'La "quinta essentia" nell'Aristotele perduto e nell'Accademia', *RFIC* xviii (1940) 179–89; O. Gigon, 'Cicero und Aristoteles', *Hermes* lxxxvii (1959) 143–62, esp. 153, 156 (= *Studien zur antiken Philosophie* [Berlin 1972] 305–25, esp. 315, 318–19); 'Prolegomena to an Edition of the *Eudemos*' in Düring and Owen (n. 1) 32; and A. Grilli, 'Cicerone e l'*Eudemo*', *Par. Passato* xvii (1962) 98–100.

³⁰ On the history of Aristotle's books see I. Düring, *Aristotle in the Biographical Tradition* (Göteborg 1957) 393–5; A. H. Chroust, 'The Miraculous Disappearance and Recovery of the Corpus Aristotelicum', *Class. et*

contributed to a renaissance of Aristotelian studies in the first century B.C. The leader of this renaissance was Andronicus of Rhodes, who produced a new edition of the text and inquired into the logical order and content of Aristotle's treatises.³¹

There can be no doubt that after Andronicus, Aristotle's doctrine of the fifth element was well known in scholarly circles. During the Augustan Age a Peripatetic, Xenarchus of Seleucia, wrote a refutation of the doctrine based on *De Caelo* and entitled *Against the Fifth Substance*.³² Nicolaus of Damascus, the philosopher-friend of Antony and Cleopatra, King Herod of Palestine, and the Emperor Augustus, summarized the doctrine of *De Caelo* for popular consumption in his compendium *On the Philosophy of Aristotle*.³³ Philo of Alexandria, the Jewish philosopher, discussed and sometimes used the doctrine of the fifth element.³⁴ Hence, in Augustan or post-Augustan sources knowledge of the fifth element or references to it by the term 'fifth substance' or 'fifth body' need in no way be considered dependent on *De Philosophia* for lack of knowledge of *De Caelo*.

Prior to Andronicus, however, the doctrines of Aristotle's *De Caelo* were less accessible. Though we now know that Strabo's and Plutarch's assertions that the treatises were entirely unknown before Andronicus are exaggerations, a list of works of Aristotle that seems to reflect the holdings either of the library at Alexandria or of the Peripatos about the end of the third century B.C., omits most of the physical and biological works, including *De Caelo*.³⁵ Whether this should be taken as evidence that the physical works were less widely available is still not certain.³⁶ We do know, however, that the Peripatetics after Strato (died c. 270 B.C.) showed little interest in physical subjects until the renaissance in the first century B.C.³⁷ Thus it seems clear that even if Aristotle's books were available, the physical works were not much read.

Still it would be rash to conclude that all knowledge of Aristotle's physical doctrines during the second and early first centuries B.C. came from the published works. The treatises were available even at Rome for those ambitious enough to seek them out. Cicero himself is one who went out of his way to read at least some of Aristotle's treatises.³⁸ Cicero's knowledge of the

Med. xxiii (1962) 50-67; and the thorough, fully documented discussion by P. Moraux, *Der Aristotelismus bei den Griechen* i (Berlin 1973) 3-44. The history of Aristotelianism in the first century B.C. is now fully discussed by Moraux, *Aristotelismus* i; for a brief summary cf. J. Moreau, *Aristote et son école* (Paris 1962) 279-83.

³¹ Cf. M. Plezia, 'De Andronici Rhodii Studiis Aristotelicis', *Polska Ak. Archiwum Filologiczne* xx (Krakow 1946); Düring (n. 30) 420-5; and Moraux (n. 30) 45-94. Whether Andronicus worked in Rome or in Athens and whether before or after the death of Cicero are matters of current debate (cf. Moraux 45-58).

³² See P. Moraux, 'Xenarchos (s)', *RE* xviii (1967) 1423-6; *Aristotelismus* (n. 30) 198-206.

³³ This summary has been preserved in a Syriac translation, ed. with English trans. and comm. by H. J. Drossaart-Lulofs, *Nicolaus Damascenus: On the Philosophy of Aristotle* (Leiden 1965). For the life and philosophical activity of Nicolaus see Drossaart-Lulofs 1-5, 20-3 and Moraux, *Aristotelismus* (n. 30) 445-50. For his summary of *De Caelo* see Drossaart-Lulofs 82-7 and comm. 152-65, and Moraux 475-6. Unfortunately his summary of *Cael.* i 1-ii 1 is missing in the Syriac MS.

³⁴ *Quis Heres* 283; *De Plantat.* 3, cf. 12; *Quaest. Gen.* 3.6; 4.8; *Quaest. Ex.* 2.73. Philo himself seems to consider the question of the nature of the heavenly bodies insoluble (*De Somm.* 1.21-4). He uses both the Stoic view that the heavens consist of a special kind of fire (*Quis Heres* 133-6; *Mos.* 2.148) and the Peripatetic

view that they consist of a fifth element. For full discussion see J. Drummond, *Philo Judaeus: The Jewish and Alexandrian Philosophy in its Development and Completion* (London 1888) i 273-9, and Moraux (n. 1) 1235-6.

³⁵ P. Moraux, *Les listes anciennes des ouvrages d'Aristote* (Louvain 1951) has shown that the catalog of Diog. Laert. v 22-7 goes back to the Hellenistic period. He conjectures that it represents the holdings of the Peripatetic library about 200 B.C. I. Düring, 'Ariston or Hermippus?', *Class. et Med.* xvii (1956) 11-21; *Biog. Trad.* (n. 30) 67-9, 90-2 has pointed out weaknesses in Moraux's conjecture and argues again for the traditional ascription to Hermippus (third century B.C.). The question remains unsettled (cf. Moraux, *Aristotelismus* [n. 30] 4, n. 2).

³⁶ Cf. Moraux, *Listes* (n. 35) 313-20; Düring (n. 35) 20-1; and *Notes on the History of the Transmission of Aristotle's Writings*, *Acta U. Got.* lvi (1950) Pt 3, pp. 35-70, esp. 57-70.

³⁷ Cf. Moreau (n. 30) 272-8, esp. 272; or K. O. Brink, 'Peripatos' *RE* Suppl. vii (1940) 931-8 for a survey of the Peripatos in this period. The problem of the decline of the Peripatos is discussed by J. P. Lynch, *Aristotle's School: A Study of a Greek Educational Institution* (Berkeley 1972) 135-62.

³⁸ The case for the availability of Aristotle's treatises apart from the manuscripts from Skepsis is convincingly presented by Moraux, *Aristotelismus* (n. 30) 3-44. The evidence for Cicero's access to the treatises is also collected and discussed by Moraux 33-41.

fifth substance might even be interpreted as evidence that *De Caelo* was not totally unknown in his day. Moreover, Cicero's source for his knowledge of the fifth element may have been Antiochus of Ascalon, head of the Academy when Cicero visited Athens in 79 B.C., or Posidonius, whom Cicero must have met in Rhodes on the same journey.³⁹ The treatises could have been available in both places all along. In fact, by this time Apellicon had already brought the treatises from Skepsis to Athens, and it is not impossible that some scholars had seen the manuscripts themselves or a copy of them before Sulla carried them off. Furthermore, we must not forget that the history of philosophy, a subject begun by Aristotle and carried to great heights by Theophrastus and Eudemus, was never abandoned in the Hellenistic period. Though pursued with less understanding than Theophrastus had shown, this subject produced many biographies of philosophers, now known only by title, and also doxographies, of which even the authors and titles have been forgotten. That these doxographies existed can be deduced from the fact that this doxographical information survived into the early centuries of our era to be used by Diogenes Laertius and Aëtius. Hence, regardless whether Aristotle's treatises were easily available or inaccessible and regardless whether the Peripatetic school was interested in physical questions or not, it is likely that the main outlines of Aristotle's doctrine survived throughout the Hellenistic period and could find literary expression at any time. In fact, it appears that most of Cicero's information on Aristotle's physical philosophy comes from such handbooks, not from a personal reading of Aristotle's works.⁴⁰ Since Cicero made use of Hellenistic handbooks containing Aristotle's mature philosophy and also sought out Aristotle's unpublished treatises at Rome, his knowledge of Aristotle's doctrine of the fifth element is no proof that this doctrine was found in *De Philosophia*.⁴¹

One major doxographical reference remains, namely Cicero *Nat. D.* ii 42 (*De Phil. fr.* 21a, Ross), where the Stoic Balbus appears to attribute to Aristotle the argument that since earth, water, and air are filled with living things, the occupants of the ether, that is, the celestial bodies, must likewise be living and endowed with swift movement and keen senses. Since this same analogical argument occurs with a series of five elements, it has been claimed that in the version in *De Philosophia* the celestial bodies consisted of the fifth element. On this theory the version in Cicero is a Stoic remodeling of Aristotle's version to bring it into line with the Stoic theory of four elements.⁴²

A careful analysis of the surviving versions, however, shows that the same argument is being used for three different purposes. One set proves the divinity of the celestial bodies; another assumes that the celestial bodies are the living things in the ether and tries to prove that spirits must be present in the air; and the third proves that the universe is eternal. There is also a hybrid attempting to prove both the divinity of the stars and the existence of demons in the air.⁴³ Since

³⁹ G. Luck, *Der Akademiker Antiochos* (Bern/Stuttgart 1953) 36–40 finds Antiochus behind Cicero's statements about the fifth nature as the substance of the soul; and Düring, *Notes* (n. 36) 60 suggests that Cicero may have learned about Aristotle in general from Posidonius and could have seen Aristotle's works in a library at Rhodes.

⁴⁰ See O. Gigon, 'Cic. u. Arist.' (n. 29); 'Cic. u. gr. Phil.' (n. 9) 240–50; and Moraux, *Aristotelismus* (n. 30) 41–3.

⁴¹ Cf. Easterling (n. 21) 73–85. Cicero's statements that the human soul or mind consists of some fifth substance embody an idea also attributed to Critolaus, a Peripatetic of the second century B.C. (*Aet.* i 7.21; *Tert. De An.* 5.2; *Macrobius In Somn. Scip.* i 14.20). This fact only compounds the problem. If this doxography is reliable, Critolaus could be the source, directly or indirectly, of the misinterpretation of Aristotle (Cicero knew and approved Critolaus' views on the virtue of the soul [*Tusc.* v 51]). Or the doxographies could have

confused Aristotle's view with that of Critolaus. Finally, the doxography may have misinterpreted Critolaus in the same way it did Aristotle.

⁴² Jaeger (n. 3) 143–6 cf. Chroust (n. 4) ii 186–7. Though Jaeger himself does not use this as proof or even confirmation for the presence of the fifth element in *De Philosophia*, his theory has become part of the overall reconstruction of the position of the fifth element in *De Philosophia* and must be dealt with in this context. On the possible source of the Stoic remodeling see D. Hahm, *The Origins of Stoic Cosmology* (Columbus, Ohio 1977) 144, 176 n. 18, 267–73.

⁴³ Proof for divinity of celestial bodies: *Cic. Nat. D.* ii 42; *Sext. Emp. Adv. Phys.* i 49; cf. *Aët.* v 20.1. Proof for spirits: *Philo De Somn.* 1.135; *De Gig.* 2.7–8; *De Plantat.* 3.12; *Apuleius De Deo Socr.* 8.137; *Plato Epin.* 984d–5b. Proof for eternity of cosmos: *Philo Aet. Mund.* 14.45. Hybrid proof: *Sext. Emp. Adv. Phys.* i 86. Cf. the discussion of K. Reinhardt, *Kosmos und Sympathie* (Munich 1926) 62–4.

the proof for spirits in the air and the proof for the eternity of the cosmos both assume the conclusion of the proof that the heavenly bodies are divine living beings, we are tempted to assign the origin of the 'spirit' proof and 'eternity' proof to a later period than the proof of the divinity of the stars. The five elements occur only in the 'spirit' proof and the 'eternity' proof, not in the presumably earlier proof of the divinity of the stars. From this we should conclude that a four-element proof for the existence of god was remodeled into the later proofs by someone who believed in the five elements. Such a hypothesis is at least as tenable as the hypothesis that the four-element 'god' proof, the four- and five-element 'demon' proof, and the five-element 'eternity' proof were all remodeled from Aristotle's five-element 'god' proof. It is only by an exceedingly arbitrary choice of elements from here and there that the latter hypothesis can pretend to reconstruct Aristotle's original proof.⁴⁴ Thus we are faced either with admitting that Aristotle actually used a loose four-element proof as Cicero's Stoic asserts or with despairing altogether of reconstructing Aristotle's original argument. In either case, this fragment loses all value as proof for Aristotle's theory of the fifth element in *De Philosophia*.

In the last analysis all the doxographic accounts alleged to prove that Aristotle discussed the fifth element in *De Philosophia* fail to meet the crucial test. In every case the probability of misunderstanding, contamination by doctrines from the treatises, or deliberate adaptation, is far too high to recommend any of them as evidence for a lost work. Neither Cicero's *ardor caeli* nor the doxographic reports, taken singly or collectively, can be used to produce a well-founded proof for the theory that Aristotle discussed the fifth element in *De Philosophia*. Until further evidence is discovered, this venerable theory must be considered, at best, an unproven conjecture.

The evidence on the other side has now to be considered. We have just seen that Cicero *Nat. D.* ii 42 (= *De Phil. fr.* 21a), if it be taken as evidence for *De Philosophia*, speaks of a universe of four elements, with the heavenly bodies made of fire. We have also seen that *ardor caeli* in Cicero *Nat. D.* i 33 (= *De Phil. fr.* 26), the fundamental passage for reconstructing Book iii of *De Philosophia*, cannot be taken as evidence of the presence of the fifth element. The word *ardor* literally means 'heat' and otherwise refers to celestial phenomena that are bright, if not hot (e.g. lightning, comets, and stars). If this reference points to anything, it points to the presence of a word like *θερμότης* or *θερμόν* in the Greek original. It may thus be a clue that Aristotle had not yet come to the conclusion that the element of the heavens is different from fire.

Slightly more valuable may be several passages from Philo that have been assigned to *De Philosophia* on the basis of their content.⁴⁵ In one passage Philo describes how a man viewing with awe the works of the cosmos comes to the conclusion that these are the works of god (*Leg. Alleg.* 3.97–9 [= *De Phil. fr.* 13]). Cicero *Nat. D.* ii 95–6 (= *fr.* 13) assigns such a proof for God's existence to Aristotle. Philo's account describes the cosmos region by region: the earth, the water, the air, and the heavens—a series of only four regions. Philo also records anonymously several proofs for the eternity of the cosmos, a subject that Simplicius (*In Cael.* 289.1–15 [= *fr.* 16]) suggests was included in *De Philosophia*.⁴⁶ In one of these proofs Philo states that the four elements of men are borrowed from the cosmos and return to their natural places at death; but in the cosmos all four elements are already in their natural places, earth at the center, water spread over the earth, air in the region between water and fire, and fire in the highest region of all (*ἀνωτάτω*, *Aet. Mund.* 33 [= *De Phil.* 19b]). 'Highest' cannot mean just under the fifth element because Aristotle is basing his argument on the fact that each and every one of its parts is in its natural place. His argument would be incomplete and seriously weakened if he failed to mention

⁴⁴ Cf. Reinhardt (n. 43) 62–86, esp. 62–8.

⁴⁵ For a full discussion of the attribution of these proofs to Aristotle see Effe (n. 2) 7–17.

⁴⁶ Simplicius. *In Cael.* 289.1–15 (= *De Phil. fr.* 16 Ross). Simplicius' evidence must be used with caution because

he did not have first-hand knowledge of *De Philosophia*. Cf. H. Cherniss, *Aristotle's Criticism of Plato and The Academy* (Baltimore 1944; New York 1962) 119 n. 7, 587; *Gnomon* xxxix (1959) 38–9; and L. Tarán, *AJP* lxxxvii (1966) 467.

one of the elements, the element of the stars. Hence we can only conclude that the element of the stars is fire.⁴⁷

Philo's evidence is important because Philo himself was undecided whether the cosmos consists of four or five elements and so seems to follow his source, with the result that he sometimes speaks in terms of a five-element cosmos and sometimes (more often) in terms of the Stoic four-element cosmos.⁴⁸ Hence we can be reasonably sure Philo has not altered his source on this point. Nor is there any evidence of Stoicism in his arguments to make us suspect that Panaetius, one of the few Stoics who believed the cosmos to be eternal, was an intermediary for this argument. Both arguments sound Aristotelian and the second one with its use of the idea of natural places and four elements is very close to *De Caelo* iii–iv. Hence if these arguments are from *De Philosophia*, we have some grounds for suspecting Aristotle in this work has not yet come to the conclusion that the heavens consisted of an element different from fire.

In sum, it is surely significant that a critical analysis of the fragments attributed to *De Philosophia* is able to turn up several references to a four-element cosmology (with fire at the periphery), but not a single allusion to a five-element cosmology. Though it may be possible to explain away the references to a four-element cosmology as later, possibly Stoic, adaptations, such a procedure requires at least one indisputable reference to the presence of the fifth element in *De Philosophia*. Since no reference of this kind has yet been found, any attempt to explain away the references to a four-element cosmology must be deemed arbitrary and unconvincing. We are left, then, in the position of weighing what amounts to a very meager amount of evidence. The absence of any defensible evidence in favor of a five-element cosmology, combined with some hints of the presence of a four-element cosmology, lead to the inference that Aristotle probably did not introduce the fifth element into the cosmology of the *De Philosophia*. Though certainty on this question still remains beyond our grasp, the balance of evidence inclines in favor of the hypothesis that in *De Philosophia* Aristotle still believed the heavenly bodies to be composed of fire.

The consequences of this conclusion cannot be explored here in detail, but we can survey some of the subjects that will be affected. First of all, the fragments or witnesses used for reconstructing *De Philosophia* will have to be reconsidered. Cicero's references to a fifth nature or substance serving as the substance of souls and stars (= *De Phil. fr.* 27 Ross, Walzer) may now safely be discarded. Even if some true, early Aristotelian content may yet be distilled from these references, the sole justification for attributing this material specifically to *De Philosophia*, namely the mention of the fifth element as the substance of the heavens, can no longer stand. Similarly, the many alleged echoes of the early Aristotle, based on mentions of the fifth element, may also be discarded.⁴⁹ On the other hand, Cicero's references to Aristotle in *Nat. D.* ii 42 and 44 may find their position as witnesses to *De Philosophia* somewhat more secure. One of the major problems of interpreting them as references to *De Philosophia* was harmonizing them with the five-element cosmology assumed for *De Philosophia*. If in *De Philosophia* Aristotle held a four-element cosmology, some of these problems disappear. There is still, of course, the very real problem of Stoic contamination in these passages, but at least one area of possible Stoic contamination, the four-element cosmology in *Nat. D.* ii 42, may now be given a different interpretation.⁵⁰ Rather than a Stoic modification of Aristotle, it may well be part of the

⁴⁷ Effe (n. 2) 19–20 tries to escape this conclusion by suggesting that Philo's version might here be assimilated to the Platonic and Stoic view or else that Philo might have drawn from a section of Aristotle that focused on the human body and simply failed to mention the celestial fifth element. Effe would treat this fragment like Cic. *Nat. D.* ii 42 (= *De Phil.* 21a) and explain away its four-element cosmology.

⁴⁸ See above, n. 34.

⁴⁹ Cf. above, nn. 17, 18.

⁵⁰ On the problem of Stoic contamination and Ciceronian distortion in these passages see K. Reinhardt (n. 43) 61–92; Cherniss (n. 46) 592, 595–602; Moraux (n. 1) 1213, 1223–4; A. H. Chroust, 'Some Comments on Cicero, *De Natura Deorum* II.15.42–16.44: A Fragment of Aristotle's *On Philosophy*', *Class. Folia* xxix (1975) 103–13; and Hahm (n. 42) 176, n. 18.

grounds for the attraction the Stoics felt for these Aristotelian ideas. Moreover, the new interpretation which may be given to *Nat. D.* ii 44 increases the doctrinal divergence from *De Caelo* and thereby increases the probability of its originating in one of the lost treatises.

This brings us to the interpretive consequences of a four-element cosmology in *De Philosophia*. *Nat. D.* ii 44 is probably the fragment most affected by the hypothesis of a four-element cosmology. In this passage the Stoic Balbus commends Aristotle for his idea that all things that are moved are moved either by nature, force, or will. The circular movement of the celestial bodies is not due to nature, because nature causes motion either downward by weight or upward by lightness. Nor is this circular movement due to force, for there is no stronger force that could move them contrary to their nature. Therefore, their movement is voluntary. In the past the apparent denial of natural movement to the heavenly bodies in *De Philosophia* faced interpreters who assumed a five-element cosmology with a dilemma. Either they had to search around for an explanation for the origin of the theory of the fifth element, which in *De Caelo* was deduced directly from the theory of natural movements.⁵¹ Or they had to reconcile Cicero's statement with the celestial mechanics of *De Caelo* by qualifying and restricting its denial of natural movements to a denial only of the inanimate motion of weight and lightness.⁵² A simple, straightforward interpretation of Cicero's statement is now possible on the assumption that the cosmos consists of only four elements and these move in accord with the theory of natural movements that is developed in *De Caelo* iii–iv.⁵³

According to this theory, there are only two natural movements, up and down. Elements displaced from their natural place will move either up or down until they again reach their natural place, where by nature they will rest. This does not mean they must necessarily remain at rest. It is possible that some things will be moved by some stronger force which pushes them either contrary to nature out of their natural place (as a ball thrown into the air) or not contrary to nature within their natural place (as a ball rolled along the ground). Then there is a third possibility, exemplified by a man walking along the ground. This is not natural movement; for as a heavy, earthy thing the natural movement of a man would be downward toward the earth and would occur only if he were to fall from a height. Nor is this forced movement, like the movement of a man riding in a truck or a ball rolled on the ground. His walking motion must be voluntary, due to his own free will. So, too, if the heavenly bodies are made of fire, their natural movement would be upward toward the periphery, where we could expect them to rest. The fact that they are moving within their natural place proves that their motion is due to something other than nature. Since no external force is strong enough to move these most powerful, divine beings, we must conclude their motion is voluntary, of their own free will.⁵⁴ This

⁵¹ For some of the attempts to find an alternative ground for postulating the existence of a fifth element see Jaeger (n. 3) 139 and n. 1, cf. 143, 153; and G. A. Seeck, 'Über die Elemente in der Kosmologie des Aristoteles', *Zetemata* xxxiv (Munich 1964) 122.

⁵² This is done by Berti (n. 4) 368–70; A. Gräser, 'Zu Aristoteles *περί φιλοσοφίας* (Cicero, *Nat. deor.* II 16, 44)', *MusHelv* xxvii (1970) 16–27; 'Aristoteles' Schrift "Über die Philosophie" und die zweifache Bedeutung der "causa finalis"', *MusHelv* xxix (1972) 44–61, esp. 61; Effe (n. 2) 132–6, and Bos (n. 27) 48–9, 62–3, 99 and n. 34 (cf. 61, n. 90). Though each has a slightly different interpretation of Aristotle's view, all minimize the difference between the celestial mechanics of *De Caelo* and of *Nat. D.* ii 44. Proponents of this approach fail to notice that the closer the celestial mechanics of *Nat. D.* ii 44 approaches that of *De Caelo*, the less reason there is to attribute the reference to *De Philosophia* at all and the more likely it is to be a Stoic adaptation of *De Caelo*.

⁵³ The theory of natural movements is also found in

the context of a four-element cosmology in Philo, *Aet. Mund.* 28–34, a passage which has been attributed to *De Philosophia* on other grounds (= *fr.* 19b, Ross; cf. above, n. 45). If this reference is, in fact, drawn from *De Philosophia*, we have further confirmation that in *De Philosophia* Aristotle held a theory similar to the one presented in *De Caelo* iii–iv.

⁵⁴ Presumably this voluntary movement of the heavenly bodies is analogous to the movement of human beings discussed in *Mot. An.* 6–7.700b4–701b32. As men need sensation and intellect to perceive a goal and move toward it, so the heavenly bodies are endowed with sensation and intelligence (*Nat. D.* ii 42 [= *De Phil. fr.* 21a]; cf. *fr.* 24), which they doubtless use for the same purposes. The difficult question whether the Prime Mover is involved cannot be discussed here; cf. Jaeger (n. 3) 140–5; H. von Arnim, 'Die Entstehung der Gotteslehre des Aristoteles', *SBWien*, phil.-hist. Kl. ccxii 5 (1931) 7–9 (= F. P. Hager, ed., *Metaphysik und Theologie des Aristoteles*, *Wege der Forschung* ccvi [Darmstadt 1969] 1.15); W.

interpretation, which is possible on the assumption that the stars are made of fire, is both a simpler, more natural interpretation of Cicero's words, and as we noted above, different enough from the theory of *De Caelo* to justify the claim that Cicero's words are a witness to a lost work.

Finally, a four-element cosmology in *De Philosophia* has significant consequences for the interpretation of the role of *De Philosophia* in Aristotle's philosophical career. Though there is not yet complete agreement on the chronological ordering of the various cosmological accounts in the treatises, the evidence suggests three phases in Aristotle's cosmological thought.⁵⁵ (1) The first phase is exemplified by *De Caelo* iii–iv in which Aristotle constructed the universe of four elements, earth, water, air, and fire, and worked out his theory of natural movements for these elements. At this time it seems he had not yet postulated the fifth element. (2) The second phase is defined by his extension of the system of natural movements to the heavens and the postulation of a fifth element which moves by nature in a circle and serves as the substance of the heavenly bodies (*De Caelo* i–ii). (3) Finally a third phase is marked by a redirection of attention from the physical movement of the elements and heavenly bodies to atmospheric phenomena. This required a reinterpretation of the spheres of air and fire, which formerly found a place below the sphere of the fifth, celestial element. In *Meteorologica* these two spheres became a region occupied by a mixture of two exhalations (not elements) whose proportions vary with altitude in such a way as to approximate the spheres of air and fire without actually constituting separate elemental spheres. In this phase the heavenly bodies continue to be composed of the unique celestial element that we have been calling the fifth element.

As long as *De Philosophia* was believed to contain an account of the fifth element, it was extremely difficult to place it comfortably into this scheme. It had to follow the first phase because it already recognized the fifth element. But *Nat. D.* ii 44 implied significant differences from the view of phase (2). Regardless whether one opted for placing *De Philosophia* between phase (1) and phase (2) or for harmonizing the differences between it and the view of phase (2), some special pleading was necessary.⁵⁶ If, however, Aristotle still held a four-element cosmology in *De Philosophia*, the work fits comfortably into phase (1). We may conclude that at this time he still accepted the Platonic scheme of four elements, but he was already developing his theory of natural movement to explain the movement of the elements to their natural places, the movement associated with the phenomena of weight and lightness. This he worked out in *De Caelo* iii–iv. About this same time, he considered the movement of the heavenly bodies in *De Philosophia*. Here he presupposed his theory of natural movements; but, thinking only in terms of the linear movement of weight and lightness, he had to attribute the circular movement of the

K. C. Guthrie, 'The Development of Aristotle's Theology', *CQ* xxvii (1933) 162–71 (=Hager [above] 75–95); *Aristotle: On the Heavens* (Loeb 1939) xxv–xxvii; W. D. Ross, *Aristotle's Physics* (Oxford 1936) 95–6; Cherniss (n. 46) 591–602; Gräser, 'Aristoteles Schrift . . . "causa finalis"' (n. 52) 44–61; Chroust, *Aristotle* (n. 4) ii 180–4; and H. J. Easterling, 'The Unmoved Mover in early Aristotle', *Phronesis* xxi (1976) 252–65.

⁵⁵ Cf., e.g., Solmsen (n. 10) 287–303, 397–8. The main point still at issue is whether *De Caelo* iii–iv represents a view different from, and therefore earlier than, the view of *De Caelo* i. Solmsen (n. 10) 293–303, and Seeck (n. 51) 97–8, 123–6, have argued convincingly that in *De Caelo* iii–iv Aristotle shows no knowledge of the fifth element and that these books, or at least the theories reflected in them, were originally conceived before *De Caelo* i. There is still, however, some support for the traditional view that *De Caelo* iii–iv were written at the same time as *De Caelo* i, but with attention focused so rigidly on the sub-lunar world that these books make statements that are misleading

and appear to preclude the existence of the fifth element (cf. e.g., Moraux, *Du Ciel* [n. 28] xxxviii and n. 4, cxxxv and n. 3; and Bos [n. 28] 70). If the latter view is correct, the first phase will be reflected only in *De Philosophia*, rather than in both *De Philosophia* and *De Caelo* iii–iv; the ultimate reconstruction of the evolution of Aristotle's cosmological thought will be unaffected.

It should be noted that on the basis of a subtle and painstaking analysis of the various discussions of elements in *Gen. Corr.* and *Cael.* Seeck has questioned whether the evolutionary model is a complete and sufficient explanation for the great variety of theories of elements he claims to have discovered in these two works. His chief grounds for doubt are some subtle problems he sees in the relation between the fifth element and the various theories of elements that he has identified in *De Caeli* iii–iv. Nevertheless, Seeck has no doubt whatsoever that the fifth element is later than the theories of *De Caelo* iv (cf. esp. 97–8, 123–6, 157). Hence his concerns about the theoretical sufficiency of the evolutionary model need not trouble us here.

⁵⁶ See the attempts cited in nn. 51 and 52.

heavenly bodies to the free will that they possessed as divine, rational, ensouled beings. It was not until some time later, that is, in phase (2), as seen in *De Caelo* i, that Aristotle noticed it was possible to extend the theory of natural movements to the movement of the heavenly bodies by grounding the whole theory in geometry. The two basic kinds of lines, straight and curved, could then serve as models for two basic types of natural motion, circular and linear. This theory forced him to abandon his four-element cosmology and postulate for the heavens a fifth element, distinct from the other four which move up and down in straight lines. Thus *De Philosophia* can be securely dated before *De Caelo* i and fitted into the evolution of his cosmological thought.

Furthermore, if *De Caelo* was indeed an early work, as is generally believed, we now have another piece of evidence that *De Philosophia* must have been among Aristotle's very earliest works.⁵⁷ Moreover, the four-element cosmology is additional evidence of its Platonic character; and even if a small item like this cannot settle the controversy whether Aristotle's thought became less Platonic or more so as he developed, it is one more factor that will have to be considered in evaluating Aristotle's development and the role of *De Philosophia* in that process.⁵⁸

This has been no more than a sketch of some of the possible implications of the hypothesis that the fifth element did not make its appearance in *De Philosophia*. A full re-evaluation of the content and significance of *De Philosophia* on the basis of a critical reappraisal of all the evidence for the work still remains a major *desideratum* of Aristotelian scholarship.⁵⁹

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⁵⁷ For a discussion of the absolute date of *De Philosophia* see A. H. Chroust, 'The Probable Date of Aristotle's Lost Dialogue *On Philosophy*', *JHistPhilos* iv (1966) 283-91 (= *Aristotle* [n. 4] ii 145-58). Chroust concludes that it was most likely published before 347 B.C. He also conjectures it is later than the *Protrepticus*, therefore after 350 B.C. I. Düring, *Aristoteles: Darstellung und Interpretation seines Denkens* (Heidelberg 1966) 49-50, on the other hand, prefers an earlier date, i.e. c. 360-55 B.C. Since the relative order of *De Philosophia* and other early works is still an open question, it is preferable to set Plato's *Timaeus* (i.e. c. 360 B.C.) as the *terminus post quem*, and consider any reinterpretation that brings *De Philosophia* closer to the *Timaeus* as

support for an earlier, rather than a later, date within the period of c. 360 to 347 B.C.

⁵⁸ Some of the significant contributions to this controversy are: Jaeger (n. 3) *passim*; P. Wilpert, 'Die Stellung der Schrift "Über die Philosophie" in der Gedankenentwicklung des Aristoteles', *JHS* lxxvii (1957) 155-62; C. J. DeVogel, 'The Legend of the Platonizing Aristotle', in Düring and Owen (n. 1) 248-52; and Düring, *Aristoteles* (n. 55) *passim*.

⁵⁹ I would like to thank Friedrich Solmsen, George Kerferd, and David Furley for reading and commenting on an earlier version of this paper. I have benefited greatly from their criticisms and encouragement.