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Essence and Cause: Making Something Be What It Is

Abstract: *Essence and Cause: Making Something Be What It Is*

Aristotle frequently describes essence as a "cause" or "explanation" (αἴτιον or αἰτία), thus ascribing to essence some sort of causal or explanatory role. This explanatory role is often explicated by scholars in terms of essence "making the thing be what it is" or "making it the very thing that it is". I argue that this is problematic, at least on the assumption that "making" expresses an explanatory relation, since it violates certain formal features of explanation (especially the requirement that the *explanans* be distinct from the *explanandum*). I then consider whether Aristotle is vulnerable to this problem by examining the explanatory role of essence in *Posterior Analytics* and *Metaphysics* Z 17.

Keywords: Aristotle, Essence, Metaphysical Explanation, Demonstration, Form.

Aristotle frequently describes essence as an αἴτιον or αἰτία ("cause" or "explanation"), thus ascribing to essence a causal or explanatory role of some sort.[1] The idea that essence plays some sort of causal or explanatory role has recently received increasing attention both in Aristotelian scholarship and in contemporary metaphysics. This might be part and parcel of a more general move away from the modal approach to some of the central metaphysical issues such as dependence and essence. In contemporary metaphysics, the key text is Kit Fine's "Essence and Modality" (1994), which challenges the modal conception of essence, i.e. the conception of an essential attribute as one that an object has necessarily (if it exists). Fine argues that if an attribute is essential to an object, then the object has the attribute necessarily (if it exists), but that the converse need not always hold. Similar views on essence have been ascribed to Aristotle, with several au-

[1] See *An. Post.* B 11, 94a 20-21; *Met.* A 3, 983a 27-28; Δ 8, 1017b 15-16; Z 17, 1041a 9, 27-28; H 2, 1043a 2-4; H 3, 1043b 12-14; etc. The terms αἴτιον and αἰτία are usually used interchangeably, though some authors have proposed that the former is used for something that plays the role of a cause, and the latter for the role or manner of being a cause. See Casals, Reynés 1995. In what follows, I will use them interchangeably. Further, as several authors have noted, "cause" is not restricted to the modern notion of (efficient) cause, but extends more widely to "explanation", i.e. what answers the relevant kind of "why"-question. See, e.g., Holcutt 1974. In what follows, I will take "cause" and "explanation" to be equivalent.

thors emphasizing that an essential attribute for Aristotle is not just a necessary attribute. For one thing, essence is intimately bound up with the "What is it?" (τί ἐστι) question; for another, essence is explanatory (see, esp., Kung 1977; Cohen 1978a; and Witt 1989, ch. 6). The latter proposal has become dominant in recent scholarship, where the explanatory role of essence is often explicated in terms of essence "making the thing be what it is" or "making it the very thing that it is".

In this paper, I will argue that this way of explicating the explanatory role of essence is problematic, at least on the assumption that "making" expresses a relation of metaphysical explanation. In section 1, I will examine some examples of how "making" terminology is used in recent scholarship, and show that the attempt to cash out the explanatory role of essence in terms of "making the thing be what it is" violates certain formal features of explanation, especially the requirement that the *explanans* be distinct from the *explanandum*. In sections 2 and 3, I will consider whether Aristotle is vulnerable to this problem by examining the explanatory role of essence in *Posterior Analytics* and *Metaphysics* Z 17. I will argue that, for Aristotle, essence explains why a thing has certain other necessary attributes, and why matter constitutes a thing of a given kind. Yet these ways of explicating its explanatory role do not run into similar difficulties, since in these cases there is a distinction between *explanans* and *explanandum*.

1. *Essence and "making"*

To illustrate the use of "making" terminology in Aristotelian scholarship, I will focus on two recent interpretations of Aristotle, viz. those by David Bronstein (2016) and Michail Peramatzis (2011).[2] The authors deal with different subject matter – Bronstein with Aristotle's account of scientific knowledge in *Posterior Analytics* and Peramatzis with his account of ontological priority in *Metaphysics* – but both rely on the "causal-explanatory model of essence" (as Peramatzis calls it), explicated in terms of essence "making the thing [be] what it is" or "making it [be] the very thing that it is". Bronstein and Peramatzis stand out among other authors in that they make systematic use of the "making" terminology, placing the causal-explanatory model of essence at the center of their respective interpretations. Further, Peramatzis and Bronstein treat "making" as expressing a relation of metaphysical explanation. This is presumably not the only way to understand "making" in connection with essence, but it makes their in-

[2] See also Charles 2000. Peramatzis' and Bronstein's interpretations can be seen as further developments of the sort of interpretation developed by Charles.

terpretations relevant also in light of recent interest in metaphysical explanation in contemporary metaphysics.[3] Since they offer little explanation as to how precisely the expression "making something be what it is" should be understood, our best starting point is to look at some examples of its use.

Peramatzis says the following:

> For instance, Socrates' essence is to be a human, while Bucephalus' essence is to be a horse. Similarly, the essence of the type human is what-it-is-to-be human. […] The essence, being human, is intuitively conceived as being somehow prior to the token- or type-object it is the essence of. One way to flesh out this idea is to think that what-it-is-to-be-human, the referent of "being human", makes Socrates or the species human what they essentially are. But the converse is not true (Peramatzis 2011, p. 4).

However, it is clear that particular compounds such as Socrates and Callias have token-matter from which they are (partly) constituted, while universal compounds such as human or horse include type-matter amongst their components. It seems plausible that the essence and primary substance of compounds, their form, should be essentially and definitionally prior not only to them but also to their material components. […] [It] causes token- or type-materials and particular or universal compounds to be as they are. In this way, it explains their nature (Peramatzis 2011, pp. 177-178).

Bronstein says the following:

> [N]on-demonstrative scientific knowledge consists in knowing (a) that E, which is the essence and thus the (formal) cause of S, is the cause because of which S is the very thing that it is and (b) that S is the very thing that it is by necessity. (For example, we have non-demonstrative scientific knowledge of the species *human being* when we know that being a two-footed tame animal, human being's essence (let's suppose), is the cause because of which human being is the very thing that it is and that human being is the very thing that it is by necessity (Bronstein 2016, p. 8).

[3] A closer analysis of the way different scholars use the "making" terminology might reveal that there is a cluster of ideas associated with it, and that not all authors relate it to an explanatory relation. It is not my task to take up this analysis here, but I will mention two possible ideas. First, essence is often taken to play a classificatory role. One could thus propose that essence "makes something be what it is" in that it classifies it in accordance with its natural kind. Nonetheless, classifying is not the same as explaining (by classifying something as *x*, essence does not explain why it is *x*), although there might be a connection between the classificatory and explanatory roles, e.g. essence explains why something is classified the way it is. See Witt 1989, ch. 4, who criticizes the "standard interpretation" that the most important role of essence is to explain species membership. Second, essence is often taken to be constitutive of a thing. Again, constitution is not the same as explanation, though they might be connected. See Tierney 2001, who develops an account of essence that distinguishes between explanation and constitution. In contemporary metaphysics, metaphysical explanation is usually discussed in connection with grounding. See, esp., Trogdon 2013; Jenkins 2013; and Thompson 2016b.

> Definitions, like demonstrations, express explanations, but in a different way: if E is the essence of S, then E is the cause that makes S the very thing it is (Bronstein 2016, p. 57).

These passages suggest that "making" expresses some sort of explanatory relation: the claim that "essence *makes* the thing be what is it (or the very thing it is)" is equivalent to claims such as "the thing is what it is *because* of essence" and "essence *explains* why the thing is what it is". It should be pointed out that Aristotle himself does not employ terms that could be translated as "making" (e.g. ποιεῖν) in connection with essence.[4] But he does say that essence is an αἴτιον or αἰτία, and that an αἴτιον answers a certain "why"-question (*Phys.* B 3, 194b 19), where a "why"-question is a request for an explanation. The use of "making" terminology by scholars can be seen as an attempt to further explicate the idea that essence is an αἴτιον and answers a certain "why"-question. According to Peramatzis and Bronstein, the "why"-question that essence serves to answer is "Why is the thing what it is (or the very thing that it is)?"

It is reasonably clear from the above passages that the sort of explanation that Bronstein and Peramatzis are interested in is metaphysical, not just epistemological. Epistemological explanation is more familiar: we explain something in order to better understand it. Metaphysical explanation, on the other hand, is a matter of how things are in the world: something in the world explains something else. These types of explanation may overlap, for one could say that explanations, if they are to increase our understanding, should track or express explanatory relations in the world. But insofar as Bronstein and Peramatzis are concerned with the explanatory role of essence, they are concerned with metaphysical explanation, a worldly relation holding between worldly entities.[5]

This way of understanding the relation between essence and its bearer is different from another way of thinking about their relationship that has been a commonplace in Aristotelian scholarship and that we may call the "identity model of essence". On this model, the subject of an essential predication is identical with the predicate, so that the copula of an essential predication should be thought of as the identity sign. In modern scholarship, this model was popularized by G.E.L. Owen (1965), who argues that

[4] Aristotle uses "making" terminology in connection with efficient cause: "[…] the maker (τὸ ποιοῦν) [is the primary source of change and rest] of what is made" (*Phys.* B 3, 194a 29-31; *Met.* Δ 1, 1013a 32).

[5] This implies that the sort of relation "making" expresses is not the same as "truth-making", which connects worldly entities with true statements: essence does not just make the *statement* about what a thing is *true*, but it makes the thing itself be what it is.

Aristotle adopts the identity model of essence in response to problems with the Third Man Argument.[6] This model is often seen as the best way to explicate Aristotle's claims to the effect that the subject of an essential predication is no other than, or the same as, the predicate (e.g. *Top.* A 9, 103b 35-39; *An. Post.* A 22, 83a 24-35; *Met.* Z 6). Here we will set aside the question of whether Aristotle really operates with two models of essence (and if so, how they are related). But it is important to emphasize that the explanatory relation is of a different kind than the identity relation, and so the explanatory relation between the thing and its essence should not be reduced to or understood in terms of identity.

The difference between explanation and identity becomes clear when we consider their formal features. Most importantly, explanation is generally taken to be irreflexive and asymmetrical, which means that nothing explains itself (explanation should not take the form of "*x* explains *x*") and that explanation only runs in one direction and not the other (if *x* explains *y*, then *y* does not explain *x*).[7] Identity, by contrast, is symmetrical (if *x* is identical to *y*, then *y* is identical to *x*) and reflexive (everything is identical with itself). The upshot is that where there is explanation, there would not be identity. While these formal features distinguish the explanatory relation that "making" expresses from identity, they also cause trouble for the causal-explanatory model of essence. Specifically, asymmetry and irreflexivity together imply that the *relata* of the explanatory relation must be distinct from each other: if *x* explains *y*, then *x* cannot be identical with *y*. In other words, there is no explanation whose *explanandum* and *explanans* is a single thing (where "thing" should be understood generally to include entities from any ontological category). It is this feature of explanation that reveals a difficulty with cashing out the explanatory role of essence in terms of essence "making the thing be what it is".

In the case of essence making the thing be what it is, it is not obvious what the relevant distinction between *explanans* and *explanandum* is supposed to be. This becomes clearer when we consider that "essence" is a translation of various expressions of Aristotle, including τί ἐστι, "what it is",

[6] Owen builds upon the diagnosis of the argument offered by Vlastos (1954), who proposes that it relies on the "self-predication assumption" (SP) and the "non-identity assumption" (NI). Owen holds that reflection on the Third Man Argument led Aristotle to deny SP for accidental predications, and NI for essential predications. Since to deny non-identity is to assert identity, we have an explanation as to why Aristotle holds that the copula of an essential predication is identity. This line of argument is further elaborated by Woods 1975. The identity conception of essence is also accepted (though not for the same reasons) by Cohen 1978b; Code 1985; Bostock 2004, etc.

[7] For discussion of the asymmetry of explanation, see Schnieder 2015. Cf. Thompson 2016a.

and ὅπερ ἐστι, "just what it is" or "the very thing it is".[8] But if essence makes the thing be what it is, and "essence" can be substituted with "what the thing is", then aren't we saying that what the thing is makes it be what it is? The *explanandum* is what the thing is and the *explanans* seems to be the same thing.[9] Let us consider a more concrete example by Bronstein: "[…] being a two-footed tame animal, human being's essence (let's suppose), is the cause because of which human being is the very thing that it is" (Bronstein 2016, p. 8). The idea seems to be that the essence of the species *human*, e.g. two-footed tame animal, makes *human* the very thing it is, viz. two-footed tame animal. Here too the distinction is not obvious: what gets explained is *human*'s being a two-footed tame animal and what does the explaining seems to be the same thing. Relatedly, one might worry about the irreflexivity of explanation. If the essence of a thing is identical with the thing itself, then the irreflexivity of explanation is violated, since now the thing is explained in a circular fashion in terms of itself.

How could one respond to this difficulty? Here I will consider a response that is implicit in some of the claims and distinctions that Peramatzis makes, and that could be ascribed to Bronstein too. Peramatzis presupposes a distinction between "objects and types of objects" and "features, attributes, ways or modes of being" (Peramatzis 2011, p. 3). The former category includes particular things and their species and genera, e.g. Socrates and the species *human*. Under the latter category fall accidental attributes, as well as essences and forms – these too are attributes or modes of being. Similarly, Bronstein (2016, pp. 45-46; 76; 83) emphasizes that Aristotle relies on a basic distinction between subjects and attributes, and associates essences with attributes belonging to species and genera ("subject-kinds"). Potential worries aside, let us grant the distinction, noting that it is very common among scholars and metaphysicians alike to think of essence as an attribute (or a bundle of attributes) or an attribute-like entity.[10] In light of

[8] It also translates "οὐσία of something". As Menn (2001, p. 89) emphasizes, what "the οὐσία of X" means is "the answer to the question 'τί ἐστι X?'": οὐσία is the nominalization of this question.

[9] Here and in what follows, I will use "same" and "identical" interchangeably, but this is not the only way to understand sameness. See, e.g., Peramatzis 2014, who distinguishes identity from essential sameness. Presumably, explanations can hold between two items, which are non-identical, yet essentially the same. Thanks to Michail Peramatzis for pointing this out.

[10] One worry might be that Aristotle holds (see *Cat.* 5) that things predicated of subjects can also figure as subjects of predication (though not as *ultimate* subjects). So, it does not seem to be the case that everything falls either under one category or the other. Thanks to Stephen Menn for pointing this out. Further, the view that essence is an attribute or property is not accepted by everyone, e.g. Witt (1989, ch. 4) argues against it, and the sort of view that treats essence as a distinct entity (whether an attribute or something else) is rejected by Lowe (2013, ch. 6).

this, the distinction between *explanans* and *explanandum* would appear to be a category distinction: the *explanans* involves an attribute and the *explanandum* involves an object to which the attribute belongs. Accordingly, one could propose that essence is an attribute that makes the thing be a thing with that attribute.

Nonetheless, without further explanation, this proposal involves some difficulties. To start with, it is not clear how the attribute could, by itself, explain anything about the object. Consider the explanation for why the species *human* is human, or, equivalently, why the attribute of being human belongs to the species *human*. It seems that merely naming the attribute (as in "the attribute of being human belongs to *human* because of the attribute of being human") does not suffice to explain this fact because it does not have the right kind of structure to serve as *explanans*. This sort of worry helps to explain why in recent discussions metaphysical explanation is typically taken to relate facts, where a fact consists of both an object and an attribute.

Now, one might wonder whether Aristotle takes the *explanans* to be a fact, for he speaks of essence (or form, or middle term) as an αἴτιον or αἰτία. However, this might be just a figure of speech, for we will see in the following sections that his more detailed discussions of explanation in *Posterior Analytics* and *Metaphysics* Z 17 suggest that *explanans* and *explanandum* have structure, and proceed in terms of statements of the form "*P* belongs to *S*" or "*S* is *P*".[11] Thus, he seems to acknowledge that appealing to an attribute alone (or to a subject alone) does not yet allow us to raise or respond to a "why"-question; we have to consider both together. Accordingly, if "making" expresses an explanatory relation, we would have to assume that the talk of essence (in "essence makes the thing be what it is") is a shorthand for a thing's having an essence, or however we characterize the relation between the thing and its essential attribute. However, if the relevant *explanans* is a thing's having an attribute, then we face similar worries about circularity: we seem to be saying that a thing's having an attribute explains why the thing has that very attribute. For example, why is *human* human? Because it is human.[12]

[11] The proposal that an attribute by itself could play a causal-explanatory role makes more sense if we think of it as the cause of an effect. If we think of it as providing an explanation, then this proposal makes less sense. That explanation concerns facts is a common assumption among contemporary metaphysicians (see n. 3 for citations), and it is also defended by some scholars, especially those who explicitly focus on explanation in Aristotle. See, e.g., Holcutt 1974, esp. p. 391.

[12] Admittedly, this example better comports with Bronstein's view, given that for him it is subject-kinds (e.g. the species *human being*) that are made what they are by their essences. For

Alternatively, one might propose that an appropriate answer to the question "Why is *human* human?" is "Because it is a two-footed tame animal" or however the attribute of being human is defined. On this proposal, the attribute belongs to a subject because the essence of the attribute belongs to it. Nonetheless, this proposal does not escape worries about circularity either, for we are still not dealing with distinct facts, but substituting one fact with an identical fact. Indeed, Peramatzis (2011, 1.1) admits as much, holding that essences themselves have essences, but the relation between essence and its essence is not explanation but identity. He defines the attribute of being human as "being a rational soul embodied in a certain type of organic body" and emphasizes that the latter does not make the attribute be what it is: "Rather, the former is identical with the latter. The *definiendum*- and *definiens*-phrases pick up one and the same (numerically) mode of being" (Peramatzis 2011, p. 5).[13] This sort of view helps to avoid infinite regress: if essence makes the thing what it is, and essence itself is made what it is by its (distinct) essence, etc., then explanations would never terminate, which is not Aristotle's view (see *An. Post.* A 3). However, if *S*'s being *G* explains *S*'s being *F* but *G*=*F*, then we are still dealing with a single fact, rather than with two distinct facts, one of which explains the other. The initially proposed explanation might be appealing to us because it increases our understanding of what being human amounts to, so it might be a successful epistemological explanation, but it is not a metaphysical explanation.[14]

What should we conclude from this? At the very least it follows that one should be more careful in characterizing the explanatory role of essence, and consider whether the expression "essence makes something be what it is" offers the most plausible explication of it. However, it does not follow that we should give up on the explanatory role of essence altogether. According to both Bronstein and Peramatzis, essence not only explains why something is what it is, but it also explains why a thing has certain other, non-essential attributes. This gives us another way of thinking about the explanatory role of essence that is widely acknowledged in the scholarship,

Peramatzis, it is particular substances, their species and genera, as well as their matter that are made what they are by their forms or essences.

[13] For a similar proposal in contemporary metaphysics, see Correia, Skiles 2017, and Dorr 2017.

[14] We encounter similar worries also in connection with another possible proposal. One might ask "Why is *human* a two-footed tame animal?" and respond "Because this is essential to *human*". This kind of view on metaphysical explanation is proposed by Glazier 2017. Yet, here too the proposed explanation does not seem to be metaphysical but epistemological: we are not dealing with distinct facts, although it may increase our understanding to learn that being a two-footed tame animal is essential to *human*.

and plays a dominant role in Aristotle's *Organon*, viz. that essence explains why a thing has certain other significant attributes.

2. *The explanatory role of essence in* Posterior Analytics

The proposal that essence (or more precisely, a thing's having an essence) explains why the thing has certain other attributes does not run into similar difficulties as the proposal that essence explains why the thing is what it is. Even if essence is a certain kind of attribute (or a bundle of attributes), the *explanandum* remains different from the *explanans*: something's having essential attributes explains (not why the thing has these very attributes but) why it has other kinds of attributes. It is widely agreed that, for Aristotle, essential attributes explain the presence of other necessary but non-essential attributes, commonly referred to as *propria*.[15] Aristotle introduces the distinction between essence and *proprium* in *Topics* A 5: "A *proprium* (ἴδιον) is something that does not reveal the essence, though it belongs to that subject alone and is convertibly predicated of it. It is a *proprium* of humans, for example, to be capable of literacy; for if one is a human, then one is capable of literacy, and if one is capable of literacy, then one is a human" (102a 18-22). This characterization is not given in modal terms, but it has modal implications: what is predicated convertibly with its subject cannot belong to some other kind of subject (102a 23-30). Thus, *propria* belong to their subjects of necessity, e.g. nothing can be human without being capable of literacy, and conversely.

A *proprium* is also characterized in *Topics* E as an attribute that "always accompanies" (ἀεὶ παρεπόμενον, 131a 27; 131b 2) or "always follows" (ἀεὶ παρακολουθοῦν, 131b 9) or "follows always and necessarily (ἐξ ἀνάγκης)" (131b 24; 1294). These claims confirm that *propria* belong to their subjects of necessity, but they also tell us something about the relationship between *propria* and essence. Although *propria* are not part of the essence and definition of their subjects, they can be seen as following from the essence and definition – they are among the "necessary consequences" (ἐξ ἀνάγκης ἀκόλουθά, 112a 17). For example, it is a necessary consequence of being rational that humans are capable of literacy. If we ask what this consequence relation amounts to, then the answer suggesting itself is that we are dealing here with an explanatory relation. That is, essential attributes explain why

[15] See Kung 1977, who takes an essential attribute's being explanatory in this way to be "an indispensable feature of Aristotle's view" (Kung 1977, p. 361). See also Shields 2007, pp. 104-105; Koslicki 2012; Gorman 2014. For a list of authors defending a similar view in the context of Aristotle's account of demonstrative knowledge in *Posterior Analytics*, see n. 22.

the thing has other necessary but non-essential attributes, e.g. human rationality explains why humans are capable of literacy. The "why"-question that the explanation serves to answer may be formulated thus: Why is *S F*? Because *S* is G. For example, why are humans capable of literacy? Because they are rational.

This sort of explanatory relation is often taken to play a central role in Aristotle's theory of demonstration (ἀπόδειξις), as presented in *Posterior Analytics*.[16] Demonstration is a special kind of deduction ("scientific deduction", A 2 71b 17), consisting of premises and a conclusion that have a subject-predicate form, where the predicate term stands for something that belongs to a subject (let us call it an "attribute"), and the subject term for something to which the attribute belongs. We may thus say that demonstrations proceed in terms of predications that correspond to facts, consisting of things and attributes belonging to those things.[17] Aristotle holds that we have scientific knowledge of something without qualification (ἐπιστήμη ἁπλῶς) when we know its explanation (αἰτία), and we know that it is necessary (A 2, 71b 9-12). Demonstration yields this kind of knowledge of the conclusion (or more precisely, of the fact stated in the conclusion) by proving that the conclusion holds and by explaining why it holds.

Our focus will be on the sort of explanation that a demonstration provides. To begin with, it should be noted that a demonstration does not reveal the explanation by deducing it as a conclusion: the conclusion does not state the explanation, but the fact to be explained. It is the premises that display the explaining facts; more precisely, it is the middle term common to both premises that picks out the αἴτιον (see A 13). So we can say, though it would be a simplification, that a demonstration explains why a certain attribute belongs to a subject via the third factor, viz. the middle term linking the subject and predicate terms: *S* is *P* because *S* is *M* and *M* is *P*.[18] From this it follows that to be a genuine *explanandum* is to be expressed by a predication composed of subject and predicate terms that are not immediately linked, and so we can search for the middle term that explains why they are linked. This helps to clarify why Aristotle holds (B 3-7) that the at-

[16] See, esp., Koslicki 2012, who argues that the consequence relation between essential truths and derived necessary truths is given by Aristotle's technical concept of "demonstration".

[17] For further discussion, see McKirahan 1992, ch. 2.

[18] Aristotle holds that demonstrations are, paradigmatically, deductions in Barbara, though he does not seem to think that *all* demonstrations are so (as the above formulation might suggest). Further, the major premise of a demonstration thus construed is problematic (viz. it stands itself in need of further explanation). For discussion of this problem, see Ferejohn 2013, 4.6.

tributes that can be demonstrated to belong to things figuring as subjects do not include essential attributes of the subject. For example, we cannot demonstrate that *human* is rational (assuming that being rational is essential to it), since here the connection between the subject and attribute is primitive and immediate, i.e. it is not mediated by anything else, and so admits of no demonstration.[19]

What, then, can be explained through a demonstration? It is reasonably clear Aristotle takes demonstrable attributes to include what he in *Topics* calls *propria*, i.e. the necessary but non-essential attributes. His favorite example of a demonstrable truth in *Posterior Analytics* A is a triangle having angles equal to two right angles (2R), where having 2R belongs to a triangle of necessity without belonging in the essence and definition of a triangle.[20] What plays the role of the middle term and so does the explanatory work in such demonstrations is the essence of the subject, e.g. having 2R belongs to triangle *because* triangle is essentially thus-and-so, and whatever is essentially thus-and-so has 2R.[21] In such cases, demonstrations reveal explanations of why things of a certain kind have non-essential attributes (specifically, *propria*) on the basis of the essence and definition of the subject-kind in question.[22]

In *Posterior Analytics* B Aristotle's stock examples of demonstrable attributes are the eclipse of the moon and thunder, which he describes in A 8 as "things that come about often" (πολλάκις γινομένων, 75b 33). We might think of these sorts of things as events or processes, but Aristotle seems to think of them as attributes (or whatever it is that corresponds to predicate terms) belonging to subjects, where the relevant subject in the case of eclipse is the moon, and in the case of thunder clouds. Accordingly, we can

[19] This is connected to Aristotle's view that demonstrations cannot go on *ad infinitum* or in a circle, but must have first principles (including definitions) which are indemonstrable (see *An. Post.* A 3).

[20] Aristotle makes it clear in *An. Post.* A 5 (74a 35-b 4) that having 2R belongs to a triangle *qua* a triangle, and the *qua* requirement implies convertibility. So, having 2R fits with the description of a *proprium* in *Top.* A 5. On this, see Ferejohn 2013, pp. 118-120. See also *Met.* Δ 30 (1025a 30-34).

[21] For a reconstruction of this kind of demonstration, see Ferejohn 2013, p. 115.

[22] The view that demonstrations are explanatory in this way is accepted by most authors. See esp. Bronstein 2016, Ferejohn 2013, Koslicki 2012, Goldin 1996, Kung 1977. Cf. McKirahan 1992, ch. 9, who holds that demonstrations explicate truths contained in definitions, so definitions contain all essential and necessary truths about the thing. This view is further developed by Tierney, who argues that essence does not explain necessary attributes but consists of them, and demonstration is not an explanation, but a "logico-deductive unpacking of essential natures" (Tierney 2001, p. 154). For a critical discussion of such views, see Goldin 1996, esp. pp. 4-5.

explain through demonstrations why such attributes belong to the subject, e.g. why being eclipsed (or suffering from a privation of light) belongs to the moon. Such demonstrations are also based on essences, although the essence in question does not appear to be immediately the essence of the subject but rather the essence of the attribute, e.g. being eclipsed belongs to the moon because of its being screened by the earth, and being screened by the earth is part of what being eclipsed is.[23]

Aristotle seems to have cases like this in mind when he says in *Posterior Analytics* B 2: "In all these cases, it is clear that what it is (τί ἐστι) and why it is (διὰ τί ἔστιν) are the same. What is eclipse? A privation of light from the moon by the screening of the earth (στέρησις φωτὸς ἀπὸ σελήνης ὑπὸ γῆς ἀντιφράξεως). Why is there eclipse, or rather why is the moon eclipsed? Because the light is absent when the earth is screening" (90a 14-18). In B 10 (94a 4-7), he makes a similar claim about thunder.

In these cases, a demonstration that explains why an attribute belongs to a subject also reveals the essence and definition of the attribute. For example, a demonstration that explains why the moon is eclipsed also answers the question "What is eclipse?": eclipse is the privation of light from the moon by the screening of the earth. This does not mean that we are demonstrating what an attribute is: what is demonstrated is an attribute's belonging to the subject, not its essence. But we can arrive at the definition of the attribute by rearranging the components of a demonstration (B 10, 94a 1-4): the middle term explaining why the moon is eclipsed will be the *definiens* of the resultant definition of being eclipsed.

According to Peramatzis (2011, 7.8) and Bronstein (2016, esp. 7.6), Aristotle's examples of eclipse and thunder illustrate the causal-explanatory model of essence, according to which essence makes something be what it is. They emphasize that the definitions of eclipse and thunder have an explicitly explanatory component, e.g. eclipse is the loss of light from the moon *because* of the screening of the moon by the earth.[24] The idea seems to be that the *definiens* (following the "because"-clause) corresponds to the essence that explains why the *definiendum* is what it is, e.g. the moon's being screened by the earth explains why being eclipsed is what it is. None-

[23] This need not mean that there is no connection between the essence of the subject and that of the attribute. Bronstein (2016, ch. 3) argues that these attributes belong to the subject because of the attribute's essence. But since the attribute's essence belongs to the subject because of the subject's essence, the attribute belongs to the subject *ultimately* because of the subject's essence.

[24] According to Bronstein (2016, p. 97), these definitions have the form "A-C because of B". More specifically, it is the B-term that indicates the explanation, whereas "A-C" are identical with the *definiendum*, e.g. "eclipse of the moon" is the same as "loss of light from the moon".

theless, if the essence of the attribute is supposed to make the attribute what it is, then we encounter familiar problems. For example, if the moon's being screened by the earth explains why the attribute of being eclipsed is what it is, and being screened by the earth is (part of) what the attribute is, then it seems to follow that the moon's being screened by the earth explains why the moon is screened by the earth. Thus, the *explanans* is identical with the *explanandum*. Notice that we do not run into similar issues when the relevant "why"-question that the essence of the attribute serves to answer is taken to be "Why does the attribute belong to a subject?" (rather than "Why is the attribute what it is?"). When we ask "Why is the moon eclipsed?", then we are asking why the subject has a certain non-essential attribute (rather than asking why the attribute has the sort of essence it does). Hence, the *explanandum* is a non-essential fact about the subject which is explained by an essential fact about the attribute, and so the *explanandum* remains distinct from the *explanans*.[25]

We have been speaking of the essences of attributes. But the causal-explanatory model is supposed to apply primarily to the essences of subjects. Peramatzis holds that Aristotle extends this model to substance-kinds in *Metaphysics*, whereas Bronstein maintains that he is committed to it already in *Posterior Analytics*. On Bronstein's view, Aristotle's claim in *Posterior Analytics* B 1 that "what it is and why it is are the same" (90a 14) applies also to subject-kinds like *moon* and *human* (Bronstein 2016, p. 82). Hence, in definitions of subject-kinds (even though they do not have an explicitly explanatory component), the *definiens* expresses the essence that makes the subject be what it is. For instance, if *human* is defined as a tame two-footed animal, then being a tame two-footed animal makes *human* the very thing that it is. This proposal, too, leaves it unclear what the distinction between the *explanas* and *explanandum* is supposed to be. In addition, we encounter some questions concerning textual evidence.

As was said before, we can arrive at the definitions of attributes through demonstrations specifying the middle term, e.g. knowing what an eclipse of the moon is involves knowing what the middle term is that explains why the moon is eclipsed. Indeed, Aristotle says in B 1 (89b 36-90a 1) that in seeking what it is and why it is, we are seeking what the middle term is. This makes it hard to see how his claim that "what it is and why it is are the same" could apply to subjects or substances, since the connection between the subject and its essence is immediate and so not mediated by the middle

[25] For further discussion, see section 3.

term.[26] If there were a middle term, then it would be possible to demonstrate why essential attributes belong to a given subject. If the definitions of subjects were demonstrable, then we would be threatened with infinite regress or circularity, both of which Aristotle rejects (see A 3). Bronstein acknowledges that explanations revealed by demonstrations differ from those involved in definitions of subject-kinds in that the latter do not specify the middle term: "The explanations one grasps in demonstrative scientific knowledge are triadic: P belongs to S because of M. The explanations one grasps in non-demonstrative scientific knowledge are dyadic: S is the very thing that it is because of E" (Bronstein 2016, p. 57). Yet, it does not become clear what precisely this distinction amounts to, and how "dyadic" explanations are supposed to work. In particular, it is unclear how the *explanans* differs from the *explanandum*, and how their distinction fits with the idea that the connection between the subject and its essential attributes is immediate.[27]

We may thus conclude on the basis of what Aristotle says in *Topics* and *Posterior Analytics* that essence (of the subject or of the attribute) plays an explanatory role in the sense that it explains why the subject has certain non-essential attributes. For example, *human*'s being rational explains why it is capable of literacy, and *moon*'s being screened by the earth explains why it is eclipsed. However, if we propose that the essence of *human* or of being eclipsed also explains why they are what they are, then we run into

[26] Nevertheless, some of Aristotle's claims might suggest that the search for the middle term concerns also subjects or substances. Most notably, at 90a 9-10, he speaks of the middle term as "the αἴτιον of the substance being not this or that but without qualification". Barnes (2002, p. 48) omits a reference to substance. If we do not omit this, then we face the sort of questions discussed in the text and raised already by Ross: "But how can *εἰ ἔστι* and *τί ἐστι* applied to a *substance* be supposed to be concerned with a middle term? A substance does not inhere in anything; there are no two terms between which a middle term is to be found" (Ross 1965, p. 612). See also Goldin 1996, pp. 25-28. Cf. Bronstein 2016, 7.12, who proposes that the essence of the subject-kind is the middle term in the sense of explaining why it has other necessary attributes. See n. 27.

[27] Bronstein holds that although dyadic explanations involved in knowing definitions ("noetic knowledge") do not make mention of the middle term, demonstrations play a role in *acquiring* this type of knowledge. More specifically, he holds that we learn why the subject-kind is the very thing that it is by learning why it has the necessary attributes it has. As Bronstein says, we acquire demonstrative and noetic knowledge "*at the same time* and *by the same activity*" (Bronstein 2016, p. 79), i.e. by demonstration. This addresses the sort of worry raised by Ross (n. 26), but it also invokes further questions. For one might get the impression that dyadic explanations can be reduced to triadic ones: for the essence to make the thing the very thing that it is *is* for it to explain why the thing has the necessary attributes that it has. This would get rid of the worry about the *explanans* and *explanandum* not being distinct, since a thing's having essential attributes is distinct from its having necessary but non-essential attributes. However, this would also get rid of the distinction between two types of explanation, which presumably isn't Bronstein's intention.

difficulties. It is not clear how to avoid such difficulties or develop essence-based explanations about subjects like *human* from what Aristotle says in *Posterior Analytics*. But he has more to say about such explanations in *Metaphysics* Z 17, which will be the focus of the next section.

3. *The explanatory role of essence in* Metaphysics *Z 17*

In *Metaphysics* Z 17, Aristotle makes a "new beginning" (1041a 7) in his inquiry into the nature of substance that centers on the idea that "substance is a sort of principle and explanation" (οὐσία ἀρχὴ καὶ αἰτία τις ἐστιν, 1041a 9-10). In *Metaphysics* Z 17, like in *Posterior Analytics*, Aristotle is interested in explanations based on essences, although here his interests concern more specifically the essences of substances and substance-like entities, which are taken to be compounds of matter and form. The hylomorphic analysis of things like humans and houses marks an important difference between *Posterior Analytics* and *Metaphysics* Z 17. The latter relies heavily on the metaphysical distinction between form and matter, which is absent from *Posterior Analytics* and from *Organon* in general. As we will see, Aristotle's commitment to hylomorphism allows him to extend the explanatory framework of *Posterior Analytics* to things like humans and houses.

Aristotle begins his discussion of explanation in *Metaphysics* Z 17 by linking explanations to "why"-questions that ask why one thing belongs to something else:

> The why is always sought in this way: why does one thing belong to something else (διὰ τί ἄλλο ἄλλῳ τινὶ ὑπάρχει)? For to ask why the musical human is a musical human is either to ask, as was just said, why the human is musical, or something else. Now, to ask why a thing is itself is to ask nothing (διὰ τί αὐτό ἐστιν αὐτό, οὐδέν ἐστι ζητεῖν). For the fact that [something is] and the being [of something] (τὸ ὅτι καὶ τὸ εἶναι) must be clear – I mean, for example, that the moon is eclipsed – but that a thing is itself is one account and a single explanation that applies to everything (εἷς λόγος καὶ μία αἰτία ἐπὶ πάντων), why the human is human, or the musical musical […] (1041a 10-18, translations are my own).

So, to ask why the musical person is a musical person is to ask why the person is musical or why the thing is itself. The trouble with the latter question is that it asks nothing. Why does Aristotle think that to ask "Why is the thing itself?" is to ask nothing at all? He seems to give two reasons: it must already be clear that something is itself before we ask why it is itself, and there is a single answer to all such questions. Let us begin with the second reason. The single answer to the question "Why is the thing itself?" that Aristotle has in mind is presumably "Because it is itself". Since everything is itself, this answer applies to all questions that ask why something is itself,

including questions asking why the human is human, or the musical is musical. If the answer to all such questions is "Because it is itself", then one explanation does not differ from any other. And if one explanation does not differ from any other, then we could say that we are inquiring into nothing at all.

The first reason Aristotle gives is less straightforward. He relies also in *Posterior Analytics* on the principle that before we can ask *why* something is thus-and-so it must be clear *that* it is thus-and-so (see B 1). But why is it that asking why the thing is itself, when it is clear that it is itself, amounts to asking nothing? The worry seems to be that when we ask "Why is the thing itself?" and respond "Because it is itself", then we cite as an answer the fact that must be already evident. However, if the *explanans* is already evident, then what is the point of asking the question in the first place?[28] This worry emphasizes the circularity of the proposed explanation. If the answer to the question "Why is the thing itself?" is that it is itself, then we are dealing with a single fact that is already evident to us. Consequently, this explanation fails as a metaphysical explanation, since the *explanandum* does not differ from the *explanans*, and it is not a successful epistemological explanation either, since we do not learn anything we did not already know.

Aristotle concludes that the appropriate "why"-question, one that is conducive to inquiry, should have the following structure: why does something belong to something else? He points out that in some cases this structure may not be explicit, as when it is asked "Why is there a human?" (1041b 1).[29] In these cases, the question should be "articulated out" (1041b

[28] See also Bostock 2003, who suggests that if one knows that *x* exists, then one knows automatically that *x* = *x*, and so "the information that *x* = *x* is not extra information, and hence requires no explanation" (Bostock 2003, p. 283).

[29] At 1041b 1, I read διὰ τί (in: ἄνθρωπος διὰ τί ἐστι) with E and Asclepius, rather than τί ("What is a human?") with other manuscripts. On this reading, Aristotle is making a point about "why"-questions: questions such as "Why is there *x*?" should be "articulated out" as questions of the form "Why does *x* belong to *y*?" On the other reading, Aristotle can be understood as identifying or replacing the question "What is *x*?" with the question "Why does *x* belong to *y*?" I do not think much depends on which reading we opt for, but there are good reasons to prefer the first one. It fits better with the discussion in Z 17 which focuses on "why"-questions, and makes no (other) mention of "what"-questions. It relates to the way the example of thunder is presented in *Met.* Z 17, 1041a 24-25, and the example of eclipse is presented in *An. Post.* B 2, 90a 16-17. Aristotle can be seen as specifying that the question "Why is there an eclipse?" (διὰ τί ἔστιν ἔκλειψις) should be "articulated out" as "Why is the moon eclipsed?" Moreover, the alternative translation "What is a human?" would relate to the claim in *An. Post.* B 2 that "what it is and why it is are the same" (90a 14). But it is controversial whether Aristotle would insist on the same sort of sameness in *Met.* Z 17. See n. 31. For further discussion of this translation, see Lewis 2014, p. 279, n. 18, and Wedin 2005, p. 421, n. 651.

2), so that it will ask why something belongs to something else. Aristotle illustrates the structure of the appropriate "why"-questions with the examples of thunder, human, and house:

> Thus, one is asking why one thing belongs to another (that it belongs must be clear; for if it is not so, then there is no question). For example, why does it thunder? Why does noise occur in the clouds? For in this way what is sought is one thing [holding] with respect to another. And why are these, e.g. bricks and stones, a house? […] Since the being of the thing must already be given, it is clear that the question is why the matter is [something], e.g. why are these [bricks and stones] a house? Because being for a house (ἦν οἰκίᾳ εἶναι) belongs to/is present in (ὑπάρχει) them. Why is this, or rather this body in such-and-such a state (σῶμα τοῦτο τοδὶ ἔχον), a human? Hence, what is sought is the explanation (αἴτιον) – and this is the form (εἶδος) – by which the matter is something (τί), and this is substance (οὐσία) (1041a 24-b 8).

As several authors have observed, Aristotle can be understood here as extending the explanatory framework developed in *Posterior Analytics* for things like thunder and eclipse to substances or substance-like entities such as human or house.[30] His discussion in *Posterior Analytics* B makes it clear that to ask why there are things like thunder and eclipse is to ask why they belong to a subject. For instance, to ask why there is an eclipse amounts to asking why the moon is eclipsed: "Why is there eclipse, or rather why is the moon eclipsed?" (90a 16-17). Thus, eclipse is treated as an attribute belonging to the moon, which is the appropriate subject for being eclipsed. Aristotle holds that answering the question such as "Why is the moon eclipsed?" involves finding the middle term that explains why the moon is eclipsed, viz. its being screened by the earth.[31]

Assuming that "why"-questions about substances and substance-like entities proceed in a similar manner, his examples "human" and "house" should be treated as attribute-like entities belonging to a subject. Accordingly, the question "Why is there a human?" should be "articulated out" as asking why being human belongs to some subject or why some subject is human. What, then, is the appropriate subject in this case? Here we face a

[30] See, e.g., Charles 2000, 11.3; Wedin 2005, 10.3; Lewis 2013, 5.11; Ferejohn 2013, 6.5 and 6.6.

[31] In addition, Aristotle holds in *An. Post.* B 1 that by knowing why the moon is eclipsed, we know what eclipse is: we can assemble its definition from the explanation provided by the demonstration. It is not clear whether he holds a similar view in *Met.* Z 17. Charles (2000, 11.3) proposes that we can give demonstrations involving substances. This proposal is criticized by Wedin (2005, pp. 414-418; 423) and Lewis (2013, pp. 282-287). I side here with Wedin and Lewis over Charles. Aristotle makes use of the explanatory framework of *Posterior Analytics*, but this does not mean that explaining why matter is something becomes a matter of demonstration in the technical sense of the term.

difficulty, since it could not be "human": to ask "Why is the human human?" or "Why is the one who is human, human?" (1041a 22) is to ask nothing.[32] Aristotle's solution relies on his hylomorphism: matter becomes the subject about which we ask why it is something, e.g. human or house. As Marc Cohen says, "Aristotle's importation of *matter* as the subject for his 'why' questions seems to be his way of trying to refer to the *thing* in question (e.g., the house or the man) in a logically independent way (i.e., a way that doesn't already imply that the thing *is* a house or a man…)" (Cohen 1978a, pp. 403-404).[33] Thus, we should ask "Why is this body in such-and-such a state a human?" (1041b 6-7) or "Why are bricks and stones a house?" (1041a 26-27), and, in general, "Why is the matter something (τί)?" (1041b 5). The appropriate answer appeals to essence or form. For example, the appropriate answer to the question "Why does being a house belong to bricks and stones?" is "Because being for a house (its essence) belongs to it".[34]

Before we turn to questions that this answer invokes, it is worth emphasizing the similarities between the sort of explanation that Aristotle envisages in *Metaphysics* Z 17, and explanations of things like eclipse and thunder ("things that come about often") in *Posterior Analytics*. In both cases the explanation proceeds by specifying the third factor that explains why the attribute belongs to a subject. Further, what does the immediate explanatory work is the essence of the attribute or however we call that which belongs to a subject. For example, what explains why the moon is eclipsed is the essence of being eclipsed (not immediately the essence of the moon).[35] Similarly, what explains why the matter at issue is human or house is the essence of being human or house (rather than the essence of matter under discussion). Accordingly, the sort of explanation that Aristotle has in mind in Z 17 is what Bronstein calls "triadic": *S* is *F* because *S* is G.

Among the authors who hold that Aristotle appeals to the explanatory framework of *Posterior Analytics* in his discussion of substances and arti-

[32] At 1041a 22, Aristotle reformulates the question "Why is human human?" as "Why is one who is human, human?" (διὰ τί ὅς ἐστιν ἄνθρωπος ἄνθρωπός ἐστιν). This suggests that he has in mind a question that asks, of some particular human, why it is human. This can be understood as asking why this human belongs to the species *human*, or why it has the attribute of being human. Either way, Aristotle treats this as not an appropriate "why"-question to ask.

[33] For a similar proposal, see Lewis 2013, p. 275: "[W]e are to find a *new* subject for the predicate, "man"– a subject non-identical with the thing – the man – with which he began".

[34] The expression "being for a house" refers to the essence of the house. See *Met.* Z 4-6, where Aristotle uses similar formulae to indicate essence. See also Z 17, 1041a 27-28, where he associates αἴτιον with essence (τὸ τί ἦν εἶναι).

[35] However, it might be that the fuller explanation of the eclipse of the moon would have to invoke (among other things) also some essential truths about the moon. See n. 23.

facts in *Metaphysics* Z 17 is also Peramatzis (2011, esp. 7.8). He aims to show that form or essence enjoys ontological priority over certain types of matter (token- and type-matter constituting token- and type-objects) by appealing to the explanatory role of form: form makes matter be what it is, and it explains why matter has the necessary attributes it has. He says that it emerges also from *Metaphysics* Z 17, 1041b 5-9 that "the cause or principle that form or essence is explains the nature and features of matter" and "the *explanandum* [is] the matter and its possession of the essential and necessary features that it has" (Peramatzis 2011, p. 184). This proposal invokes two related questions. The first question is predictable. If form or essence explains matter's possession of essential features, then isn't the proposed explanation circular? Aren't we saying that the matter in question has the essential features it has because it has the essential features it has (because form or essence is present)? Further, it is not obvious whether Aristotle's discussion in Z 17, 1041b 5-9 would support the proposal that what gets explained is matter's possession of *essential* features, rather than non-essential ones. For example, in explaining why the bricks and stones are a house, being a house does not seem to be an essential (or necessary) feature of bricks and stones, for they could presumably constitute something else besides a house. Indeed, if being a house were an essential feature of bricks and stones, then we would immediately face worries about circularity. For we would be explaining the fact that bricks and stones are essentially a house, or, equivalently, that the essence of a house is present in them, by appealing to the very same fact.[36] These worries can be avoided if the *explanandum* is matter's possession of certain non-essential features, which are distinct from its essential features.

Finally, let us consider some questions that the sort of explanation Aristotle envisages in *Metaphysics* Z 17 invokes. Assuming that the essence of form figures in an appropriate answer to the question of why the matter is something, we may still ask what sort of explanation form is supposed to offer. Does the form explain why the matter has a certain (non-essential) attribute, or why material parts form a unity, or both? The proposal that the form explains why material parts form a unity is based on the second half of Z 17 (1041b 9-33), where Aristotle argues that there is more to a unified

[36] As was indicated in section 1, Peramatzis' proposal that the *explanandum* is matter's possession of *essential* features might be compatible with giving a successful epistemological explanation that proceeds in terms of specifying the essence of the essential feature in question. For instance, the explanation that bricks and stones constitute a house because they constitute a shelter of some sort, might count as a successful epistemological explanation that increases our understanding. Yet, it would not count as a metaphysical explanation, if being a house = shelter of some sort, for in this case we are still dealing with a single fact.

whole than the material parts or elements (στοιχεῖα) composing it, and this "something else" (ἕτερόν τι) is neither an element nor composed of elements. This argument is often taken to establish that the essence or form of a unified whole (a matter-form compound) is the αἴτιον of its unity.[37] Accordingly, one might propose that by explaining why matter is something, the form explains why material parts constitute a unified thing. Alternatively, one might concede that the form explains why material parts form a unity, but deny that this amounts to explaining why the matter is something.[38] Instead, the form explains both why the matter is something and why the material parts constitute a unified whole.[39] It is not my aim to settle this issue here, but to point out that there are various interpretive options. These options do not challenge the plausibility of the sort of explanations that Aristotle envisages in Z 17, but bring to light some further questions about the explanatory role of forms.

Further, to defend Aristotle's proposed explanations, one should be able to account for the distinction (i) between matter and its being something; (ii) between matter and form; and (iii) between matter's being something and form's being present in it. The first distinction is important because the "why"-question conducive to inquiry should ask why one thing belongs to another, not why the thing is itself. Aristotle seems to have this in mind when he posits matter as the subject about which we ask why it is something. Even though Aristotle clearly assumes the distinction between matter and its being something, we might want to know more about the nature of this distinction.[40] The second distinction is important because the *explanans* of the proposed explanation involves the form or essence. If matter does not differ from form or is part of it, then we face the charge of circularity: the *explanandum* (e.g. some suitable matter that is human) is included in the *explanans* (e.g. the essence of being human).[41] The third dis-

[37] See Wedin 2005, esp. 10.5. Cf. Koslicki 2014, p. 125, who calls it "a unity claim", and emphasizes that this is not the only goal of Aristotle's argument in the second half of Z 17.

[38] For this proposal, see Menn 2001, p. 131.

[39] A version of this view is defended by Witt: "[I]ts form or essence is responsible for the matter constituting a unified determinate being, rather than a heap" (Witt 1989, p. 120).

[40] I have presented the distinction as one between the subject and that which belongs to a subject, in much the same manner as eclipse or thunder are attributes belonging to their subjects. See also Koslicki 2014, pp. 122-126, who reads Aristotle's argument in the second half of *Met.* Z 17 as trying to establish that a thing (a unified whole) and its matter are distinct.

[41] This worry seems to motivate Wedin's view on the "purity of form", viz. that "if form is to explain why certain material parts are such-and-such, then form itself cannot contain matter" (Wedin 2005, p. 450). Cf. Peramatzis 2011, ch. 7, who defends the view that form has certain material features (so matter of some sort is part of what form is), but these material features are distinct from the token- and type-matter that constitute token-and type-objects.

tinction is important because if the matter's being something is not distinct from the form's being present in it, then we face the same sort of problems that we have discussed in connection with the scholarly attempt to explicate the explanatory role of essence in terms of "making the thing be what it is". Here I will address the last worry, which is most important for our purposes, since it might suggest that Aristotle himself is vulnerable to problems we have outlined in connection with Bronstein's and Peramatzis' accounts.

It should be pointed out that a similar worry can be raised also in connection with Aristotle's examples of eclipse and thunder in *Posterior Analytics*. As was proposed above, the explanations in *Metaphysics* Z 17 are similar to explanations involving eclipse and thunder, in that what does the immediate explaining is the essence of the attribute, rather than the essence of the subject. For example, what explains why the moon is eclipsed is its being screened by the earth, which is part of what being eclipsed is. Accordingly, one might worry that when we ask why the moon is eclipsed, then we are asking why the moon is being screened by the earth, given that being screened by the earth is what being eclipsed is. Aren't we dealing here with a single fact (viz. the moon's being screened by the earth), rather than with two distinct facts, one of which explains the other? Similarly, when we ask why the matter at issue is human or house, then aren't we asking why the essence of being a human or a house is present in it?

Admittedly, there is some tension here, but this can be alleviated by specifying what precisely are the *explanandum* and the *explanans*. What is explained here is not an essential fact about the *attribute* (why the attribute is what it is), but rather a non-essential fact about the *subject* (why a certain non-essential attribute belongs to a subject).[42] For example, when the moon's being eclipsed is explained by the moon's being screened by the earth, then the *explanandum* is a non-essential fact about the moon (being eclipsed is not essential to being a moon), while the *explanans* is an essential fact about the attribute of being eclipsed (being screened by the earth is essential to being eclipsed). Similarly, in explaining why bricks and stones are a house, we are not explaining an essential fact about bricks and stones, but a non-essential fact about them, assuming that being a house is not essential for their being the sort of materials they are. What explains why bricks and stones are a house is the presence of the essence of being a house ("being for a house", e.g. being a shelter of some sort). Thus, we appeal to an essential fact about

[42] In this respect, these explanations do not differ from those where the essence of the subject does the explanatory work. For example, when explaining why a triangle has 2R from the essence of a triangle, we are explaining why a certain non-essential attribute belongs to a subject.

the *attribute* to explain a non-essential fact about the *subject*. Consequently, the fact that explains remains distinct from the fact that is explained, and so we are dealing here with a genuine metaphysical explanation.[43]

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