

Aristotle on the Relation between Substance and Essence

[*Ancient Philosophy* 41: 477-94 (2021), penultimate draft]

Abstract: In *Metaphysics* Z.6, Aristotle argues that each substance is the same as its essence.

In this paper, I defend an identity reading of that claim. First, I provide a general argument for the identity reading, based on Aristotle's account of sameness in number and identity. Second, I respond to the recent charge that the identity reading is incoherent, by arguing that the claim in Z.6 is restricted to primary substances and hence to forms.

In the past decades, there has been a resurgence of interest in Aristotelian accounts of substance and essence. Along with that interest, the question should arise what the relation between a substance and its essence is. As far as Aristotle himself is concerned, he argues in *Metaphysics* Z.6 that each substance is *the same as* its essence. It has often been assumed that this implies that, for Aristotle, each substance is *identical* with its essence. But that is no doubt a radical interpretation, and it is surprising that little argument has been offered for it. Indeed, scholars like David Charles and Michail Peramatzis have recently argued that the identity reading is indefensible, because it attributes an incoherent view to Aristotle, and opted for a weaker reading in terms of mere sameness in nature or definition.¹

It seems to me that a common version of the identity reading, which implies that composite substances are identical with their essences, is vulnerable to the charge of incoherence.²

Many thanks to David Charles, Daniel Devereux, Mary Louise Gill, Emily Kress, Michail Peramatzis, and Jacob Rosen for discussing my thoughts on *Metaphysics* Z.6 with me on a variety of occasions. I would also like to thank the audience at the *13th Annual Summer Seminar on Aristotle and Aristotelianism* at Marquette University (2018), an anonymous referee for *Ancient Philosophy*, and Ronald Polansky for their comments.

¹ David Charles 2011; Michail Peramatzis 2011: 4-5; 2014; 2015: 203-7. – As I will discuss, Peramatzis also thinks that, in the case of forms and their essences, sameness in nature implies identity.

² As we will see in section 4, this is the view the opponents of the identity have to assume for the purposes of their argument. Explicit advocates of that version of the identity reading include Woods 1974-75 and Hartman 1976 who take particular composites to be identical with their essences, as well as Code 1985: 113 and Bostock 1994: 116 who take species, that is, universal composites, to be identical with their essences.

Nonetheless, I will argue that, suitably understood, the identity reading is a good interpretation of Aristotle, and a better one than its competitors. On the version of the identity reading defended here, Aristotle's sameness claim in Z.6 is restricted to *primary substances* and hence to *forms*: Only forms turn out to be identical with their essences.³ But that result is perfectly coherent since, as the opponent admits, forms are their own essences. Moreover, I will argue that the identity reading allows us to make better sense of the place of Z.6 in *Metaphysics* Z.4-11. For only on the identity reading, the Z.6 claim makes a distinctive contribution to the conclusion that form is primary substance.

To begin with, then, I will situate *Metaphysics* Z.6 in the context of Z.4-11 in order to argue that the sameness claim in Z.6 concerns *primary* substances and their essences (section 1). Next, I will make a positive case for the identity reading: First, I will argue against the background of *Topics* I.7 that the Z.6 claim is a strict sameness in number claim (section 2). Second, I will argue that strict sameness in number implies identity (section 3). Hence, there is good reason to think that, according to *Metaphysics* Z.6, each primary substance is identical with its essence. Finally, I will respond to the charge of incoherence. With the help of a summary passage in *Metaphysics* Z.11, I will argue that the Z.6 claim is coherent because it is restricted to *forms* (section 4).

1. *Metaphysics* Z.6

In the opening lines of *Metaphysics* Z.6, Aristotle asks whether each thing and its essence are the same (ταυτόν) or different (ἕτερον).⁴ The question follows on an intricate discussion of

³ Other advocates of this version of the identity reading include Code 1986 and Frede & Patzig 1988 II: 87.

⁴ 'It must be examined whether the essence (τὸ τί ἦν εἶναι) and each thing (ἕκαστον) are the same (ταυτόν) or different (ἕτερον). For that is of some use for our investigation about substance (οὐσία); for each thing does not seem to be anything other than its substance (οὐσία), and the essence is said to be the substance of each thing.' (1031a15-18). – My translation.

the relation between substance and definition in Z.4-5. The conclusion of those chapters is that ‘definition is the account of the essence, and the essence is either only of substances or most of all and primarily and simply’ (Z.5, 1031a11-14; see also Z.4, 1030b5-6). We can say that substances are the *proper bearers* of essences, and hence proper targets of definitions, in contrast with non-substance categorial items (Z.4, 1030a17-20) and ‘coupled entities’ like odd number (1031a5-7). In Z.6, Aristotle will take that conclusion one step further: Substances, that is, the proper bearers of essences, are the same as their essences (see e.g. 1032a4-6). But before we turn to the details of that claim, what are the substances in question?

My first contention is that they are *primary* substances. For later in Z.11, Aristotle sums up his results from Z.6 as follows: ‘Essence and each thing are the same in the case of some things, as in the case of primary substances (ἐπὶ τῶν πρώτων οὐσιῶν)’ (1037a33-b2).

Similarly, in Z.4, he says that definition is ‘of something primary’ (1030a7-10), and in Z.6, as we are about to see, he claims that ‘in the case of primary things’ (ἐπὶ τῶν πρώτων) each thing and its essence are the same (1032a5-6). The latter two passages in isolation leave open whether Aristotle means to distinguish substances quite generally as ‘primary’ from non-substances. But taken together with the later claim in Z.11 that the primary entities are not any old substances, but primary substances, it seems that, already in Z.4-6, Aristotle’s focus was on primary substances.

If we add that ‘primary substance’ here has to be understood as it is understood in *Metaphysics* Z.4-11, namely, as form (see e.g. Z.7, 1032b1-2; Z.11, 1037a28-29), we already have many of the crucial ingredients for my version of the identity reading: According to Z.6, (only) primary substances, that is, forms, are said to be the same as their essences. Of course, the restriction of the Z.6 claim to primary substances in the Z.4-11 sense, and hence to forms, requires more defence since it is the key move against the charge of incoherence. In section 4, therefore, I will return to the summary passage in Z.11 and provide a more detailed argument for the restriction.

Equally importantly, however, in Z.4-6, Aristotle does not, or indeed *cannot*, settle yet what primary substance is. That is, even though ‘primary substance’ in the Z.4-11 sense will eventually turn out to be form, Z.4-6 is not the place where that decision is or can be taken. For the decision requires an answer to what I call the *question of scope*: whether matter, form, or the matter-form composite is primary substance. But such an answer requires hylomorphic resources which Aristotle does not allow himself to have in Z.4-6. For, as Myles Burnyeat has brought out, those chapters are formulated in the ‘logical mode’ and do not operate with the notions of matter and form (Burnyeat 2001: 25, 28). Hence, in Z.4-6, Aristotle cannot tell us whether, for example, composites or forms are the proper bearers of essences or the same as their essences.⁵

In Z.6 itself, Aristotle first argues that an accidental compound is not the same as its essence, in the so-called ‘Pale Man Argument’ (1030b19-28).⁶ Next, he argues at length that each substance, that is, as I have just suggested, each *primary* substance, is the same as its essence. Aristotle has two main arguments: First, he offers a regress argument according to which each substance has to be same as its essence since otherwise there will be an infinite regress of substances (1031a28-b3; 1031b28-32a4). Second, he states what we might call the ‘separation argument’ in the course of which Aristotle claims that a substance would not be knowable, and its essence would not exist, if the substance and its essence were not the same (1031b3-15). Finally, Aristotle adds that ‘by the same solution [the sophistical puzzles] are solved too, [namely,] whether Socrates and being Socrates are the same’ (1032a6-8), though the solution will not emerge until Z.11.⁷

On the basis of his arguments, Aristotle concludes with what I call the *Z.6 claim*:⁸

⁵ The only place where Aristotle may appear to settle that question is at Z.4, 1030a11-13, which has sometimes been taken to express the view that *species* are the proper bearers of essences. I will return to that passage in section 4 to argue that the appearance is deceptive.

⁶ For detailed reconstructions of the Pale Man Argument, see Frede & Patzig 1988 II: 89-91; Dahl 1997; 1999.

⁷ I will return to these arguments as well as the sophistical puzzle in sections 3 and 4.

⁸ All translations are mine unless indicated otherwise.

It is clear, then, that in the case of things which are primary and said in virtue of themselves (ἐπὶ τῶν πρώτων καὶ καθ' αὐτὰ λεγομένων), the essence of each thing (τὸ ἐκάστω εἶναι) and each thing are one and the same. (1032a4-6)

Aristotle here refers to substances as ‘things said καθ' αὐτὰ’ or ‘in virtue of themselves’ (compare *Posterior Analytics* I.4, 73b5-10). On my reading, as just discussed, the substances in question are primary substances, although it has not been settled yet which sorts of entities will turn out to be primary substances. Rather, the sameness claim, as formulated in Z.6, is that *whatever* is primary substance is the same as its essence, in the relevant sense of ‘sameness’.

What, then, is the sense of ‘sameness’ with which the Z.6 claim operates? Often, it has been assumed that the relation is identity: Each substance is identical with its essence.⁹ However, some scholars have recently argued that the sameness relation is not identity, but something weaker. S. Marc Cohen (1978) and Norman Dahl (1997; 1999; 2003; 2007) hold that the Z.6 claim is formulated in terms of sameness in essence or substance. Similarly, David Charles (2011: 153-54) and Michail Peramatzis (2011: 4-5; 2014; 2015: 203-7) contend that Z.6 concludes merely that each substance is the same in nature or definition as its essence, although, according to Peramatzis, sameness in nature implies identity in the case of forms and their essences. Finally, Mary Louise Gill (2006: 358-59) has claimed that each substance is the same as its essence in the sense that the essence exhausts what the substance is.

Crucially, the advocate of the identity reading takes Aristotle to express the identity statement by means of a sameness in number claim: Each substance, that is, on my reading, each primary substance, is the same in number as its essence and hence identical with it. To

⁹ See e.g. Bonitz 1848-49: 315; Ross 1924 II: 176; Owen 1965: 138-39; Woods 1974-75; Hartman 1976; Code 1985; 1986; Furth 1985: 112; Frede & Patzig 1988 II: 87; Loux 1991: 90-94; Bostock 1994: 103; Lewis 2013: 151-54.

begin with, then, the disagreement concerns the question whether, according to Aristotle, each (primary) substance is the same in number as its essence, or whether they are merely the same in definition or substance. (The qualification that, on the latter view, they be *merely* the same in definition or substance matters since, as we will see, sameness in number *and* substance just is strict sameness in number.)

Prima facie, there is good reason to take sameness in the Z.6 claim to be sameness in number. For in *Topics* I.7, Aristotle says that ‘what is one in number (τὸ ἓν ἀριθμῶ) seems to be called “the same” (ταὐτόν) with the greatest agreement by everyone’ (103a23-24). Since Aristotle does not qualify ‘sameness’ in the Z.6 claim, one might expect him to have in mind the most commonly agreed upon kind of sameness, that is, sameness in number. However, a more systematic argument is required for reading the Z.6 claim in terms of sameness in number. Moreover, even if each (primary) substance is the same in number as its essence, that may not by itself imply that they are identical. In fact, it is curious that, despite the historical popularity of the identity reading of Z.6, scholars have tended to simply assume it without much argument.¹⁰ In the face of recent competing options, we need a more careful defence of the identity reading.

My defence will consist of two parts: A positive argument for the identity reading on the basis of Aristotle’s account of sameness in number and identity, and a response to the charge of incoherence. The two parts of the paper are complementary: In keeping with the logical mode in which the Z.6 claim is framed, my argument for the identity reading on the basis of Aristotle’s account of sameness in number is an “abstract” argument for an interpretation of

¹⁰ Code (1985: 113) sketches a partial argument, noting the connection between Z.6 and the account of sameness in number in *Topics* I.7 but then goes on to simply assume that if two things are strictly the same in number then they are identical (‘I will assume that this entailment holds’, 1985: 113). Ross (1924 II: 176) assumes from the start that identity is at issue: ‘Aristotle’s doctrine is that τὰ λεγόμενα κατὰ συμβεβηκός are not, and τὰ καθ’ αὐτὰ λεγόμενα are identical with their essence’. Similarly, Frede and Patzig (1988 II: 87) claim at the outset: ‘Dieses Kapitel ist der Frage gewidmet, ob das “Was es heißt dies zu sein” einer jeden Sache und die Sache selbst identisch sind oder nicht’. See also Bostock 1994: 103.

the Z.6 claim on which *whatever turns out to be primary substance is identical with its essence*.

By contrast, in response to the charge of incoherence, I will argue for a view about the *scope* of the Z.6 claim: Since primary substances turn out to be forms, the Z.6 claim is ultimately a (perfectly coherent) claim about the identity of *forms* with their essences.¹¹ There is no chance connection between the two parts of my paper: If Z.6 states that whatever is primary substance is identical with its essence, by the lights of Z.4-11, only forms can be primary substances because only forms are identical with their essences. Hence, even though Z.6 does not settle which sorts of entities are primary substances, the Z.6 claim contributes to the eventual identification of forms as primary substances.

2. Sameness in Number

In *Topics* I.7, Aristotle characterizes sameness in number in two passages, where the first gives what we might call the *core account* of sameness in number, while the second distinguishes three senses of ‘sameness in number’:

(1) [W]e are accustomed to describe what is the same (τὸ ταὐτόν) as ‘in number’ or ‘in species’ or ‘in genus’. Those are the same in number which have several names (ὀνόματα) though there is one thing (πρᾶγμα), for example cloak and coat. (103a8-10, tr. Smith 1997, modified)

¹¹ See also Frede & Patzig 1988 II: 87, but contrast with, e.g., Woods (1974-75: 177-80) who argues that particular composites are identical with their essences, and with Code (1985: 113) who claims that species, which he takes to be (universal) composites (1985: 118), are identical with their essences. However, in a later paper, Code holds that the form, not the composite, is identical with its essence (1986: 435).

(2) What is one in number (τὸ ἐν ἀριθμῷ) seems to be called ‘the same’ (ταὐτόν) with the greatest agreement by everyone. But even this is customarily indicated in several ways (πλεοναχῶς). Most strictly (κυριώτατα) and primarily (πρώτως) when that which is the same is indicated by means of a name (ὀνόματι) or a definition (ὄρω), e.g. coat is the same as cloak or biped pedestrian animal is the same as human. The second way is when [it is indicated] by means of a proprium (ιδίῳ), e.g. what is receptive of knowledge is the same as a human or what is carried upwards by nature the same as fire. The third way is when it is [indicated] from an accident (ἀπὸ τοῦ συμβεβηκότος), e.g. what is sitting or what is musical is the same as Socrates. For all these are intended to signify what is one in number. (103a23-31, tr. Smith 1997, modified).

First, Aristotle contrasts sameness in number with sameness in species and sameness in genus. Two entities are the same in species (or in genus) just in case they belong to the same species (or the same genus). For instance, Socrates and Kallias are the same in species because they both belong to the human species. Sameness in number is importantly different from the other sameness relations because it never relates two distinct relata (see also *Topics* VII.2, 152b36-53a1). For in the case of a sameness in number claim, several names co-refer to *one* (real-world) entity (πρᾶγμα). (I will discuss below what that entity is.) The core account of sameness in number, then, is the following: There is one entity which is the same in number as itself (and nothing else) and which is picked out by at least two co-referential ‘names’ (ὀνόματα).¹²

In the second passage, it turns out that what Aristotle called ‘names’ in the first passage are simply linguistic expressions of some sort. For not only proper names, such as ‘Socrates’ or

¹² Smith is tempted to construe sameness in number as a relation between names (1997: 69). On that view, Aristotle’s account of identity would be akin to the view Frege put forward in the *Begriffsschrift* (1879 [1964], I, §8: 13-15.), but which he later saw was incorrect. However, I cannot see any evidence that, in Aristotle, sameness in number is supposed to relate names, rather than an entity to itself.

common nouns such as ‘cloak’, but also definitions like ‘biped pedestrian animal’, or expressions stating propria or accidents of entities, such as ‘what is musical’, may be involved on the linguistic side of a sameness in number claim. Moreover, by contrast with the first passage, in the second passage, ‘name’ is used in a more restricted way to refer to proper names or common nouns. All sameness in number claims involve one name, in that narrower latter sense of ‘name’, and one other linguistic expression, in the wider sense of ‘name’ from the first passage.

What is the same in number in the strict sense of ‘sameness in number’ is indicated by a name or by a definition. One entity can be referred to either by two names or by a name and a definition. For instance, one kind of thing is picked out by both ‘coat’ and ‘cloak’. Similarly, one kind of thing is picked out by both its name ‘human’ and its definition ‘biped pedestrian animal’. An important feature, then, of the analysis of sameness in number involving definitions is that what is the same in number indicated ‘by means of a definition’ (ὄρω) (103a26), not, for example, by some expression formed on the basis of a definition like ‘that which is biped pedestrian animal’ (*pace* Charles 2011: 154-55). That is, definitions pick out entities in the world no less than names (in the narrow sense of ‘name’) do.

What is the same in number in the second sense of ‘sameness in number’ is indicated ‘by means of a proprium (ιδίω)’ (103a28). That is, one entity is referred to both by its name and by an expression stating a proprium of the entity. For instance, human being is the same in number as what is capable of receiving knowledge, that is, both the name ‘human’ and the expression ‘what is receptive of knowledge’ co-refer to one kind of thing. Finally, what is the same in number in the third sense is indicated ‘from an accident’ (103a29-30). That is, one entity is referred to both by its name and by an expression stating an accident of the entity. For instance, ‘Socrates’ and ‘what is sitting’ co-refer to one individual, provided that Socrates

is the unique contextually salient thing that is sitting.¹³ Unlike the linguistic expressions involved in all other sameness in number claims, the ones involved in accidental sameness in number claims are contingently, not necessarily co-referential (Smith 1997: 71).

So far, I have spoken only of the linguistic side of sameness in number claims. But what about the ontological side? What are the entities to which the relevant linguistic expressions co-refer? That question is especially pressing for strict sameness in number involving definitions, which is crucial for the identity reading of Z.6. In effect, then, the question is what the proper bearers of essences, and hence the proper targets of definitions, are that are picked out by both a name (in the narrow sense of ‘name’) and a definition.

As my talk of ‘kinds’ of things has brought out, the examples in the *Topics* might suggest that species, such as the human species, are the proper bearers of essences and definitions. Indeed, Code (1985: 113) concludes from *Topics* I.7 that species are strictly the same in number as, and hence identical with, their essences, a reading which he then applies to *Metaphysics* Z.6. But that interpretation not only makes the identity reading vulnerable to the charge of incoherence, as we will see in section 4, but also imports an answer to the question of scope into a context where we should not expect such an answer.

Even if, in *Topics* I.7, Aristotle uses species to illustrate strict sameness in number claims involving a definition, that illustration does not imply a definitive account of what the proper bearers of essences and targets of definitions are. The first reason is simply that the focus of *Topics* I.7 is on the relation, not the relata: The chapter provides an authoritative account of sameness, not of the proper relata of sameness. The second reason is that the question of scope, as it arises in certain chapters of *Metaphysics* Zeta, such as Z.11, asks whether matter,

¹³ Some scholars have argued accidental sameness relates two distinct entities, an ordinary and a ‘kooky object’ (Matthews 1982, especially 227-28; Lewis 1982: 20-23; 1991, ch. 5: 131-35). I will have to bypass that debate here. But it is worth noting that, if Aristotle’s core account of sameness in number extends to accidental sameness, as it apparently does in *Topics* I.7, accidental sameness, too, relates an entity to itself, *contra* the kooky objects view. Indeed, the kooky object view is mainly motivated by Aristotle’s treatment of supposed fallacies arising from accidental sameness claims in, e.g. *SE* 24, which may be incompatible with the core account of sameness in number in the *Topics* (see section 3 below).

form, or the matter-form composite is the proper bearer of essence and definition, and hence which one of them is the same as its essence. I have argued already that *Metaphysics Z.6* is not the place where the question of scope can be answered because *Z.6* does not operate with the notions of matter and form. The same is true of *Topics I.7* which is also formulated in the logical mode and hence does not have the resources for settling the question of scope.

Therefore, it seems to me that we should not put too much emphasis on the examples of species used in *Topics I.7*: They are preliminary examples that do not commit Aristotle to the view that species are strictly the same in number as their essences. Indeed, it appears that one of the reasons why *Topics I.7* and *Metaphysics Z.6* fit together, and why the latter can be illuminated by the former, is precisely that they are both formulated in the logical mode and are silent on the question of scope.

Against the background of *Topics I.7*, then, we can understand the *Z.6* claim quite naturally as a strict sameness in number claim involving a definition. Proper bearers of essences, whatever they turn out to be, are strictly the same in number as their essences. For both the name of a proper bearer of an essence (in the narrow sense of ‘name’) and its definition necessarily co-refer to one and the same entity. That is, in the case of a proper bearer of essence, there is just one entity that is the same in number as itself and to which a name and a definition necessarily co-refer. In *Z.6*, as I argued earlier, the proper bearers of essences are primary substances (whatever those turn out to be in *Z.4-11*). The *Z.6* claim, then, fits squarely into the mould of the account of strict sameness in number from *Topics I.7*: Primary substances, that is, the proper bearers of essences, are strictly the same in number as their essences. Hence, we have good reason to read the *Z.6* claim as a strict sameness in number claim, just as the identity reading requires.

One might object to my proposal that it is not clear whether, in the *Metaphysics*, Aristotle still embraces his account of sameness in number from *Topics I.7*. Nicholas White has argued that, in *Metaphysics Δ.9*, Aristotle’s lexicon entry on ‘sameness’, Aristotle abandons his

account of sameness in number from *Topics* I.7 and replaces it with an account of oneness or unity (White 1971: 183-89).¹⁴ According to White, then, we cannot rely on the discussion of sameness in number in *Topics* I.7 to elucidate Z.6.

White's interpretation rests on the following passage in *Metaphysics* Δ.9 about things that are the same 'καθ' αὐτά' or 'in virtue of themselves':

(3) For both those things whose matter is one either in kind or in number and those things whose substance is one are said to be the same, so that it is clear that sameness (ταυτότης) is a sort of oneness (ἐνότης τις) either of the being of several things, or when [one thing] is treated as several (χρηῖται ὡς πλείοσιν) (for instance when something is said to be the same as itself; for it is treated as two). (*Meta.* Δ.9, 1018a6-11)

The crucial claim for White is that, according to Aristotle, sameness is 'a sort of oneness' (1018a7). Supposedly, Aristotle here replaces his previous account of sameness, including sameness in number, by an account of oneness.

Despite White's contention, however, the claim that sameness, and in particular, sameness in number, is a sort of oneness seems perfectly in line with the discussion in *Topics* I.7. For we saw that the core account of sameness in number in the *Topics* involved *one* entity referred to by two different linguistic expressions. Hence, already in *Topics* I.7, sameness in number was spelled out in terms of 'what is one in number' (τὸ ἐν ἀριθμῷ) (103a24; 103a31). The fact, then, that sameness in number is spelled out partly in terms of oneness in number in the *Metaphysics* is perfectly consistent with, or even predicted by, the account from the *Topics*. What is more, Aristotle's explanation in Δ.9 that, in sameness in number claims, one thing 'is

¹⁴ See also Pelletier 1979: 291-93 who takes the relation in *Meta.* Δ.9 to be neither oneness nor sameness in number in the *Topics* sense, but a *sui generis* sameness relation which allows for individuals to be the same as their properties.

treated as several' (1018a8) is best understood in light of *Topics* I.7: When a thing that is numerically one is said to be the same as itself, it is treated as several precisely because several different linguistic expressions are used to pick it out (see Ross 1924 I: 311-12; Miller Jr. 1973: 484).

Overall, then, Aristotle seems to retain his account of sameness in number from the *Topics* in the *Metaphysics*. If that is right, we can understand the Z.6 claim as a strict sameness in number claim involving a definition, as set out in *Topics* I.7: Proper bearers of essences, that is, primary substances, are strictly the same in number as their essences. We still need to know what those primary substances are; I will argue below that they are forms. But first we have to complete the abstract part of the argument for the identity reading. For even if it is true that the Z.6 claim is a strict sameness in number claim, more needs to be said in support of the view that strict sameness in number implies identity.

3. Identity in Aristotle

On the standard account, identity is the relation everything bears to itself and to nothing else. More formally, identity can be defined as the (reflexive) relation that satisfies the Indiscernibility of Identicals, or Leibniz's Law (LL): $x = y \rightarrow \forall F (Fx \leftrightarrow Fy)$.¹⁵ Given my characterization of sameness in number in *Topics* I.7, it ought to be straightforward that strict sameness in number implies identity. For I argued that, in *Topics* I.7, sameness in number in any sense of 'sameness in number' is the relation an entity bears to itself and to nothing else. Moreover, in *Topics* VII.1, Aristotle seems to suggest that sameness in number satisfies (LL):

¹⁵ For these characterizations of identity, see Noonan & Curtis 2017, section 2. – Sometimes, the Indiscernibility of Identicals and the Identity of Indiscernibles together are called 'Leibniz's Law', but I will take 'Leibniz's Law' to refer to the Indiscernibility of Identicals only.

(4) Generally speaking, one has to examine from anything whatsoever that is predicated of one of the two, and from anything of which these are predicated, whether there is any disagreement. For what is predicated of one of the two has to be predicated of the other of the two as well (ὅσα γὰρ θατέρου κατηγορεῖται καὶ θατέρου κατηγορεῖσθαι δεῖ), and of that of which one of the two is predicated, the other has to be predicated as well. (*Top.* VII.1, 152b25-29)

The crucial claim here is that ‘what is predicated of one of the two has to be predicated of the other of the two as well’ (152b27-28). It is clear that Aristotle states a necessary condition on sameness in *number*, since at the beginning of the chapter, he announces that he will focus on sameness in number (151b28-30). The claim, then, is that if *a* and *b* are the same in number then what is predicated of *a* must be predicated of *b*. ‘Is predicated’ (κατηγορεῖται) has a linguistic ring, but Aristotle sometimes speaks of properties as predicated of objects.¹⁶ Hence, he should be taken to claim that if two things are the same in number, then they have all properties in common.¹⁷ That is, sameness in number satisfies Leibniz’s Law.

These considerations support the interpretation that sameness in number *in any sense* of ‘sameness in number’ implies identity. Unfortunately, a complication of Aristotle’s view of identity may come about in his discussion of supposed fallacies arising from accidental sameness. For there, as several scholars have argued (see, e.g., Matthews 1982: 230-35; Lewis 1982: 15-18; Cohen 2007), Aristotle appears to claim that only strict sameness in number satisfies (LL). In *Sophistici Elenchi* (*SE*) 24, for instance, he contends:

¹⁶ In *Cat.* I.5, for instance, he says that ‘animal is predicated (κατηγορεῖται) of human being, and hence also of a particular human being’ (2a36-38), and ‘animal’ and ‘human being’ do clearly not refer to linguistic entities since he goes on to conclude that ‘if the primary substances did not exist, it would be impossible for any of the other things to exist’ (2b6^{b-c}).

¹⁷ Compare the two restricted versions of the principle stated earlier in the *Topics*: i) If two entities are the same in number, then they have all propria in common (V.4, 133a32-34), and ii) If two entities are the same in number, then they have all accidents in common (VII.1, 152a33-37).

(5) For all the same things seem to belong only to those things which are indistinguishable and one in accordance with their substance (τοῖς κατὰ τῆν οὐσίαν ἀδιαφόροις καὶ ἐν οὐσίᾳ). (*SE* 24, 179a37-39)

Similarly, in *Physics* III.3, Aristotle claims that two things which are the same in number share all properties only if their ‘being (τὸ εἶναι) is the same’ (202b14-16). The principle, then, which Aristotle seems to state in those passages says that if two things are the same in number *and substance*, then they have all properties in common. By contrast, Aristotle seems to assume that if two things are merely the same in number, they are accidentally the same, and if they are accidentally the same, they may not have all properties in common. Hence, it appears that only sameness in number and substance satisfies (LL).

Moreover, sameness in number and substance just is strict sameness in number. In particular, if the proper bearer of an essence is the same in number as its essence, they will also be the same in substance. For one of the expressions involved in such a sameness claim is the definition stating the essence of the entity in question where the essence does not have any further definition. Hence, the proper bearer of the essence, or primary substance, and its essence are not only the same in number but also in definition and substance. Therefore, it seems that, according to *SE* 24 and *Physics* III.3, not sameness in number in any sense but only strict sameness in number satisfies (LL).

The supposed fallacies which Aristotle takes to arise from mere sameness in number claims are a difficult topic of their own, which we cannot broach here. Roughly, Aristotle seems to think that, in cases of mere sameness in number, and only in cases of mere sameness in number, non-extensional differences arise which prevent mere sameness in number from satisfying (LL). For instance, if Coriscus is (merely) the same in number as the veiled man, I may know Coriscus but not know the veiled man (*SE* 24, 179a39-b6). Yet, since (LL) is not

meant to rule out non-extensional differences,¹⁸ Aristotle's inference that mere sameness in number does not satisfy (LL) may be unwarranted.¹⁹

Furthermore, if only strict sameness in number satisfies (LL), the core account of sameness in number from *Topics* I.7, as I presented it, is undermined. For in that case, neither sameness in number involving an expression that states a proprium of an entity nor accidental sameness in number implies identity. Again, a discussion of that issue, which has given rise to a large literature, is beyond the scope of this paper.²⁰ For present purposes, it suffices to note that, on either of those seemingly competing accounts of identity in Aristotle, strict sameness in number implies identity. For either, sameness in number in any sense, including strict sameness in number, implies identity, or else, only strict sameness in number implies identity.

This conclusion is enough to motivate the identity reading of *Metaphysics* Z.6. For in Z.6, Aristotle tells us explicitly that a substance and its essence are not only one but that their account is the same as well (1031b32-32a1) and continues that 'one and the essence of one are not one accidentally' (1032a2). Similarly, he notes that 'each thing itself and the essence are one and the same not accidentally' (1031b19-20). But if primary substances are the same in number and substance, and hence strictly the same in number, as their essences, then they are identical with their essences, which is just what the identity reading says.

How exactly are we to understand the claim that any primary substance or proper bearer of an essence is the same in number and substance as, and hence identical with, its essence?

Aristotle's thought seems to be the following: If the proper bearers of essences were merely the same in number as their essences they would be accidentally the same as their essences,

¹⁸ For a brief discussion, see Noonan & Curtis 2017, section 2.

¹⁹ That said, it is not clear whether Aristotle's concerns are based solely on cases involving opaque contexts. In *Phys.* III.3 Aristotle is puzzled by the relation between the road from Athens to Thebes and the road from Thebes to Athens: They are the same in number, yet one is uphill, the other downhill. Aristotle seems to conclude that the roads are not identical because they are not the same in substance. Unlike in *SE* 24, it is not obvious that the motivating case involves an opaque context.

²⁰ Different accounts have been offered of the relationship between *Topics* and *SE* 24 / *Phys.* III.3. According to White (1971: 178-82), Aristotle had a grip on the concept of identity in the *Topics* but loses that grip in the *SE* and the *Physics*. On the other hand, Matthews (1982: 233) argues that Aristotle only gets a grip on identity in the *SE* and the *Physics* after his preliminary attempts in the *Topics* have failed.

and hence not identical with them. Similarly, if they were merely the same in substance as their essences they could be distinct from their essences. For two distinct things can have the same definition. But being strictly the same in number, that is, the same in number and substance, as their essences, the proper bearers of essences, that is, primary substances, are those things which are their very own essences, and hence identical with them.

The identity reading thus understood also yields a natural interpretation of the regress argument in Z.6, although I can give only a sketch of that interpretation here. As I mentioned at the beginning, Aristotle argues that each primary substance has to be the same as its essence since otherwise ‘there will be other substances and natures and forms besides the ones mentioned, and those will be prior and more substances’ (1031b1-2). Aristotle suggests that in order to avoid an infinite regress of substances we have to conclude that ‘even now some things are straightaway [their] essence’ (1031b31). That is, in line with the identity reading suggested above, the proper bearers of essences *are* their own essences.

Roughly, I think that what drives the looming regress is the combination of two assumptions: The first assumption is that each substance has an essence. The second assumption is that the essence is always ontologically prior to, and hence distinct from, its bearer. As I will discuss in the next section, Aristotle admits that the second assumption holds for composite substances and their essences. But he rejects the second assumption for what, in Z.4-11, counts as primary substance, namely, form. That conclusion also leads to a modification of the first assumption: In the case of forms, it is somewhat loose to speak of them as ‘having’ essences; really, they *are* their own essences. Moreover, since, in the strictest sense, only forms are bearers of essences, composite substances have ‘essences’ only in a looser sense.

For Aristotle, then, if we take ‘essence’ in the strictest sense, the regress will not get off the ground because, in that sense, only forms ‘have’ essences – and they are identical with them. In turn, if we take ‘essence’ in the looser sense in which composite substances have essences,

the imminent regress will be brought to a halt at the first step: For the essence of a composite substance is its form, and the form, while prior to the composite, does not itself have an essence that is prior to it.

Similarly, Aristotle's response to the epistemological worries voiced in the separation argument can be accounted for by the identity reading. Aristotle claims that 'if [primary substances and essences] are separated from each other, there will be no knowledge of the former, and the latter will not exist' (1031b2-3). Part of Aristotle's worry, then, is that primary substances could ever turn out to not be knowable. But if each primary substance is identical with its own essence, no primary substance can be separated from its essence, and hence no primary substance can ever not be knowable.²¹

This concludes my "abstract" argument for the identity reading of Z.6. I argued first that, according to Z.6, each primary substance is strictly the same in number as its essence, and second that strict sameness in number implies identity. Therefore, each primary substance is identical with its essence. But is that conclusion at all plausible? According to a recent objection raised by Charles as well as Peramatzis, the identity reading attributes an incoherent view to Aristotle. If they are right, and if we assume that Aristotle did not hold an incoherent view, we must have gone wrong somewhere in the argument above. In the remainder of the paper, I will argue that the identity reading does *not* attribute an incoherent view to Aristotle. Making that point requires me to finally say more about the scope of the Z.6 claim.

²¹ It is sometimes thought that the separation argument can at best establish that a primary substance and its essence are not separated, not that they are identical (Ross 1924 II: 177; Bostock 1994: 109-10; Dahl 2007: 114). But if Aristotle wants to rule out the *possibility* of separation, sameness in number and substance, and hence identity, seems required, since neither mere sameness in number nor mere sameness in substance is sufficient. For mere sameness in number is accidental. Moreover, conceivably, a primary substance could be separated from its essence if they were merely the same in substance (*pace* Dahl 2007: 2015). After all, typically, two entities which are merely the same in substance, such as two members of the same species, can be separated.

4. The Threat of Incoherence and the Scope of the Z.6 Claim

The main motivation for abandoning the identity reading of Z.6 is its seeming incoherence. A standard complaint has been that substances are objects, but essences are properties or ways of being.²² If so, substances cannot be identical with essences.²³ Yet, that objection misses the point of the identity reading, at least as I have developed it. For on the identity reading, it is precisely not true that, in the case of primary substances, there are two distinct things, an object and its essential property or way of being, where the former is picked out by a name and the latter by a definition. Rather, for any primary substance, there is only one entity which is picked out by both its name and its definition. That possibility is opened up by Aristotle's view, formulated in *Topics* I.7, that definitions, no less than names, can refer to entities, which forms the basis of Aristotle's account of strict sameness in number on which the identity reading relies.

There is, however, a potentially more damaging version of the charge of incoherence, recently raised by both Charles and Peramatzis. It is often thought that the essence of a substance has certain explanatory properties which the substance lacks. For the essence makes the substance be the substance it is.²⁴ In *Metaphysics* Z.17, for instance, Aristotle speaks of the essence of a substance as its 'cause' or αἴτιον (1041a27-32). Hence, the essence is causally more basic than or *ontologically prior* to the substance. Therefore, since nothing is ontologically prior to itself, a substance cannot be identical with its essence (Charles 2011: 152; Peramatzis 2011: 4; 2014; 2015: 203-7). Or rather, it may be true that some substances are identical with their essences, namely, forms, but it cannot be generally true that substances

²² See Peramatzis 2014: 159-60 for a discussion of ways of being in this context.

²³ Woods (1974-75: 177-80) is prepared to simply accept that Aristotle held the 'paradoxical doctrine' that 'Socrates is a man' is an identity statement. However, as Code (1985: 116) points out, the doctrine would not be merely paradoxical, but incoherent.

²⁴ See Sirkel 2018: 90-97 for a recent discussion of how the claim that an essence makes the substance be the substance it is conflicts with the supposed identity of a substance and its essence.

are identical with their essences because composite substances are ontologically posterior to their essences or forms (Peramatzis 2014: 159-62).

From all that, Peramatzis infers that the Z.6 claim cannot be an identity claim. Rather, it is a sameness in nature claim which, in the case of a form and its essence, is compatible with and implies their identity, but which is incompatible with the identity of composite substances and their essences (Peramatzis 2014: 157-58). The crucial assumption on which the charge of incoherence against the identity reading rests is that the Z.6 claim is concerned with substances *quite generally*, including composite substances. Some advocates of the identity reading have shared that assumption, and against them, the charge of incoherence is powerful. But nothing in the abstract argument for the identity reading above hinged on accepting the assumption. Indeed, I think it ought to be rejected.

Two important points have emerged earlier. First, in Z.6, Aristotle does not settle what the scope of the Z.6 claim is. In particular, he does not tell us whether it is composite substances or forms which are the same as their essences. Nonetheless, and this is the second point, the Z.6 claim is not unrestricted. For it is a claim about *primary substances*, or the bearers of essences in the strictest sense. Again, in Z.6, Aristotle does not tell us which sorts of entities count as primary substances. But he revisits the Z.6 claim later in Z.11, and there it emerges that the earlier restriction of the Z.6 claim to primary substances turns out to be a restriction to forms. Hence, the Z.6 claim does not imply that composite substances are the same as their essences, and therefore the identity reading is coherent after all.

In Z.11, then, Aristotle revisits the Z.6 claim in the following passage, which follows on his conclusion that form is primary substance (1037a28-29):

(6) [It has been said] also that the essence and each thing are the same in the case of some things, as in the case of primary substances (ἐπὶ τῶν πρώτων οὐσιῶν), for example, curvature and the essence of curvature (καμπυλότητι εἶναι) [are the same], if

[curvature] is primary (and by 'primary' I mean [a substance] which is not said by one being in another and in a subject as in matter), but those things which are as matter or as taken together with matter (ὡς συνειλημμένα τῆ ὕλη), are not the same, nor are they accidentally one, such as Socrates and what is musical; for those are the same accidentally. (1037a33-b7)

More clearly than in Z.6, Aristotle emphasizes that only primary substances are the same as their essences. Moreover, this time, we know that, as he concluded earlier, primary substances are *forms* (1037a28-29). The example of curvature recalls the earlier example of concavity from Z.10 where concavity was contrasted with snubness because flesh is a part of the latter, but not of concavity. There concavity seemed to stand in for 'substance' in the sense of form, while snubness stood in for 'substance' in the sense of composite substance (1035a4-6). Furthermore, the expression 'taken together with matter' was used, also in Z.10, to denote matter-form composites, such as, again, the snub or the bronze circle (1035a25-26). Aristotle's point, then, seems to be that, since forms, not composites, are primary substances, only forms are the same as their essences, *in the sense relevant for the Z.6 claim*.²⁵

By the same token, the sophistical puzzle from Z.6 has now been solved. For, earlier in Z.11, Aristotle said that the name 'Socrates' can refer either to the form or soul of Socrates or to the composite (1037a7-8). Hence, if by 'Socrates' we mean the soul, then Socrates is the same as his essence, but if by 'Socrates' we mean the composite, Socrates is not the same as his essence, in the sense of 'sameness' relevant for Z.6 (Frede & Patzig 1988 II: 103). The import of the Z.6 claim, then, was precisely to exclude composite substances from being the same as their essences and hence from the status as primary substances. For it is a mark of

²⁵ See also *Meta.* Z.10, 1036a1-2 and H.3, 1043b2-4, where the soul, but not the (composite) human being, is said to be the same as its essence.

primary substances to be the same as their essences, in the Z.6 sense of ‘sameness’, and only forms, but neither matter-form composites nor matter, have that mark.

But if the Z.6 claim was meant to exclude composites from being the same as their essences, the relevant sense of ‘sameness’ should precisely not be sameness in substance or nature which is designed to *allow* for the sameness of composites with their essences. Rather, the Z.6 claim needs to be read in a way which takes heed of its restriction to primary substances, and which allows only for forms, not for composites, to be the same as their essences. The identity reading, unlike the sameness in substance reading, delivers that desideratum because only forms, not composites, are identical with their essences. This in turn is because forms are their own essences, while composites have essences distinct from themselves, namely, their forms.

One could object that passage (7) excludes only particular composites from being the same as their essences, and that species, that is, *universal composites*, are still in the scope of the Z.6 claim. Indeed, one might urge that the Z.6 claim must apply to species because, in *Metaphysics Z.4*, Aristotle tells us that ‘essence will not belong to anything that is of entities that are not εἶδη of a genus (τῶν μὴ γένους εἰδῶν), but only to those’ (1030a11-13). On one way of reading that claim, ‘εἶδη’ means ‘species’ and Aristotle’s point is that essence does not belong to anything which is not *one of* or among the species of a genus. That is, only species have essences (Bostock 1994: 91). If that is right, then species should be in the scope of the Z.6 claim, since they are the proper bearer of essences, and the charge of incoherence against the identity reading resurfaces.

As for the first part of the objection, it is true that our passage seems to focus on particular composites since, properly speaking, it is particulars that are ‘taken together with matter’, as suggested by earlier examples in Z.10.²⁶ Indeed, species do not seem to be mentioned at all in

²⁶ Among the examples of ‘things taken together with matter’ in Z.10 are Kallias and the bronze sphere (1035a32-33) as well as the bronze circle mentioned before (1035a26), all of them clearly particulars. ‘The snub’

(7). On the other hand, if species are not mentioned, it is hard to see how we can take Aristotle to conclude that not only forms but also species are the same as their essences, in the sense relevant for the Z.6 claim. Moreover, the analysis of species as universal composites in Z.10 (1035b27-31) hinges on the claim that species have ‘matter as universal’ (1035b29-30). Therefore, even if species are not strictly ‘taken together with matter’ they have matter in some sense, and hence seem to be excluded from the scope of the Z.6 in (7).

The second part of the objection, based on Z.4, is harder to assess. One could try to resist it by translating ‘εἶδη’ as ‘forms’ rather than ‘species’, as Frede and Patzig (1988 II: 66) have done. On their view, Aristotle wants to say that only some *forms* have essences, namely, those which can be thought of as having resulted from the differentiation of a genus, but not Platonic forms corresponding to undifferentiated genera, such as animal. But taking the ‘εἶδη of a genus’ to be species seems more natural since a genus is differentiated into species.²⁷ On that front, then, the objection appears to retain its force.

Nonetheless, we can take Aristotle’s statement more neutrally than the objector holds. Throughout Z.4, Aristotle is interested in distinguishing substances from non-substances. He leans heavily on his typical characterization of substance as ‘this-such’ ‘since the this belongs only to substances’ (1030a5-6) and contrasts substances both with accidental compounds like pale man (1030a4-6), and with items from other categories, that is, quantity, quality, and so forth (1030a18-20). I suggest that we understand the claim at 1030a11-13 in the same vein: ‘Essence will not belong to anything that is of entities that are not species of some genus’ (1030a11-12) in the sense that essence does not belong to anything that falls under, or *is a member of*, any entities other than species of a genus. Since Aristotle seems to assume here

(1035a26) is more difficult to assess, it might either be a particular snub nose or the property snubness like ‘snubness’ at 1035a5-6.

²⁷ Compare the suggestion in *Meta. Z.12* that ‘the genus is simply not besides the εἶδη of a genus’ (1038a5), where ‘εἶδη’ appears to pick out the species as well.

that species and genera are substance items, the claim implies *not* that only species have essences, but more broadly that only *substances* have essences.²⁸

On that reading, it is left open which sorts of entities within the category of substance will count as the proper bearers of essences or primary substances. As I have stressed repeatedly, that is what we ought to expect at this stage of the argument. For it is not until Z.11 that a successful candidate for primary substance is found. As we approach Z.6, therefore, the question of scope has not been settled. All we know is that only primary substances, the proper bearers of essences, are the same as their essences. But the identity reading best accounts for the fact that, by the lights of the Z.6 claim, only forms can be the same as their essences, as Aristotle will go on to conclude.

Where does all that leave the dialectic between advocates of the identity reading and their opponents? First of all, on the version of the identity reading defended here, the disagreement does *not* concern the question whether forms are identical with their essences (both sides agree that they are), nor the question whether particular or universal composites are identical with their essences (both sides agree that they are not). Nonetheless, there *is* a disagreement concerning how we should understand ‘sameness’ in the Z.6 claim. On the identity reading as presented in this paper, the Z.6 claim is restricted to primary substances, and hence only forms will turn out to be in the scope of the claim. The opponents of the identity reading have to hold either that the Z.6 claim is not restricted to primary substances, or they have to argue that not only forms are primary substance in the sense relevant for Z.6.

Overall, as I have argued here, the opponents of the identity reading are right to reject those versions of the identity reading on which composite substances turn out to be identical with their essences. Still, we should hold on to the identity reading. For there are systematic considerations on the basis of Aristotle’s account of sameness in number and identity which

²⁸ Compare Frede & Patzig 1988 II: 66 who make a similar suggestion, though they take the restriction to be to substantial *forms*.

support it. And the charge of incoherence can be defused once one has properly clarified that, according to the Z.6 claim, only primary substances are identical with their essences. Indeed, on the identity reading, we can better understand the contribution Z.6 makes towards the conclusion reached in Z.11 that forms, not composites, are primary substances.

Works Cited:

- Bonitz, H. (1848-49), *Aristotelis Metaphysica*, Bonn: Marcus.
- Bostock, D. (1994), *Aristotle Metaphysics Books Z and H*, Oxford: Clarendon Press.
- Burnyeat, M. (2001), *A Map of Metaphysics Zeta*, Pittsburgh: Mathesis.
- Charles, D. (2011), 'Some Remarks on Substance and Essence in Aristotle's *Metaphysics* Z.6', in B. Morison and K. Ierodiakonou (eds.), *Episteme, etc. – Essays in Honour of Jonathan Barnes*, Oxford: OUP: 151-71.
- Code, A. (1985), 'On the Origins of Some Aristotelian Theses of Predication', in J. Bogen and J.E. McGuire (eds.), *How Things Are*, Dordrecht: D. Reidel, 101-31.
- Code, A. (1986), 'Aristotle: Essence and Accident', in R. E. Grandy and R. Warner (eds.), *Philosophical Grounds of Rationality*, Oxford: Clarendon Press, 411-39.
- Cohen, S. M. (1978), 'Individual and Essence in Aristotle's *Metaphysics*', *Paideia*: 75-85.
- Cohen, S. M. (2008), 'Kooky Objects Revisited: Aristotle's Ontology', *Metaphilosophy* 39(1): 3-19.
- Dahl, N. O. (1997), 'Two Kinds of Essence in Aristotle: A Pale Man is Not the Same as His Essence', *The Philosophical Review* 106(2): 233-65.
- Dahl, N. O. (1999), 'On Substance Being the Same as Its Essence in *Metaphysics* Z.6: The Pale Man Argument', *Journal of the History of Philosophy* 37(1): 1-27.

- Dahl, N. O. (2003), 'On Substance Being the Same as Its Essence in *Metaphysics* vii.6: The Argument About Platonic Forms', *Ancient Philosophy* 23, 153-79.
- Dahl, N. O. (2007), 'Substance, Sameness, and Essence in *Metaphysics* vii 6', *Ancient Philosophy* 27, 107-26.
- Frede, M., and Patzig, G. (1988), *Aristoteles 'Metaphysik Z'*, 2 vols., München: C. H. Beck.
- Frege, G. (1879 [1964]), *Begriffsschrift und andere Aufsätze*, edited by Ignacio Angelelli, Hildesheim: Georg Olms.
- Furth, M. (1985), *Aristotle Metaphysics: Books Zeta, Eta, Theta, Iota*, Hackett.
- Gill, M. L. (2006), 'First Philosophy in Aristotle', in M. L. Gill and P. Pellegrin (eds.), *A Companion to Ancient Philosophy*, Oxford: OUP, 347-73.
- Hartman, E. (1976), 'Aristotle on the Identity of Substance and Essence', *The Philosophical Review* 85(4): 545-61.
- Kirwan, C. (1993), *Aristotle Metaphysics Books Γ, Δ, and Ε*, Oxford: Clarendon Press.
- Lewis, F. (1982), 'Accidental Sameness in Aristotle', *Philosophical Studies* 42(1): 1-36.
- Lewis, F. (1991), *Substance and Predication in Aristotle*, Cambridge: CUP.
- Lewis, F. (2013), *How Aristotle gets by in Metaphysics Zeta*, Oxford: OUP.
- Loux, M. (1991), *Primary Ousia: An Essay on Aristotle's Metaphysics Z and H*, Ithaca: Cornell University Press.
- Matthews, G. (1982), 'Accidental Unities', in M. Schofield, and M. C. Nussbaum (eds.), *Language and Logos: Studies in Ancient Philosophy Presented to G. E. L. Owen*, Cambridge: Cambridge University Press, 223-40.
- Miller, F. D., Jr. (1973), 'Did Aristotle have the Concept of Identity?', *The Philosophical Review* 82(4): 483-90.
- Noonan, H., and Curtis, B. (2017), 'Identity', *The Stanford Encyclopedia of Philosophy* (Spring 2017 Edition), Edward N. Zalta (ed.), URL = [<https://plato.stanford.edu/archives/spr2017/entries/identity/>](https://plato.stanford.edu/archives/spr2017/entries/identity/).

- Owen, G. E. L. ([1965] 1975), 'The Platonism of Aristotle', in Barnes, J., Schofield, M., and Sorabji, R. (eds.), *Articles on Aristotle I*, London: Duckworth, 14-34 [125-50].
- Pelletier, F. J. (1979), 'Sameness and Referential Opacity in Aristotle', *Nous* 13(3): 283-311.
- Peramatzis, M. (2011), *Priority in Aristotle's Metaphysics*, Oxford: OUP.
- Peramatzis, M. (2014), 'Sameness, Definition, and Essence', *Studia Philosophica Estonica* 7(2): 142-67.
- Peramatzis, M. (2015), 'What is a Form in Aristotle's Hylomorphism?', *History of Philosophy Quarterly* 32(3): 195-216.
- Ross, W. D. (1924, *Aristotle's Metaphysics*, 2 vols., Oxford: Clarendon Press.
- Sirkel, R. (2018), 'Essence and Cause: Making Something Be What It Is', in Chiaradonna, R., Forcignano, F., Trabattini, F. (eds.), *Ancient Ontologies. Contemporary Debates, Discipline Filosofiche* 28(1): 89-112.
- Smith, R. (1997), *Aristotle Topics*, Oxford: Clarendon Press.
- White, N. (1971), 'Aristotle on Sameness and Oneness', *The Philosophical Review* 80(2): 177-97.
- Woods, M. (1974-75), 'Substance and Essence in Aristotle', *Proceedings of the Aristotelian Society* 75: 167-80.