

Substances

Aristotle divides “the things that there are” or “beings” (*ta onta*) into a number of different categories. He is not always consistent about how many categories there are (ten in *Categories* 1b25 and *Topics* 103b20, seven in *Physics* 225b5 and *Metaphysics* 1068a8), but the one he always lists first and regards as the most fundamental is the category of *substance* (*ousia*).

‘Substance’, the conventional English rendering of Aristotle’s word *ousia*, is in fact misleading, suggesting as it does a kind of *stuff*. The English term ‘substance’ entered the philosophical vernacular as a translation of the Latin *substantia*, which was itself an inadequate attempt to translate Aristotle. What ‘substance’ and *substantia* both miss is the connection of the word *ousia* to the verb ‘to be’ (*einai*). A better rendition might be ‘reality’ or ‘fundamental being’, but ‘substance’ is deeply entrenched in the philosophical literature and will be used here. A good gloss would be to say that *ousiai* are the “ontologically basic entities” (Loux 1991: 2).

The *Categories*

In the *Categories*, Aristotle further distinguishes between *primary* and *secondary* substances, and quickly makes it clear that primary substances are ontologically basic: “if the primary substances did not exist it would be impossible for any of the other things to exist” (2b5). By “the other things” Aristotle means the secondary substances as well as the items in all the other categories—qualities, quantities, relatives, etc.

As examples of primary substances Aristotle gives “the individual man” (*ho tis anthrôpos*) and “the individual horse” (*ho tis hippos*) (2a13-14). Secondary substances include the species and genera under which the primary substances fall, such as *man*, *horse*, *animal*, etc. (2a15-18). Although he does not use the terms ‘universal’ (*katholou*) and ‘particular’ (*kath’ hekaston*) in the *Categories*, it is clear that Aristotle would count primary substances as particulars and secondary substances as universals (see [CHAPTER 11: UNIVERSALS]). For he tells us that primary substances are “not said of a subject” (2a14), whereas a secondary substance such as *man* “is said of a subject, the individual man” (1a21), and this conforms to his definition of ‘particular’ and ‘universal’ in *De Interpretatione*: “I call universal that which is by its nature predicated of a number of things, and particular that which is not; man, for instance, is a universal, Callias a particular” (17a37-b1). So the difference between primary and secondary substances is that the former are particulars and the latter are universals.

What differentiates substances from everything else in the ontology of the *Categories* is that substances are “not in a subject” (1a20, 1b2, 2a14). Aristotle warns us that he is using this phrase in a somewhat technical sense: “By ‘in a subject’ I mean what is in something, not as a part, and cannot exist separately from what it is in.” (1a24-25). This relation of *inherence* (as traditional jargon has it) is clearly one of ontological dependence—something *in a subject* is incapable of independent existence—but precisely what an inherent item is supposed to be dependent on has been a matter of

significant scholarly dispute. (This dispute is thoroughly covered in [CHAPTER 9: ARISTOTELIAN CATEGORIES] and will not be pursued here.)

Still, on any account of inherence, it is clear that, for Aristotle, shapes, sizes, and colors, for example, are inherent items. There are shapes (sizes, colors) only in so far as there are bodies shaped (sized, colored) in one way or another. Aristotle's claim is that all inherent items ultimately inhere in substances. One might well conclude from this that all of the properties of a substance inhere in it, and hence that to be *in a subject* is simply to be a property of that subject, but that would not be quite right. For the *Categories* also introduces the notion of the *differentiae* of a substance—roughly, the properties that are in the definition of the substance—and maintains that these are *not* inherent (3a21-25):

... the differentia is also not in a subject. For footed and two-footed are said of man as subject but are not in a subject; neither footed nor two-footed is *in* man.

Since the definition of a thing mentions its essential properties, it is clear that inherence corresponds to what Aristotle elsewhere calls *accidental* (*kata sumbebêkôs*) predication: for a non-substance *F* to inhere in a substance *x* is for *F* to belong accidentally to *x*. (For more detail on differentiae and inherence, see [CHAPTER 9: ARISTOTELIAN CATEGORIES].)

So non-substances are accidents, and accidents are ontologically dependent on substances. But one might well wonder whether the dependence is not mutual. That is, one might suppose that substances depend on non-substances in just the same way. For a substance can no more exist without any accidents than an accident can exist without belonging to any substance. Aristotle never discusses this “reverse” dependence—he neither asserts nor denies it—but it is clear that he thinks that in some way the ontological dependence of non-substances on substances is asymmetrical. One possible account of the asymmetry is this. Since non-substances are accidental to the substances they inhere in, a particular substance can exist without the particular accidents that inhere in it. That is not to say that the substance might be lacking in accidents altogether, but only that it is capable of possessing different accidents from the ones it actually has. A particular accident, on the other hand, is ontologically dependent on the particular substance that it inheres in; it could not exist without that particular substance. (This account of asymmetry presupposes the interpretation of inherence recommended in [CHAPTER 9: ARISTOTELIAN CATEGORIES].)

So much for the priority of substances over non-substances. But what gives primary substances the edge over secondary substances? One might suppose that Aristotle thinks that secondary substances are also inherent, but he denies this (3a9-11):

... as for secondary substances, it is obvious at once that they are not in a subject. For man is said of the individual man as subject but is not in a subject: man is not in the individual man.

There must, then, be another kind of ontological dependence than inherence, since secondary substances are ontologically dependent on primary substances, but do not inhere in them.

Aristotle addresses this issue by pointing out that a primary substance is *some this* (*tode ti*, 3b10), since it is “indivisible and numerically one” (*atomon kai hen arithmōi*, 3b12). A secondary substance, on the other hand, although its name may be singular, is not really *one*, for “*man* and *animal* are said of many things” (3b17). So a secondary substance is not a this but *a sort* (*poion ti*). Since he uses the same word, *poion*, for the category of quality, Aristotle realizes that he must quickly dispel the impression that secondary substances are qualities. The name of a secondary substance, he says (3b19-21):

does not signify simply a certain qualification (*poion*), as white does. White signifies nothing but a qualification, whereas the species and the genus mark off the qualification of substance—they signify a certain sort of substance (*poion tina ousian*).

The idea here seems to be that what makes species and genera secondary is that they are just kinds or collections. A species is just a collection of individuals, and a genus is just a wider collection of the individual members of the species that fall under it. Without those individuals, there would be no species, and without the species there would be no genera. For the species *tiger* to exist, for example, is just for there to be individual tigers. It is the individual tigers and the other individual plants and animals that are the real things; their species and genera are simply the way the specimens are classified and organized. The species and genera of non-substance categories, such as *red* and *color* in the category of quality, are doubly dependent. For they are collections of individual qualities which are themselves ontologically dependent on substances.

Once again, one might wonder whether there is a mutual ontological dependence here, this time between primary and secondary substances. For although Aristotle never makes this claim in the *Categories*, it would seem that a given primary substance depends for its existence on its belonging to the particular species it belongs to. For Sheba to cease to be a tiger, one might say, is for her to cease to exist. In the *Topics*, Aristotle makes this dependence explicit (125b37-40):

... it is impossible for a thing still to remain the same if it is entirely transferred out of its species, just as the same animal could not at one time be, and at another not be, a man.

And the fact that the *said-of* relation seems to amount to what Aristotle elsewhere calls *essential* (*kath' hautō*) predication makes this idea even more plausible. For when *x* is said of *y*, Aristotle tells us, both the name and the definition of *x* will be predicated of *y* (2a19-20). And the definition of *x* is the formula that signifies the essence of *x* (*Topics* 101b38, 154a31). We will return to the topic of essence below. For now, it is enough to note that individuals would seem to depend on their species as much as the species do on individuals. But although this dependence of individuals on their species is implicit in the *Categories*, it is left undeveloped in that work (Furth 1988; Loux 1991). The message of the *Categories* is that the fundamental entities—the primary substances—are the individuals that do not in turn depend on other individuals.

In *Categories* 5, the chapter devoted to substances, Aristotle mentions some of their other salient features. Substances do not come in degrees: “of the species [of substance] themselves, one is no more a substance than another ... the individual man is no more a

substance than the individual ox” (2b23-27). Nor is one man more a man than another (3b36). In this respect substances contrast with qualities, “since one pale thing is more pale than another, and one beautiful thing more beautiful than another” (4a1-2). Substances also do not have contraries—“there is nothing contrary to an individual man, nor yet is there anything contrary to man or to animal” (3b25-26)—but this feature, he says, is not “distinctive” (*idion*) of substances, since quantities (e.g., “four-foot, or ten”) also do not have contraries. What is “most distinctive” (*malista idion*) of substance, however, is that “what is numerically one and the same is able to receive contraries” (4a10). By this Aristotle means that substances alone are capable of undergoing change: “an individual man—one and the same—becomes pale at one time and dark at another ... Nothing like this is to be seen in any other case” (4a19-21).

Substances, then, are not only the fundamental subjects of predication (“All the other things are either said of the primary substances as subjects or in them as subjects,” 2a35), but also the fundamental subjects of change—substances alone *undergo* change, i.e., persist through change by remaining “numerically one” throughout. As we shall see, this hallmark of the substances of the *Categories* will be threatened by further developments in the *Physics* and *Metaphysics*.

Metaphysics Z

Aristotle begins *Metaphysics Z*, the treatise that contains his most extended discussion of *ousia*, with the words “being is said in many ways” (*to on legetai pollachôs*, 1028a10), but he quickly points out that this is not a case of mere ambiguity, or “homonymy,” as he would call it, but of “focal meaning” (*pros hen* equivocity; see [CHAPTER 6: MEANING AND TRUTH]). For one of the ways in which *being* is said is primary: “that which is primarily is the ‘what’, which indicates the substance” (1028a14-15). We may say that a thing “is white or hot or three cubits long” (1028a17), but that is to state its quality or quantity—to say *what it’s like* or *how much it is*—not to say *what it is*, e.g., “a man or a god” (1028a17). And this is the primary sense of ‘is’, for (1028a18-20):

all other things are said to be because they are, some of them, quantities of that which *is* in this primary sense, others qualities of it, others affections of it, and others some other determination of it.

When we try to account for the being of these other things, then, we must make use of the sense of ‘is’ in which only substances can be said to be. Although the primacy of substances proposed here is more elaborate than the doctrine of the *Categories*, it certainly recalls the earlier work’s doctrine that the non-substances exist only because they “inhere in” substances. If one attempts to answer the central question of ontology—“What is there?”—with a list, one’s catalog of entities might include qualities (colors, shapes, etc.) and quantities (meters, quarts, etc.) as well as substances (horses, tigers, etc.). But it is the substances that are fundamental, for the items in all of the other categories are dependent upon substances. Hence the central question in the study of being, Aristotle points out, can be reduced to a question about substance (1028b2-4):

... the question which, both now and of old, has always been raised, and always been the subject of doubt, viz. what being is, is just the question, what is substance?

At this point the reader might well expect Aristotle to give a brief answer, referring to the *Categories*: substances are, e.g., individual horses, tigers, trees, etc. (and, in a secondary way, the kinds—*horse*, *tiger*, *tree*, etc.—to which they belong). But it turns out that the answer is not so simple, for two reasons. First, a mere inventory might well be disputed. Should we include not just plants and animals but fire and water (1028b11)? What about stars, moon, and sun (1028b13), or “the limits of body, i.e., surface, line, point, and unit” (1028b16), or non-sensible eternal things (1028b19)? Different philosophers (Aristotle mentions Plato and Speusippus) give different answers. Second, providing such an inventory presupposes that we can answer the question of what entitles something to be included in it, and that is the question to which Aristotle now turns.

He begins Z.3 by proposing (1028b34-35) four candidates for the title of substance: essence (*to ti ên einai*), universal (*katholou*), genus (*genos*), and subject (*hupokeimenon*). We will examine the claims of these candidates momentarily, but it is worth noting at the start the way in which Aristotle introduces them. Each of them, he says, has a claim to be considered “the substance of each thing” (*ousia hekastou*, 1028b35). This locution, “the substance of *x*,” is strikingly novel—nothing like it can be found in the *Categories*—and Aristotle’s use of it further supports the idea that the question he is raising here is not “which things are substances?” but “what makes something a substance?” (Wedin 2000, Burnyeat 2001). The substance of *x* is presumably that feature of *x* in virtue of which *x* is a substance. Hence, Aristotle is asking whether the substance of *x* is (i) the essence of *x*, or (ii) a universal that *x* is an instance of, or (iii) a genus that *x* falls under, or (iv) a subject underlying *x*. (iv), the so-called *subject criterion*, recalls the doctrine of the *Categories* that a primary substance is what is neither in a subject nor said of a subject. Substances, that is to say, are subjects of predication that are not in turn predicated of anything else.

The remainder of Z.3 is devoted to the subject criterion, which leads Aristotle to propose a possibility never countenanced in the *Categories*: that the substance of *x* is the *matter* of which *x* is composed. The *Categories* was in no position to consider this possibility since the concepts of *matter* and *form* are not part of its conceptual framework. *Matter* makes its first appearance in the *Physics*, where Aristotle defines it as “the primary substratum (or subject, *hupokeimenon*) of each thing, from which it comes to be, and which persists in the result ...” (192a31). But if matter is the subject that persists through change, then it has the feature that Aristotle said at *Categories* 4a10 was “most distinctive” of substances. And since matter is also the primary subject of predication (“the predicates other than substance are predicated of substance, and substance is predicated of matter,” 1029a23-24) it certainly has a *prima facie* claim, in the context of a hylomorphic analysis that was absent from the *Categories*, to be considered substance.

But Z.3 forcefully rejects the claim of matter to be substance. (Whether it also rejects the subject criterion is a matter of dispute.) It is “impossible” for matter to be substance, Aristotle says (1029a28), for a substance must be both “separable” (*chôriston*) and “some this” (*tode ti*). What is left unstated, but clearly intended, is that matter fails to satisfy these two conditions, although the conditions themselves are far from clear. It is generally agreed that the separability requirement concerns independent existence—for something to be separable is for it to be capable of existing on its own. The “thisness”

requirement presents two main interpretative possibilities: (1) *individuality*, and (2) *determinateness*. According to (1) the objection to matter is that it is not a countable individual—it is just *stuff*. According to (2) the problem with matter is that it has no determinate nature—it is not of any specific kind. (The prevailing interpretation is (1), which recalls the characterization of *tode ti* we found in *Categories* 3b10; for (2) see Dancy 1978 and Gill 1989.) Note that the two requirements are independent of one another. A particular color or shape satisfies the “thisness” requirement (it is a countable individual) but not the separability requirement, for it is not capable of existing on its own—it is always the color or shape of some substance or other.

The problem with matter seems to be that it cannot simultaneously satisfy both requirements. The matter of which a substance is composed may in a way be *chôriston* in that it can exist independently of that substance (think of the wood of which a desk is composed, which existed before the desk was made and may survive the disassembly of the desk). But the matter is not, as such, any definite individual—it is just a quantity of a certain kind of matter—and so is not, as such, *tode ti*. On the other hand, the matter may be construed as *tode ti* in that it constitutes a definite individual substance (the wood just *is*, one might say, the particular desk it composes). But it is in that sense not separate from the form or shape that makes it a substance of that kind (the wood cannot be that particular desk unless it is *a* desk, i.e., unless it has the form and fulfills the function of a desk). So although matter is in a sense *chôriston* and in a sense *tode ti*, there is no sense in which it is both. It thus does not qualify as the substance of the thing whose matter it is.

The matter that is rejected in Z.3 may be something more abstract and recondite than wood or bronze, however. For Aristotle says that to arrive at matter we must systematically remove from a thing its “affections, products, and capacities” (1029a12), and eventually its “length, breadth, and depth” (1029a16). What we are left with, if anything, is matter. The matter we are left with is “of itself neither a particular thing nor of a particular quantity nor otherwise positively characterized; nor yet negatively” (1029a24). Matter so conceived, as stuff devoid of essential characteristics, has traditionally been given the label *prime matter*. Whether Aristotle himself is elsewhere committed to embracing such a conception of matter has been hotly debated (see [CHAPTER 10: FORM AND MATTER]). Here, at least, it seems that he thinks that the “ultimate subject” criterion would lead to the intolerable result that a single featureless stuff—prime matter—underlies all hylomorphic compounds and is therefore the substance of all of them.

The failure of matter’s candidacy leaves Aristotle with two other contenders: “form and the compound of matter and form” (1029a29). He immediately dismisses the compound (“it is posterior, and its nature is obvious,” 1029a31), and this may seem surprising, since a primary substance of the *Categories* counts as a compound of matter and form in the new hylomorphic framework. But if we recall that Aristotle’s question is what the substance *of* something is, his move here makes sense. Perhaps the substance *of* a *Categories* substance is its form. Hence Aristotle proposes to “inquire into the third kind of substance [i.e., form]; for this is the most difficult” (1029a32).

When Aristotle immediately turns, in Z.4-6, to examine the candidacy of essence, it may seem as if the topic of form has been shelved. But this appearance is somewhat

misleading. For *essence* is not really an alternative to *form*; it is a logical concept, linked (as we saw above) to the notion of definition, and does not by itself involve the hylomorphic concepts of form and matter. But neither does it exclude them. If the substance of *x* is its essence, and the essence of a hylomorphic compound is its form, then it will turn out that the substance of a hylomorphic compound is its form.

Aristotle's term for essence is the curious phrase *to ti ên einai*—literally, “the what it is to be.” And he tells us that the essence of each thing (the *what it is to be* for that thing, as he puts it) “is what it is said to be in virtue of itself (*kath' hauto*)” (1029b14). *Kath' hauto* predication, as we saw above, is contrasted with accidental (*kata sumbebêkôs*) predication, and this connection between essence and *kath' hauto* predication conforms to his standard usage in the logical works (cf. *An. Pst.* 73a34-35: “One thing belongs to another in itself (*kath' hauto*) ... if it belongs to it in what it is (*en tôi ti estin*) ...”). Since the account (*logos*) of *x* that states its essence is the *definition* of *x*, Aristotle concludes that “there is an essence only of those things whose formula is a definition” (1030a6).

In making this last claim, Aristotle means to be ruling out a phrase like ‘pale man’ from serving as the definiens in a definition (1031a5). Hence, even if we introduce a term (Aristotle's example is ‘cloak’) into our language by stipulating that it means *pale man*, this does not make ‘a cloak is a pale man’ count as a genuine definition, or *being a cloak* count as an essence. There will be essences corresponding to the species *man* and *tiger*, but *pale man* is not a species of animal and so has no corresponding essence. “Nothing,” Aristotle concludes, “which is not a species of a genus will have an essence” (1030a11). This startling conclusion raises a number of questions.

First, what precisely is Aristotle ruling out here? Clearly he is contrasting genuine species, like *man*, with jury-rigged kinds, like *pale man*, and claiming that the latter do not have essences. But is he also contrasting species with their specimens? Does he mean that *man* has an essence but Callias does not? That is not likely. Aristotle's point would seem to be, rather, that the essence of an individual, such as Callias, must be something at the species level that does not distinguish one member of the species from another. Another possibility is that Aristotle is only considering universals at this point, and questions about individuals are not even in order.

Second, what about definitions of non-substances? Surely qualities (*white*, *musical*, etc.) are definable, and so they, too, should have essences. Aristotle concedes that they do, but points out that “definition (*horismos*), like ‘what it is’ (*ti esti*), is said in many ways” (1030a19). That is, items in all the categories are definable, so items in all the categories have essences—just as there is an essence of man, there is also an essence of white and an essence of musical. But, because of the *pros hen* equivocity of ‘is’, such essences are secondary—“definition and essence are primarily (*protôs*) and without qualification (*haplôs*) of substances” (1030b4-6). Thus it is only these primary essences that are substances. (For a reconstruction of the “hierarchy of essences” hinted at here, see Loux 1991).

Third, has Aristotle radically altered his conception of the importance of the species, which in the *Categories* he called a *secondary* substance? Woods 1967 and Owen 1978 argued that he has, but that interpretation is now widely disputed. For Aristotle's claim at 1030a11 is not that a species *is* an essence, but that it *has* an essence. This essence will

turn out to be the *form* of a hylomorphic compound. The distinction is easy to miss, since the word ‘*eidos*’, which in the logical works meant ‘species’ (in contrast to ‘genus’), has a new meaning in a hylomorphic context, where it can also mean ‘form’ (in contrast to ‘matter’). (The distinction, established by Driscoll 1981, was missed by Woods and Owen). Indeed, Z.10 offers a new characterization of the species (secondary substances) of the *Categories* that is couched in terms of the notions of matter and form (1035b28-30):

But man and horse and things that are thus predicated of particulars, but universally, are not [primary] substance but a kind of compound of a certain formula and a certain matter, taken universally.

Since a species is now conceived of as itself a kind of hylomorphic compound, it would be a mistake to think that Aristotle has promoted the species to the rank of primary substance. The *eidos* that is primary substance in Z is not the species that an individual substance belongs to; rather, it is the form associated with that species, a form that is predicated of the matter of which individual substances are composed.

The possibility that Aristotle has universals in mind in Z.4 comes into play again when we consider the central question of Z.6: “whether each thing and its essence are the same or different” (1031a15). (It must be pointed out that Z.6 is an unusually dense and difficult chapter that has attracted fierce scholarly debate, and there is nothing resembling general agreement about its message. What follows is just one possible interpretation.) If, as seems plausible, by “each thing” (*hekaston*) Aristotle means each *definable* thing, then it would seem that Aristotle’s question pertains solely to universals. For “definition is of the universal” (Z.11, 1036a27 and “there is no definition ... of sensible individual substances” (Z.15, 1039b27). Since Aristotle’s answer (call it “the Z.6 Thesis”) is that, properly qualified, each definable thing is the same as its essence (“each of the things that are primary (*protôn*) and self-subsistent (*kath’ hauta legomenôn*) is one and the same as its essence,” 1032a5), it seems clear that it is the substance *of* something that is here being claimed to be the same as its essence. For it is not Callias but the substance *of* Callias that is definable. Suppose that *x* is an individual substance and *y* is the substance of *x*. Then according to the Z.6 Thesis, on this interpretation, it is *y* (rather than *x*) that is identical to its own essence.

This interpretation is supported by Aristotle’s claim (1031b29-30) that to deny the Z.6 Thesis would lead to an infinite regress (Code 1986). For to deny the identity of a definable thing and its essence is to say that that the thing and its essence have different definitions (since the identity of a definable object is given by its definition). But if the definition of *y* is different from the definition of the essence of *y*, then likewise the definition of the essence of *y* will be different from the definition of the essence of the essence of *y*, and so on, *ad infinitum*. And the regress must be rejected to avoid epistemological disaster, since “to know each thing is to know its essence” (1031b20), and an endless regress of essences would leave all of them unknowable, there being no highest-level essence to serve as the basis for the knowledge of all the others.

This reading of the Z.6 Thesis is also supported by several of Aristotle’s subsequent claims. In Z.11 he says that “things which are of the nature of matter or of wholes which include matter are not the same as their essences” (1037b5-6), and this has the

consequence, as he says, that Callias, in whom matter is present, is not a primary substance that is identical to its essence. Rather, “the [primary] substance is the indwelling form, from which along with the matter the so-called concrete substance is derived ...” (1037a29-30). The form of a living thing, Aristotle says, is its soul (see [CHAPTER 18: ARISTOTELIAN SOULS]). Similarly, in H.3 he makes clear that it is the form (and not the composite of matter and form) that is the same as its essence (“... soul and to be soul are the same, but to be man and man are not the same ...” 1043b2).

At this point in our journey through *Metaphysics Z*, we reach a fork in the road. For the next three chapters (Z.7-9) begin an investigation of “things that come to be” (*tagignomena*) that seems to bear no obvious relation to the discussion of essence in Z.4-6, and it is generally agreed that these chapters were not originally written for this context. Since the discussion in Z.6 is smoothly resumed in Z.10, which concerns the relation between a definition and its definable parts, it is tempting to move directly from Z.6 to Z.10 (as does, e.g., Wedin 2000) and ignore the interpolated chapters. Still, it is not disputed that Aristotle wrote these chapters and probably placed them here himself, perhaps because they reintroduce the topic of form, which was left dangling at the end of Z.3 and at least nominally ignored throughout Z.4-6.

The individual substances we have been considering since Z.3 are hylomorphic compounds, and hence the role of matter and form in their generation must be accounted for. Both natural objects, such as plants and animals, and artifacts, such as houses, have the same requirements. Neither their matter nor their form is produced; rather, we put the form into the matter, and produce the compound (1033a30-b9). Both the matter and the form must pre-exist (1034b12). But the source of motion in both cases—what Aristotle calls the “moving cause” of the coming to be (see [CHAPTER 13: CAUSES])—is the form. In the case of artistic production (e.g., housebuilding), the form is found in the soul of the artisan (1034a24, 1032b23). In natural generation, the form is found in the parent, where “the begetter is the same in kind as the begotten, not one in number but one in form—for man begets man” (1033b30-2). In both cases the form pre-exists and is not produced (1033b18).

The product of such a hylomorphic production is correctly described by the name of the form that produced it, not by that of the matter from which it was produced. What is produced is a house or a man, not bricks or flesh. Of course, what is made of gold may still be described in terms of its material components, but we should call it not “gold” but “golden” (1033a7). For it was not gold that came into being, but a statue (a golden one, to be sure), which cannot be identified with the gold of which it was made. For the statue came into existence just then, but the gold did not.

So the link between form and essence has been forged. The essence of a hylomorphic compound is its form. “By form I mean the essence of each thing, and its primary substance” (1032b1), Aristotle observes, and “when I speak of substance without matter I mean the essence” (1032b14). It is the form of a substance that makes it the kind of thing that it is, and hence it is form that satisfies the condition initially required for being the *substance* of something in the sense of its essence. The essence of a thing is its form. And this form is something that different individual substances share (1034a5-7):

And when we have the whole, such and such a form in this flesh and in these bones, this is Callias or Socrates; and they are different in virtue of their matter (for that is different), but the same in form; for their form is indivisible.

In Z.10 and 11, Aristotle returns to the consideration of essence and definition left off in Z.6, but now within the hylomorphic context developed in Z.7-9. The main question these chapters consider is whether the definition of x ever includes a reference to the matter of x . If some definitions include a reference to matter, then the link between essence and form would seem to be weakened. The reason that this question arises is that Aristotle is committed to a kind of correspondence principle about definitions (1034b20-22):

a definition is an account, and every account has parts, and part of the account stands to part of the thing in just the same way that the whole account stands to the whole thing.

Roughly, if y is part of x , then the definition of x must contain something that corresponds to y , namely, the definition of y . That is, the definition of a thing will include the definitions of its parts. For example, *animal* occurs in the definition of *man*, and since *animal* is itself definable, it should be replaced, in the definition of *man*, with its own definition. In this way a formula like *man is a rational animal* is only a shorthand for a proper, fully explicit, definition, one which will ultimately be composed of simple terms that are not further definable.

But there is a problem. Since a hylomorphic compound is partly matter, the definition of the compound would have to consist, in part, of the definitions of its material components. And this consequence is untenable. A circle, for example, is composed of two semicircles (for it obviously may be divided into two semicircles), but the definition of *circle* cannot be composed of the definitions of its two semicircular parts. For, as Aristotle points out (1035b9), *semicircle* is defined in terms of *circle*, and not the other way around. This priority of the whole over its material parts may seem arbitrary, but it is not. For if circles were defined in terms of semicircles, then presumably semicircles would be defined in terms of the quarter-circles of which they are composed, and so on, *ad infinitum*. The resulting infinite regress would make it impossible to define *circle* at all. For if, as Aristotle thinks, matter is not divisible into individual atoms, one would never reach the ultimate “simple” parts of which such a definition would be composed.

Aristotle’s solution to this problem is that one must be clear about which whole it is that the matter is a part of. “The bronze is part of the compound statue, but not of the statue spoken of as form” (1035a6). Similarly (1035a17-20):

the line when divided passes away into its halves, and the man into bones and muscle and flesh, but it does not follow that they are composed of these as parts of their essence.

Rather, “it is not the substance but the compound that is divided into the body and its parts as into matter” (1035b21-2). So the substance of a hylomorphic compound has been “purified” (Wedin 2000)—it contains form, but not matter.

As Aristotle seems to realize, however, this solution is only partially successful. We may grant that neither a particular batch of bronze nor even bronze in general enters into the essence of statue, since being made of bronze is no part of what it is to be a statue. But that is only because statues, although they must be made of some kind of matter, do not require any particular kind of matter. But what about kinds of substances that do require particular kinds of matter? Aristotle's distinction between form and compound cannot be used in such cases to isolate essence from matter. Thus there may after all be reasons for thinking that reference to matter will have to intrude into at least some definitions.

This is the problem that Aristotle tackles in Z.11, where he concedes that "some things surely are a certain form in a certain matter" (1036b23). For example, "the form of man is always found in flesh and bones and parts of this kind,"(1036b4). It would thus appear that at least some definitions of (types of) hylomorphic compounds will mention matter. Nevertheless, Aristotle ends Z.11 as if he has defended the claim that definition is of the form alone. It is not surprising, therefore, that this chapter is considered difficult and controversial. What follows is just one possible account of his point here. Grant that there are cases in which it is essential to a substance that it be made of a certain kind of matter (e.g., that man be made of flesh and bones, or that "a saw cannot be made of wool or wood," H.4, 1044a28). Still, this is in some sense a formal or structural requirement. A kind of matter, after all, can itself be analyzed hylomorphically. Bronze, for example, has a certain form—it is a mixture of copper and tin according to a certain ratio or formula (*logos*)—and this form is in turn predicated of some more generic underlying subject. The apparent reference to matter in a definition will thus always be to a certain kind or form of matter, and hence to a predicate, rather than a subject. At any rate, if one has in mind the prime matter alluded to in Z.3, there will be no reference to it in any definition, "for this is indefinite" (1037a27).

The Inconsistency

Let us now take stock of what we seem to have learned so far about substances in *Metaphysics Z*. The substance of a hylomorphic compound is a substantial form, which corresponds to a species. A substantial form is an essence, which is to say that it is what is denoted by the definiens of a definition. Since only universals are definable, substantial forms are universals that can be shared by different specimens of the same species. Socrates and Callias are different substances, but they differ only in matter, and not in substance.

But now Z.13 seems to undercut this interpretation entirely by arguing that universals are not substances: "it seems impossible for anything predicated universally to be a substance" (1038b9); "it is plain that no universal attribute is a substance" (1038b35).

This leaves us with a fundamental tension in Aristotle's conception of substance, since he seems to be committed to each of the following three propositions:

- (i) Substance is form.
- (ii) Form is universal.
- (iii) No universal is a substance.

But these three propositions are mutually inconsistent, and dealing with the apparent inconsistency in Aristotle's theory of substance has fragmented his interpreters. Some believe that Aristotle is indeed committed to all of (i) – (iii) and that his theory of substance is therefore untenable. But most believe that on a proper understanding, the inconsistency can be avoided. There have been two main approaches to resolving the apparent inconsistency. The first is the “particular forms” approach, which denies (ii). According to this line of interpretation, a substantial form is not a universal but is peculiar to a single particular. The substantial form of Socrates is thus distinct from the substantial form of Callias; each hylomorphic compound substance has its own substantial form. (Whether the substantial forms of conspecific particulars are only numerically distinct or differ qualitatively as well is a matter of dispute among proponents of this approach.) The second approach has many variants, so it is harder to characterize with a simple label, but it is unified by a rejection of particular forms. On one version of this approach, there is only one substantial form for all the particulars belonging to the same species, but it is not predicated of those particulars. Rather, it is predicated of the many different clumps of matter of which those particulars are composed. That makes a substantial form a universal in the sense that it can be predicated of many things, but not in the sense that it can be predicated of many different individual substances. Proponents of the particular forms approach include Sellars 1957, Hartman 1977, Irwin 1988, Frede and Patzig 1988, and Witt 1989. Opponents include Woods 1967, Owen 1978, Code 1986, Furth 1988, Lewis 1991, and Loux 1991. (For biological evidence bearing on this dispute, see [CHAPTER 23: GENERATION OF ANIMALS].)

It would be difficult to imagine that Aristotle was unaware of this tension in his theory. For at the heart of the tension is a puzzle about whether the substance of something is universal or particular, and Aristotle himself lists a variant of it as one of the puzzles (*aporiai*) that lie at the heart of first philosophy. He presents it in the form of a dilemma (B.6, 1003a6-13):

We must ask whether [first principles, *archai*] are universals or what we call particulars. If they are universals, they will not be substances; for everything that is common indicates not a ‘this’ but a ‘such’, but a substance is a this. ... [I]f they are not universals but, as it were (*hōs*), particulars, they will not be knowable; for knowledge in all cases is of the universal.

In Z Aristotle works out the arguments in support of both of the horns of this dilemma (hence the tension), and presumably attempts to provide a resolution (see Code 1984).

But what resolution does he offer? This is where the two approaches differ, and I cannot hope to do justice to both in the present chapter. But it seems clear that any adequate interpretation must see Aristotle as recognizing something right in each horn of the dilemma. In what follows, I will sketch a line of interpretation that attempts to do that.

At the very beginning of Z.1 (1028a11-15), Aristotle presents two requirements for a substance: it must be both a ‘this’ (*tode ti*) and a ‘what it is’ (*ti estin*) (see Owen 1978, Code 1984). The first requirement argues against universals (since a universal is a ‘such’, and not a ‘this’), and the second argues against particulars (since to know something is to know *what it is*, and knowledge is of the universal). So what is needed is something that

is neither a universal nor a particular. But what could such a thing be? As we saw above, what is predicated of many things is a universal, and what is not predicated of many things is a particular. There does not seem to be room for something that is neither universal nor particular, and yet that is what a substantial form needs to be.

But recall that for Aristotle there are two ways of being predicated—essentially and accidentally. Let us call what is predicated essentially of many things a universal_E, and what is predicated accidentally of many things a universal_A. Many universals are both; red, for example, is a universal_A, since it is predicated accidentally of the many red things, but also a universal_E, since it is predicated essentially of the many shades and individual bits of red. Species and genera of substance, on the other hand, would seem to be universal_E but not universal_A (they are predicated essentially of their specimens, but not predicated accidentally of anything at all). Notice, however, that there is room for something that is a universal_A but not a universal_E—predicated accidentally of many things, but not predicated essentially of many things. We will return to this possibility shortly.

Since a particular (*kath' hekaston*) is just what is not universal, we can say that a particular is something that is neither universal_E nor universal_A. To call something an individual (*tode ti*), however, is just to say that it is not a universal_E, that it is a bottom-level item in its category and not a fundamental classification under which other things fall. So every particular is an individual, but not every individual is a particular. This is what a substantial form is—a *tode ti* that is not a particular, and is therefore a universal_A.

Recall that in Aristotle's hylomorphic theory, form is predicated of matter, and so that is what substantial form is universally_A predicated of. The form of *man*, for example, is not predicated (essentially) of the individuals Socrates and Callias (for it is not a universal_E); rather, it is predicated (accidentally) of the clumps of matter that constitute those individuals (for it is a universal_A). What is universally_E predicated of both Socrates and Callias is the species *man*, so the species is not a *tode ti*. Note that this requires us to distinguish between the individual Callias and the clump of matter that constitutes him, but this seems right. For the former is member of the species *man* and the latter is not. The species predication *Callias is a man*, familiar to us from the *Categories*, is thus explained in this hylomorphic context by the form predication *These flesh and bones are a man* (Loux 1991, Wedin 2000). The term 'man' in the first predication refers to the species (a universal_E) and in the second to the form (a *tode ti*, i.e., a non-universal_E).

The inconsistency is thus removed by taking (ii) and (iii) to be talking about different kinds of universals. (ii) asserts that form is universal_A, and (iii) denies that substance is universal_E. (See Modrak 1979 for a different way of distinguishing between kinds of universals). We will conclude with a brief examination of some of the remaining passages in *Z* to see how well they accommodate this interpretation.

The first argument Aristotle gives in *Z.13* purports to establish that it is “impossible for anything predicated universally to be a substance” (1038b9). Yet when we look at the details of the argument, we see that the problem it finds with the universal is that it is “common” (*koinon*) to many things, whereas “the substance of *x* is peculiar to *x*” (*ousia hekastou hê idios hekastôi*, 1038b10). A universal substance would then have to be, impossibly, both predicated of all its many instances and yet peculiar to (i.e., predicated

uniquely of) each of them. So Aristotle concludes that such a universal is not the substance of any of its instances (“[W]hat will this be the substance of? Either of all or of none, but it cannot be of all,” 1038b12-13). Notice that the implicit conclusion is not that no universal is a substance, but the weaker claim that no universal is the substance of any of the things of which it is universally predicated. The argument tells against both universals_A and universals_E, although in different ways. A universal_A is not the substance of any of its instances, since it is accidental to them, and the substance of a thing cannot be accidental to it. A universal_E, such as a species or a genus, on the other hand, is universally_E predicated of all the specimens that fall under it, and so cannot be the substance of any of them. The universals that this argument is directed against are the species and genera of substances. But the argument does not tell against a substantial form that is universally_A predicated of the various clumps of matter constituting the specimens of those species and genera. For although this form is predicated of many bits of matter, it is not the substance of the matter of which it is (accidentally) predicated. It is not part of the essence of the bricks and boards that compose a particular house (e.g., Frank Lloyd Wright’s famous *Fallingwater*) that they should constitute a house.

What, then, is a substantial form the substance of? At this point it becomes tempting to say that the form is the substance of the individuals that are composed of these bits of matter. But that cannot be exactly right, since the form would then be the substance of many individuals and therefore not *idion* to (i.e., distinctive of) any one thing. Here it is useful to remember the Z.6 Thesis: each definable thing is identical to its essence. Since a substantial form is a definable thing *par excellence*, it must be identical to its essence. Since the essence of a substance is presumably the substance of that substance, a substantial form is the substance of itself. The form itself is the thing to which it is *idion*. It is the substance of those many individuals only in the following extended sense: it is by virtue of the form being universally_A predicated of many bits of matter that those bits constitute the many individuals of which its associated species is universally_E predicated.

In Z.17 Aristotle proposes to make a fresh start, beginning with the assumption that “a substance is a principle (*archê*) and a cause (*aitia*)” (1041a9-10). The job of such a principle or cause, he notes, is to explain why one thing belongs to another (1041a11); that is, it is to explain some predicational fact. What needs to be explained, for example, is why *Callias is a man*, or *Fallingwater is a house*. Notice that the explanandum in these cases involves a species predication, in which a species (*man*, *house*) is universally_E predicated of an individual (Callias, Fallingwater). But the explanations that Aristotle provides for these species predications are couched in terms of a hylomorphic analysis: we must state “why these things, e.g., bricks and stones, are a house” (1041a26). In the explanation, the predicate is a substantial form (*house*) that is universally_A predicated of the matter (bricks and stones) that constitute the house. “What we seek is the cause, i.e., the form, by reason of which the matter is some definite thing; and this is the substance of the thing” (1041b6-9) and “the primary cause of its being” (1041b27).

So Callias is a man (i.e., *man* is universally_E predicated of Callias) because the form or essence of man is present in (i.e., universally_A predicated of) the flesh and bones that constitute the body of Callias; Fallingwater is a house because the form of house is present in (i.e., universally_A predicated of) the materials of which Fallingwater is made. In general, a species predication (involving a universal_E) is explained in terms of an

underlying form predication (involving a universal_A). But these two predications have different subjects. The subject of the species predication is the specimen substance, a particular compound. The subject of the form predication is not the particular compound, but the matter of which that compound is composed. Form predications are thus more basic than, and explanatory of, their corresponding species predications. A substantial form, as a primary definable, is essentially predicated of itself alone, and is therefore, in a primary way, the substance only of itself. But the substantial form of a material compound, because it is predicated (accidentally) of the matter of the compound, is the cause of the compound's being (essentially) the kind of thing that it is. The form is therefore, in a derivative way, the substance of the compound as well. For when we ask the "what is it?" (*ti esti*) question about that compound, the form is the individual (*tode ti*) that our answer ultimately appeals to. The species-level substantial form is thus both a *tode ti* and a *ti estin*, as Aristotle has insisted that *ousia* must be.

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References and Further Reading

- Bostock, D. (1994). Aristotle *Metaphysics* Books *Z* and *H*. Translated with a commentary. Oxford: Clarendon Press.
- Burnyeat, M. (2001). A Map of *Metaphysics* Zeta. Pittsburgh: Mathesis.
- Code, A. (1984). The aporematic approach to primary being in *Metaphysics* Z. Canadian Journal of Philosophy, suppl. vol. 10, 1-20.
- Code, A. (1986). Aristotle: essence and accident. In R. Grandy and R. Warner (Eds). Philosophical Grounds of Rationality: Intentions, Categories, Ends (pp. 411-439). Oxford: Clarendon Press.
- Dancy, R. M. (1978). On some of Aristotle's second thoughts about substances: matter. Philosophical Review, 87, 372-413.
- Driscoll, J. (1981). *Eidê* in Aristotle's earlier and later theories of substance. In D. J. O'Meara (Ed). Studies in Aristotle (pp. 129-159). Washington: Catholic University of America Press.
- Frede, M. (1987). Essays in Ancient Philosophy. Minneapolis: University of Minnesota Press.
- Frede, M. and Patzig, G. (1988). Aristoteles "Metaphysik Z": Text, Übersetzung und Kommentar. Munich: Verlag C. H. Beck.
- Furth, M. (1988). Substance, Form and Psyche: an Aristotelian *Metaphysics*. New York: Cambridge University Press.
- Gill, M. L. (1989). Aristotle on Substance: the Paradox of Unity. Princeton: Princeton University Press.
- Gill, M. L. (2005). Aristotle's *Metaphysics* reconsidered. Journal of the History of Philosophy, 43, 223-251.

- Hartman, E. (1977). Substance, Body, and Soul: Aristotelian Investigations. Princeton: Princeton University Press.
- Irwin, T. H. (1988). Aristotle's First Principles. Oxford: Clarendon Press.
- Leshner, J. (1971), Aristotle on form, substance, and universals: a dilemma. Phronesis, 16, 169-178.
- Lewis, F. A. (1991). Substance and Predication in Aristotle. Cambridge: Cambridge University Press.
- Loux, M. J. (1991). Primary Ousia: an Essay on Aristotle's *Metaphysics Z* and *H*. Ithaca: Cornell University Press.
- Modrak, D. K. (1979). Forms, types, and tokens in Aristotle's *Metaphysics*. Journal of the History of Philosophy, 17, 371-381.
- Owen, G. E. L. (1978). Particular and general. Proceedings of the Aristotelian Society, 79, 1-21.
- Sellars, W. (1957). Substance and form in Aristotle. Journal of Philosophy, 54, 688-699.
- Wedin, M. V. (2000). Aristotle's Theory of Substance: the *Categories* and *Metaphysics Z*. New York: Oxford University Press.
- Whiting, J. E. (1991). Metasubstance: critical notice of Frede-Patzig and Furth. Philosophical Review, 100, 607-639.
- Witt, C. (1989). Substance and Essence in Aristotle: an Interpretation of *Metaphysics VII-IX*. Ithaca, NY: Cornell University Press.
- Woods, M. J. (1967). Problems in *Metaphysics Z*, chapter 13. In J. Moravcsik (Ed.). Aristotle: A Collection of Critical Essays (pp. 215-238). New York: Anchor.