

The Warp and Woof of Metaphysics: How to Get Started on Some Big Themes



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I. “Essential” and “accidental” properties: A modern version.

Let me begin then by introducing you to a distinction between what I will call a broadly “Platonic”-style and a broadly “Aristotelian”-style metaphysics. The guiding thread will be the notion of the *essential* and *non-essential* (accidental) features of a thing. Perhaps you will find what I am here calling an “Aristotelian” view unfamiliar and even foreign, because there is a kind of metaphysical “common denominator” in some philosophical circles today, left-over perhaps from the days of “analytic” philosophical insularity, but in any case quite unlike what I am here calling an “Aristotelian” metaphysics. Instead it is much closer to what I regard as a Platonic approach.

In analytic philosophy, there is a view called “Aristotelian essentialism” — by both its supporters and its opponents — that in fact has nothing to do with Aristotle. It may be found, for example, in the following passage from Quine’s *Word and Object*:

Perhaps I can evoke the appropriate sense of bewilderment as follows. Mathematicians may conceivably be said to be necessarily rational and not necessarily two-legged; and cyclists necessarily two-legged and not necessarily rational. But what of an individual who counts among his eccentricities both mathematics and cycling? Is this concrete individual necessarily rational and contingently two-legged or vice versa? Just insofar as we are talking referentially of the object, with no special bias toward a background grouping of mathematicians as against cyclists of vice versa, there is no semblance of sense in rating some of his attributes as necessary and others as contingent. Some of his attributes count as important and others as unimportant, yes; some as enduring and others as fleeing; but none as necessary or contingent.

Curiously, a philosophical tradition does exist for just such a distinction between necessary and contingent attributes. It lives on in the terms ‘essence’ and ‘accident’, ‘internal relation’ and ‘external relation’. It is a distinction that one attributes to Aristotle (subject to contradiction by scholars, such being the penalty for at-

tributions to Aristotle¹). But, however venerable the distinction, it is surely indefensible.²

You can also find “Aristotelian essentialism” in this sense discussed in Quine’s “Reference and Modality,”³ and in lots of other places.

In the passage just quoted, there are two parts. First Quine identifies a certain theory as “Aristotelian essentialism,” and then he goes on to reject it. His reasons for rejecting it do not concern me here. I’m interested for now only in what the doctrine *is*.

According to this doctrine,

essential property	=	necessary property
accidental property	=	contingent property

So, in this context, essential = necessary, whereas accidental = contingent. The kind of “necessity” involved here is a hypothetical necessity. That is, an “essential property” of a thing is one such that if the thing exists at all, it has to have that property. Likewise, a “contingent” property of a thing is one such that if the thing exists, it may or may not have that property.

The idea that this view is really Aristotle’s can be dismissed right away once we recall the authentically Aristotelian notion of a “necessary accident,” found for instance in *Metaphysics* v.30. It is easy to see, therefore, that Quine’s quick identification of the accidental with the contingent is not an altogether Aristotelian notion, so that it’s not surprising that he finds “scholars” contradicting him.

II. The “Platonic” approach.

In fact, Quine’s view is much more what I regard as a Platonic view of things. On such a view, here is what you have: First of all, you have an *object*, which has certain *properties* that are somehow attached to it. The nature of that connection will vary, depending on the particular theory. You can call it “exemplification,” “participation,” or whatever you want.

¹ Anyone who says silly things like that about Aristotle deserves whatever penalty he is made to pay!

² Willard Van Orman Quine, *Word and Object*, (Cambridge, Mass.: The M.I.T. Press, 1960), § 41, pp. 199–200.

³ Willard Van Orman Quine, “Reference and Modality,” in his *From a Logical Point of View: Logical-Philosophical Essays*, rev. ed., (New York: Harper & Row, 1963), pp. 139–159.

The important point is that some of these properties are, so to speak, “permanently” attached to the object; they are the so called *essential* properties. Others can be removed from the object without destroying it; they are the *accidental* properties. The distinction between these two kinds of properties is, of course, the feature of the doctrine Quine finds arbitrary, and therefore unjustified.

Now it may very well be arbitrary and unjustified. But it’s plainly *not* incoherent. In fact, it’s fairly easy to picture how this goes:

The *object* is a little like a “pin cushion.” The properties are so to speak the “pins” in the pin-cushion.⁴

The *accidents* are so to speak the “straight” pins. They can be inserted or removed from the pin cushion without damaging anything.

The *essential* properties are like “fish hooks.” You can’t take them out without ripping the whole thing open and destroying the pin cushion.⁵

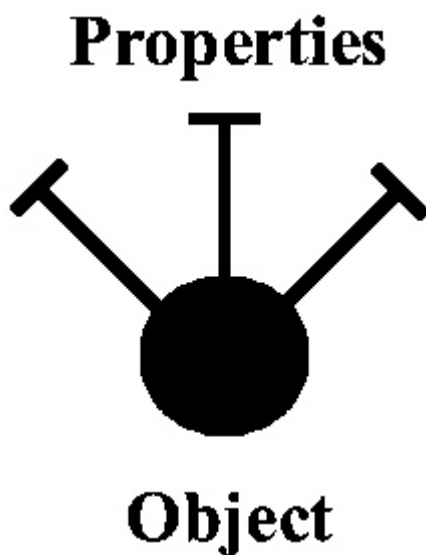


Figure 1

So much for the distinction between essential and accidental properties of a thing on this “Quinean/Platonic” approach. The properties are simply the pins in the pin cushion, attached in various ways to the cushion.

The other side of the picture is of course the *object*: the pin cushion itself.

Now watch closely. *By itself, all on its own*, the object has no properties. The properties are all “attached” from outside. By itself, the object then is a kind of “bare particular.” It has no internal structure, no features of its own whatsoever.

Note: The terminology can be rather fluid here. You may want to call the *whole complex* the “object” — the pin cushion (or “core”) plus the pins or properties. Or maybe you will want to reserve

the word ‘object’ for the core plus the *permanent* or essential properties. The terminology in the end doesn’t matter; the point is that, however you want to distribute your terminology, the *picture* is the same.

⁴ This is your introduction to “Spade’s famous pin-cushion model,” which I use a lot in the classroom.

⁵ You may find that last part overly dramatic, but never mind. You get the point.

This picture is one that is represented very nicely in first-order logic — so it is probably no coincidence that Quine approached metaphysics in this way, since he was very much taken with “the logical point of view.” On this view, the relation between the pins and the pin cushion, between properties and objects, is represented quite nicely in predication: Predicates are to their subjects as properties are to their objects.

If you know Quine’s work (and if you don’t you should), you will be aware that he argues that we don’t really need *proper names* in our language, and that in fact in some cases it may be philosophically confusing and misleading to have them there. The proper name ‘Aristotle’, for instance, can be struck out of our language and replaced by the *predicate* ‘aristotelizes’ (or something like that). If we do that, then whenever we want to say something about Aristotle, we now speak about “every x such that x aristotelizes.” Obviously, we can do this with any proper name at all, so that proper names can be systematically eliminated from our language and replaced by predicates. Since we’re no doubt going to need predicates anyway, we can therefore economize on the number of syntactical types we have in our vocabulary if we systematically adopt a policy of such replacement.⁶

What we do need, however, even if we do eliminate proper names, is *individual variables* — like the ‘ x ’ in ‘every x such that x aristotelizes’.

In logic, individual variables are about as “featureless” as you can get. They are, so to speak, the linguistic counterparts to bare particulars. An individual variable is the logical analogue of the metaphysical “pin cushion” that has no properties at all *by itself* — all properties are pins *in* the cushion, attached from outside.

So the fact is, then, that first-order logic fits very nicely with this basically “Platonic” picture of metaphysics. That is no doubt why this picture has been such an “orthodox” one in analytically-minded philosophy in the second half of the twentieth century.

II.1. Problems with the “Platonic” approach.

Of course, there are obvious problems with the picture. How are these bare particulars, these featureless “pin cushions,” *differentiated* from one another?⁷ As far as their *built in features* go (namely, there aren’t any), one bare particular is

⁶ Obviously, this will make things more cumbersome and inefficient. But the point here is not to recommend such a reworking of language for practical use. Rather, the point is to uncover the theoretical presuppositions of what we say.

⁷ This is not the epistemological question how *we can tell* them apart, but rather the metaphysical question what *distinguishes* them.

exactly like another. Hence, if you push this line of thinking very hard, you might begin to worry about the principle of “Identity of Indiscernibles.”⁸

So you see there is some pressure on this basically Platonic way of looking at things toward the view that there is really only *one underlying object*, one “pin cushion.” The pressure comes from the Identity of Indiscernibles.

On the other hand, there is also a contrary pressure, this time arising from the Law of Non-Contradiction — which, insofar as it is supposed to be a law about what properties can be possessed by *the same thing* at the same time, is also a law involving “identity.”

The pressure in this cases arises because, if there is really only one substrate underlying all properties, then that substrate, that “pin cushion,” will have contrary properties at the same time, since contrary properties plainly do exist in the world around us. Socrates is a rational human being, but Fido is an irrational dog. Since all properties, on this view, inhere in the same one substrate, it appears that the contrary properties humanity and caninity, rationality and irrationality, inhere in that same one substrate at the same time. How can that be?

So this “Platonic” approach is pushed in two opposite directions at once by considerations having to do with the identity of the pin cushion or underlying object. The Identity of Indiscernibles would lead us to say there is only one such object. On the other hand, the Law of Non-Contradiction would lead us to say there are *several* “bare particulars” that play this role. Neither alternative solves the problem once and for all. Each one just moves the problem to the other side.

II.2. The *Timaeus*.

Why have I been calling this picture “Platonic”? Well, consider *Timaeus* 48^e–53^c.⁹ (More or less the same view can perhaps be seen in the *Seventh Letter* 342^a–343^c, although it is not very clear or explicit there.)

⁸ For present purposes, think of the principle of Identity of Indiscernibles (often attributed to Leibniz, although it’s much older than that) as holding that if \underline{x} and \underline{y} are *exactly alike* metaphysically, then $\underline{x} = \underline{y}$. That is, things are really *the same thing* unless there is some feature to distinguish them. On the present, “Platonic” approach, however, all “features” are properties, attached externally to what amount to bare particulars. Hence — and here’s the worry — there appears to be nothing in its internal structure to distinguish one bare particular from another.

⁹ The only text of Plato available in Latin translation during the Middle Ages was the first part of the *Timaeus*, ending with 53^c — the very end of the passage I want to discuss now. It was translated by a certain Chalcidius in the late third or early fourth century. As an act of supererogation, he also provided a commentary. (Note: Strictly speaking, the *Phaedo* and the *Meno* were also translated into Latin later on in the Middle Ages. But they didn’t circulate widely. The *Timaeus* did circulate, particularly in the twelfth century.)

The *Timaeus* is Plato's account of the origin of the cosmos. The passage 48^c–53^c contains a discussion of what he calls the “Receptacle” (= ὑποδοχή, *hypodoché*) or “receptive.”

Now we all know that for Plato, things in the sensible world are but pale imitations of the “Forms” or “Ideas.” So we have two poles: (1) the Forms, and (2) imitations of Forms. We also know that, as early as the *Parmenides*, the exact nature of the relation between Forms and their imitations bothered Plato. The theory of the Receptacle or “receptive” in the *Timaeus* is an attempt to work this out.

The Receptacle is, according to the analogy developed there, like *sealing wax*, the sort of thing people used to use to seal envelopes. Often a *signet ring* or other form of seal bearing an identifying design was impressed onto the wax, leaving its outline there. This served as a form of authentication. If the impression in the wax had been tampered with, it would be pretty easy to see, and in that the case the recipient of the letter would know that the envelope had been opened in transit, and the contents probably altered.

That's the guiding metaphor here. The Receptacle is like sealing wax. The Forms, on the other hand, are like the seal ring itself. Just as a seal ring leaves a number of distinct impressions in different blobs of sealing wax, so too a Form leaves a number of distinct “impressions” in the Receptacle. The word translated ‘impression’ here is ‘ἐκμαγεῖον’ (= *ekmageion*), and is in fact the Greek word commonly used for impressions of a seal.¹⁰ With that background, consider now *Timaeus* 50^c–^d:

Now the same account, in fact, holds also for that nature which receives all the bodies [= the Receptacle]. We must always refer to it by the same term, for it does not depart from its own character in any way. Not only does it always receive all things, it has never in any way whatever taken on any characteristic similar to any of the things that enter it. Its nature is to be available for anything to make its impression upon, and it is modified, shaped and reshaped by the things that enter it. These are the things that make it appear different at different times. The things that enter and leave it are imitations of those things that always are [= the Forms], imprinted after their likeness in a marvelous way that is hard to describe.

¹⁰ Here we see for the first time the crucially important “seal ring metaphor.” It is used here by Plato in a cosmological context. It will be used by Aristotle in an epistemological context. (To this day, we still speak of being “under the impression that ...”) And it will be used throughout the Middle Ages in a variety of philosophical contexts. Plato does not actually talk about sealing wax and rings here, but later authors sometimes do, and Plato's vocabulary indicates that this was the root metaphor.

This is something we shall pursue at another time. For the moment, we need to keep in mind three types of things: that which comes to be [= the impression in the Receptacle], that in which it comes to be [= the Receptacle itself], and that after which the thing coming to be is modeled, and which is the source of its coming to be [= the Form]. It is in fact appropriate to compare the receiving thing [= the Receptacle] to a mother, the source [= the Form] to a father, and the nature between them [= the impression] to their offspring. We also must understand that if the imprints are to be varied, with all the varieties there to see, this thing upon which the imprints are to be formed [= the Receptacle] could not be well prepared for that role if it were not itself devoid of any of those characters that it is to receive from elsewhere. For if it resembled any of the things that enter it, it could not successfully copy their opposites or things of a totally different nature whenever it were to receive them. It would be showing its own face as well. This is why the thing [= the Receptacle] that is to receive in itself all the elemental kinds must be totally devoid of any characteristics.¹¹

Apart from the metaphor, note the argument in the last part of the passage. In order to do its job properly, sealing wax has to be pretty shapeless stuff all by itself. If it had a built in shape or outline all its own, that would get in the way of its taking on any other shape or outline from a seal ring. It would always “be showing its own face as well.” Hence — note the last sentence of the quotation — the one underlying substrate of *all* impressions (in terms of the picture in Figure 1 above, the one underlying object that bears *all* properties) is by itself *completely featureless*.

Given this situation, it is perhaps not hard to see why the historical Plato identified his underlying substrate — the so called “Receptacle” — with *space*.¹² Space, after all, is pretty odd stuff. It is in a sense one thing, and yet it is made up of distinct parts — regions — that are effectively indistinguishable from one another, insofar as we are talking about *empty* space. Plato’s suggestion, then, was not a bad try.

Let’s look a little more at the *Timaeus*. At 49^d–50^b, we find an extremely obscure passage:

¹¹ Donald J. Zeyl, trans., in John M. Cooper, ed., *Plato: Complete Works*, (Indianapolis: Hackett Publishing Co., 1997). The insertions in square brackets are my own commentary.

¹² *Timaeus* 52^b.

... Rather, the safest course by far is to propose that we speak about these things [= the “impressions”] in the following way: what we invariably observe becoming different at different times — fire for example — to characterize that, i.e., fire, not as “this,” but each time as “what is such,” and speak of water not as “this,” but always as “what is such.”
 5 And never to speak of anything else as “this,” as though it had some stability, of all the things at which we point and use the expression “that” and “this” and so think we are designating something. ... Rather, “what is such” — coming around like what it was, again and again —
 10 *that’s* the thing to call it in each and every case. So fire — and generally everything that has becoming — it is safest to call “what is altogether such.” But that *in* which they appear to keep coming into being and *from* which they subsequently pass out of being [= the Receptacle], *that’s* the only thing to refer to by means of the expressions “that” and
 15 “this.” A thing that is some “such” or other, however, — hot or white, say, or any one of the opposites, and all things constituted by these — should be called none of these things [i.e., “this” or “that”].¹³

Translations of this passage differ widely, because the Greek is far from clear. But I think we can make some headway in understanding the passage as follows. Consider:

- (1) The Platonic Form of “fire” (to use one of Plato’s own examples.
- (2) The Receptacle.
- (3) The product of the two, this-worldly imitations of the Platonic Form of “fire” — i.e., ordinary, familiar, mundane fire.

Now, the passage asks, should we talk about (3), ordinary, mundane fire as “this” or as “what is such”? Plato’s answer is that we should call it “what is such” (line 5). That is, I suggest, strictly speaking we should reserve the word ‘fire’ for (1) — the Form. What we commonly *call* “fire” should instead be called “fiery,” or something like that.¹⁴

¹³ Zeyl translation again. This time the last insertion in square brackets is the translator’s; the others are mine.

¹⁴ I’m extrapolating, to be sure. Plato doesn’t actually say anything here about how we should use the term ‘fire’. But note that his examples of “such”-words (line 15) are ‘hot’ and ‘white’ — adjectives and not nouns. In short, I am taking the expression ‘what is such’ as a kind of *variable* expression, to be replaced by adjectival expressions like ‘fiery’ or ‘watery’.

Why? Because what we commonly call “fire,” the familiar sort, is simply not stable enough to be called “this” (lines 6–8). Things in the sensible world around us are constantly changing into other things, after all, so that (3), the product of (1) and (2), is simply too “iffy” to be called “this.” Whatever you may think of that consideration, let’s just grant it for the moment and go on.

Is there anything, then, stable enough and having the permanence Plato thinks is suggested by the word ‘this’? Well yes, the Receptacle.¹⁵ At lines 14–15, he explicitly says the Receptacle can rightly be called “this.”

So what happens when we try to describe (3), ordinary, this-worldly “fire”? We have to say something like “This is fiery.” But notice: Despite what we might think at first, the ‘this’ here does not indicate (3) itself, which is what we thought we were talking about. We’ve just seen Plato say that (3), ordinary, mundane “fire” is *not* “this.” Instead, the ‘this’ indicates the Receptacle!

When we say ‘This is fiery’, therefore, the predicate ‘fiery’ describes what kind of impression is pressed into the Receptacle (the sealing wax in the seal ring model) — the impression produced by the Platonic Form of fire (the seal ring).

Well, that’s all very obscure, to be sure, and the details are not terribly important for us. But do look over the passage in the quotation, and my remarks on it, because I think we can see something happening. Watch closely.

II.3. Matter.

Later on in the Platonic tradition, talk about the Receptacle came to be interpreted as talk about *matter*.¹⁶ With that in mind, I think we can see in this passage the roots of a traditional mediaeval theory: the theory that in discourse about the world around us, the distinction between subject and predicate matches the distinction between *matter and form*.¹⁷ Hence, we have the origins of the doctrine of matter as the subject of predication.

This perhaps explains why Plato goes on to say that the Receptacle is “perplexing” and “extremely difficult to comprehend” (51^b), that it can be “apprehended” only by a kind of “bastard reasoning” (52^b). There is something after all *ineffable* about matter (the Receptacle) all by itself. Anything you might want to say about it would involve a Form or an impression *in* matter — something besides the matter all by itself. Hence when we try to talk about the Receptacle, or

¹⁵ One might also think the Platonic Form of fire would surely have the required permanence. But Plato says the Receptacle is the *only* thing that can be called “this” (lines 14–15).

¹⁶ More about this in a moment.

¹⁷ Or matter and impression *in* the matter, depending on how one wants to develop the theory. Note that while this *was* a “traditional mediaeval theory,” it was by no means universally accepted. We’ll see a competing theory later on.

empty space, or pure matter, all by itself, we get one of those awkward situations where we're trying to say what cannot be said.

Now, what about the identification of the Receptacle with matter? Well Plato, as we know, didn't make that identification (and in fact he identified it with space instead), but Chalcidius did, not in his translation of the *Timaeus* but in his commentary on it.¹⁸

Chalcidius's term for matter is '*silva*', which literally means "wood," and is an excruciatingly literal translation of the Greek ὕλη (= *hyle*, pronounced "HOO-lay"), which also strictly means "wood" but, curiously, in philosophical usage came to mean matter.¹⁹ This use of '*silva*' to mean "matter" in Latin philosophical texts is almost always evidence of the influence — and the fairly immediate influence — of Chalcidius.²⁰

Chalcidius also has a term for the impressions left by the seal ring. He calls them "native forms" (*formae nativae*) — i.e., inborn forms. This expression will also be used later in the Middle Ages, for example by certain figures in the so called School of Chartres in the twelfth century. Sometimes the expression 'impressed form' was also used for the same notion.

II.3.i. Boethius.

Boethius, *De trinitate*, § 2, has what is in effect the same doctrine. Here's what he says²¹:

¹⁸ On Chalcidius, see n. 9 above.

¹⁹ This was the word Aristotle used. Note that this may be simply a result of starting with a different metaphor. Instead of viewing physical objects as the result of stamping impressions into something like sealing wax, and therefore as a case of *adding* something to matter, think of them as the result of "whittling away" (and therefore "subtracting") from something like a block of wood. While we're talking about words for matter, it's probably worth noting that the English word comes from Latin '*materia*' = "matter," which is etymologically related to Latin '*mater*' = "mother" (they are derived from the same Indo-European root). And while Plato does not call his Receptacle by the same name Aristotle used for matter, he does explicitly compare it to a mother. (See the passage quoted above from *Timaeus* 50^{c-d}.)

²⁰ See J. Reginald O'Donnell, "The Meaning of 'Silva' in the Commentary on the *Timaeus* of Plato by Chalcidius," *Mediaeval Studies* 7 (1945), pp. 1–20. If you are interested in pursuing the — well, in pursuing this "matter," you might also want to look at J. C. M. Van Winden, *Chalcidius on Matter: His Doctrine and Sources. A Chapter in the History of Platonism*, (Leiden: E. J. Brill, 1959). Note: 'Calcidiu' is an alternative spelling.

²¹ From Boethius, *De trinitate*, II.21–56, in Boethius, *The Theological Tractates*, H. F. Stewart and E. K. Rand, ed., ("The Loeb Classical Library"; Cambridge, Mass.: Harvard University Press, 1968). My translation.

For every being is from form. For a “statue” is not so called because of the bronze that is its matter, but because of the form by which the likeness of an animal is impressed on the bronze. [And] the “bronze” itself is so called not because of earth, which is its matter, but because of the configuration of bronze. “Earth” itself is also so called not because of ἄπειρον ὕλην,²² but because of the dryness and heaviness, which are forms. Thus nothing is said to be because of matter, but because of its proper form.

5
10 But the divine substance is a form without matter, and therefore one...

... Neither can it be a subject. For it is a form, and forms cannot be subjects. When another form, like humanity, is a subject for accidents, it does not take on accidents insofar as it is, but insofar as matter is subjected to it. For, as long as matter, subject to humanity, takes on any accident, humanity itself *appears* to take it on. But a form that is without matter cannot be a subject, and cannot be in matter. For it would not be a form but an “image.” From the forms that are outside matter come the forms that are in matter and make a body. We misuse the others, which are in bodies, when we call them “forms” while they are images. For they are made like those that are not constituted in matter.

15
20 At the end of this passages (lines 15–20), Boethius distinguishes what he calls “forms” from what he calls “images.” Images are imitations of the Platonic Forms, in effect the impressions of the signet ring in the sealing wax, what Chalcidius called “native forms.” Boethius reserves the term ‘form’ for the *Platonic* Forms. But of course Boethius is a Christian, and so does not believe in the Platonic Forms in *exactly* Plato’s original sense. (Platonic Forms are changeless and uncreated. This conflicts with the Christian doctrine of creation, according to which *everything* besides God is produced — created — by God.²³) He therefore “fixes” the theory a bit. For Boethius, God alone is a pure “form.” But God has thoughts, and these thoughts are the paradigms or patterns according to which God fashioned the world. They play the role of Platonic Forms. In short, for

²² ἄπειρον ὕλην = “unqualified matter.”

²³ On the implications of the doctrine, see my *A Survey of Mediaeval Philosophy*, Version 2.0 (August 29, 1985), Vol. 1, Chap. 4. Available on-line in compressed WordPerfect 5.1 files, which may be downloaded at <http://pvspade.com/Logic>. (Follow the links to the “Downloads” section.) I am preparing a new, updated (and more “Web-friendly”) edition of this *Survey*.

Boethius the Platonic Forms have been *moved into the mind of God*, where they become “divine ideas.”

This doctrine of “divine ideas” was by no means a novel view. It was already present in St. Augustine, in Plotinus, and in Philo of Alexandria (= Philo the Jew), who lived c. 20 BCE–40 CE. Indeed, it was the “standard” view throughout the entire Middle Ages.²⁴ Incidentally, the term ‘idea’ in the Middle Ages *always* means a *divine* idea; it never means just any old concept in my mind or yours. That is a later usage.

If God (together with his ideas) is the only pure “form,” then — following out the seal ring analogy — everything besides God must be either (a) matter, or else (b) the product of matter together with one of the “native forms” or impressions that Boethius calls “images.” In short: Everything besides God has matter.

This doctrine is accordingly called universal hylomorphism (= universal “matter/form-ism”). The term ‘universal’ in this phrase has nothing directly to do with the “problem of universals,” but simply means “applicable in all cases (except God, of course, who is special).”

Also, at the end of our passage (lines 11–15), Boethius remarks that “forms” (= divine ideas) are not the substrates (“subjects”) for accidents. Rather, matter is the real substrate for accidents.

For example, if a person is tall, it is not the Platonic form *humanity* that takes on the accident of being tall. It is not even, strictly speaking, the “image” that takes it on. Rather, Boethius says, it is the *matter* that does this. Here again, then, we have something like the picture we arrived at in our discussion of the *Timaeus*: Matter is the subject of predication.

Note another important consequence of this view: There are no second-order properties. Properties do not in turn have properties of their own. Impressions are not the substrates of further impressions. The pins in the pin cushion do not have yet other pins sticking in *them*. No, matter (= the Receptacle, the sealing wax, space) is what receives *all* the pins.

For any creature, therefore, what we have is, as it were, a lump of sealing wax on which *several* rings have left their impressions at once. If you really insist, you can *in a sense* say it is the earlier impressions that take on later ones. So talk about “second order properties” is not *entirely* senseless. But it’s also easy to see that what is really going is that it is matter that underlies them all.

The complete creature, then, is of a kind of “laminated” structure, consisting of matter on which a whole series of forms have been impressed. This doctrine has a name too. It is called the Plurality of Forms.

²⁴ This of course does not mean that *everyone* accepted it. William of Ockham, for instance, did not. For more on the theory of divine ideas, see my *Survey*, Vol. 1, Chap. 19.

II.4. The *binarium famosissimum*.

The doctrine of plurality of forms is a correlative of universal hylomorphism. Historically, the two theories are almost always found together. So true is this that the two are now sometimes called the *binarium famosissimum* (= the “most famous pair”).²⁵

Although both doctrines were more or less in circulation in the early Middle Ages (we have just seen them in Boethius), they became more systematic and explicit later on. They are particularly prominent, for instance, in Solomon Ibn Gabirol (c. 1022–c. 1051 or 1070). Ibn Gabirol was a Jewish philosopher who wrote an important book translated into Latin under the title *Fons vitae* (= *Fountain of Life*) by the translating team of Dominic Gundissalinus (= Gonzales) and John of Spain in twelfth century Spain. Because he wrote in Arabic, he was often taken to be a Muslim, although some people thought he was a Christian. Mediaeval Latins also weren’t too sure about his name, which got transliterated into Latin (really just “approximated”) as: Avencibron, Avencibrol, or other variants. In short, they weren’t very sure just *who* this man was.

In the thirteenth century, the *binarium* was maintained by St. Bonaventure (1221–1274), the famous and profound general of the Franciscan order. Largely through him, the doctrine came to be associated with the Franciscan/Augustinian tradition in general.

Let’s elaborate the *binarium* a bit more, and go over the reasoning one more time.

If you take the point of view that matter is the subject of predication, then anything you can talk about, anything you can predicate something of, is going to have matter, and so be a “composite” of matter and form (in Boethian terms, matter plus an “image” — I’m no longer talking about *Platonic* forms).

This composite structure, this possessing of matter, therefore, was regarded as a *mark of a creature*. It was what (among other things) distinguished all creatures from God, who alone is absolutely simple and incomposite. Even angels, on this theory, had a kind of matter — called “spiritual matter.” The expres-

²⁵ I used to think this was a mediaeval label for this pair of doctrines. But Professor Christopher J. Martin, of the University of Auckland, has convinced me this isn’t so. Although the expression was indeed used in the Middle Ages, it was apparently not used for this particular pair of doctrines at all, but for something altogether different. In fact, it’s use as a name for this pair of metaphysical theories is a relatively recent development. I was by no means the first to use it in this new way, but I fear I am at least partly to blame for popularizing the usage (if “popularize” is the right word). In any case, the expression is too useful to give up, and so I will continue to use it in its new sense, to mean the regular pairing of the theories of universal hylomorphism and plurality of forms.

sion ‘spiritual matter’ may at first sound like an oxymoron, but it isn’t. On this view, matter comes in two varieties: corporeal matter and spiritual matter. Corporeal matter is the familiar kind. To be sure, angels don’t have anything like that. But even they have a “spiritual” matter that is what makes them composite and provides a subject of predication. Only God has no matter at all. This is what Boethius is talking about when he says (lines 11–12) that “form” without matter cannot be a substrate. He’s talking about God.

It is also why, on this basically “Platonic” approach, God is so hard to talk about, why we have to resort to metaphor and circumlocution at best. It is because God has no matter, so that there is no subject of predication there. There is no subject of predication, *not* in the sense that God doesn’t exist so that there’s nothing to talk about, but in the sense that we can’t *predicate* anything of him. He just doesn’t fit into subject position!

Recall that Plato himself had something similar about the Receptacle. It was “perplexing” and “extremely difficult to comprehend” (*Timaeus* 51^b), and can be “apprehended” only by a kind of “bastard reasoning” (52^b). But that was for the opposite reason. In the case of God, there are lots of things we might want to say about him, but there is no *subject* matter we can predicate them of. In the case of matter (or the Receptacle), there is a subject of predication, all right, but there just aren’t any *predicates* we can predicate of it.²⁶

This then is how we get the doctrine of universal hylomorphism out of the basically “Platonic” picture of matter as the subject of predication. The other half of the *binarium*, the plurality of forms, is just the correlate of this. If matter is the *subject* of predication, forms (= Boethian “images”) are the *predicates* of predication. And just as you can say many things about any given object, so too it has many forms.

Some of those forms are going to be “included” in others, in an appropriate sense. For example, you can say of Socrates that he is a human being, and so has the form *humanity*. But you can also predicate of him the more general predicate ‘animal’, and so he has the more general form *animality*. And so on. Ultimately, you come to the form *corporeity* — the form that makes Socrates a physical body — as the last form before you get to bare matter.²⁷

²⁶ Be careful, in a sense, *any* predicate can be predicated of matter. That’s the only thing they *can* be predicated of on this theory. What we are talking about now is matter *just by itself*. There is nothing we can say to describe matter considered apart from the impressed forms or images, the pin cushion considered all by itself apart from the pins in it. There’s a long story to be told here, but I’m not going to do it now.

²⁷ As a good rule of thumb, whenever you see an author talking about the “form of corporeity,” you can be pretty sure you are dealing with the doctrine of plurality of forms and are in a basically Platonic framework.

So you get, once again, a kind of laminated picture, of so to speak “concentric” forms. And *this* is the picture people generally have in mind when they talk about the “plurality of forms.” That is, it’s not just the view that things can have more than one form at once. Lots of people who wanted nothing to do with the *binarium* would nevertheless cheerfully say that much. Rather, the expression ‘plurality of forms’ usually refers to special picture of laminated or “concentric” forms.

III. The “Aristotelian” approach.

Now, after wading through all that, I hope you won’t be discouraged to learn that the Aristotelian tradition rejects this entire picture. We have to start over.

Consider, for example, Thomas Aquinas. In his question *On Spiritual Creatures*,²⁸ he asks in Article 1: “Whether a spiritual substance [= an angel or Aristotelian separated substance, or else a human soul] is composed of matter and form.” His answer is: No. In short, he rejects universal hylomorphism.

The article is written in the classic *quaestio*-format, with preliminary arguments pro and con, the author’s (in this case, Aquinas’s) own resolution of the issue, and finally replies to the losing preliminary arguments. If you go look at some of the preliminary arguments in this first article, you’ll find many of them that bring out the themes we have just been discussing. For example, preliminary objections 1, 2, 4, 13, 14, etc. In objection 1, the argument is taken from Boethius’s *De trinitate*, the very passage we’ve just looked at.

In Article 3 of the same work, Aquinas asks: “Is the spiritual substance that is the human soul united to the body through a medium?” Now you may not recognize it from that, but in fact what Aquinas is asking here is whether there is some intervening *form*. Again, his answer is: No. In short, he denies the doctrine of plurality of forms too.²⁹ The same thing is also at stake in his *Summa theologiae*, I q. 76.

So Aquinas’s view — and the view of the Aristotelian tradition in general — is going to be different. In order to see what is involved, let’s go back and change the picture we drew at the very beginning.

²⁸ Thomas Aquinas, *On Spiritual Creatures (De Spiritualibus Creaturis)*, Mary C. Fitz-Patrick, trans., (“Mediaeval Philosophical Texts in Translation,” Vol. 5; Milwaukee, Wis.; Marquette University Press, 1949).

²⁹ Preliminary objections 15 and 17 fit nicely into our earlier discussion.

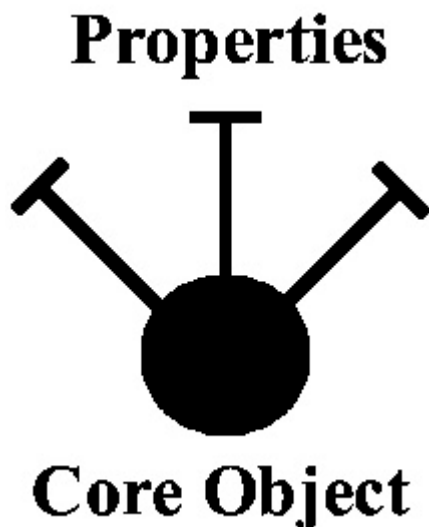


Figure 2

way. As I am now using these terms, (a) and (b) are not the same claim at all. Sometimes people think they are (whatever terminology they use), and that a thing cannot have any internal “features” of its own that distinguish it from other things unless it also has some kind of internal “structure” — internal *parts*. That may well be true, but if it is, it is not at all obvious on the face of it, and will take some arguing.

Ad (a): To say a thing has an internal “structure” (in my present sense) is to say it has metaphysical *parts* that are somehow distinct from one another in a way that does not depend solely on our point of view, our manner of talking about it. In short, it is to say the thing is metaphysically *complex*.

Ad (b): To say a thing has internal “features” of its own (in my present sense) is only to say we can *describe* it, we can predicate predicates of it, in a way that will serve distinguish it from other things that would be described differently. (I am not concerned here with the epistemological question how we might come to *know* which descriptions truly apply to which things.)

Now it probably is true that having an internal “structure” in my sense implies having “features.” That is, if a thing has a structure, is metaphysically complex and made up of parts, then it can be described in terms of those parts; something can be about it that will distinguish it from other things, with a different structure. But to think that a thing’s having internal “features” in my sense implies its having an internal structure, its having metaphysical parts, seems to be to pre-

In the Platonic tradition we have been discussing up to now, the core object was a bare particular. Whether there was one or many of them was a sticky question, but in any case that core object:

(a) had no internal *structure* of its own, and

(b) had no internal *features* of its own either. (The “features” were the pins in the cushion.)

What’s the difference between an internal “structure” and internal “features”? Well, the terminological distinction is entirely my own, and perhaps it’s a bit artificial, but I need to draw attention to the point *some*

suppose exactly the kind of Platonic close link we have been discussing, between predication and metaphysics, a link such that the distinction between subject and predicate, and for that matter the distinctions *among* the predicates, are mirrored exactly by metaphysical distinctions in what you are talking about. In short, the Platonic picture we have been building up to now assumes that language is a reliable guide to metaphysics. That's a big claim. Is it right?

Aquinas, as we have seen, and before him Aristotle, are going to reject the Platonic framework, and with it they are going to reject the Platonic view of predication that would prevent a thing from having internal "features" of its own (and so being distinguishable from other things) unless it has an internal structure of its own too. In fact the Aristotelian tradition is going to claim, for reasons that will become clear later, that the "core object" does have features of its own. There will be things you can truly say about an object that will not be reflected on the part of reality by any "pins in the pin cushion."

So the whole picture has to be renegotiated from the very beginning. Predication can no longer be viewed as reflecting the "attachment" of things to what you are talking about. Note, incidentally, that on this view the problem about whether you have just one "core object" or many disappears.³⁰ There is no reason not to have lots of such core objects. They can be distinguished from one another by their own internal features, so that there is no problem with the Identity of Indiscernibles.

A moment ago, I distinguished the question whether a thing has internal features of its own (can be described) from the question whether it has an internal structure of its own (has metaphysical parts). For the Aristotelian tradition, the core objects or "pin cushions" do have internal features of their own, as we have seen. Do they also have an internal structure? That is, are they metaphysical *composites* of parts? Answer: Some are and some aren't.

For Aristotle, the ones that aren't are the so called "separated substances," the movers of the celestial spheres. For Aquinas, they are angels and human souls (both of which he likewise calls "separated substances"). God is, as always, a special case.

Those that do have an internal structure are, for both Aristotle and Aquinas, the physical objects in the world around us. Such objects are said to be composites of *matter* and *form*. In Aquinas, at any rate, they are composites of what he calls *prime matter* and *substantial form*.³¹ Together, matter and substantial form constitute the *physical substance*.

³⁰ See section II.1 above.

³¹ This may or may not be so in Aristotle. He certainly did have a notion of substantial form. But there is some controversy over whether he had the notion of what the Middle Ages

So, just as those who accept the *binarium famosissimum* believe in two kinds of matter (corporeal matter and spiritual matter), the Aristotelians likewise have two kinds of substances, physical substances and “separated substances” — so called because they are separated from matter entirely.³² Physical substances are composites of matter and form. Separated substances consist of substantial forms only — no matter. Our “pin cushion” picture now looks different than it did:

The pin cushions by themselves (that is, apart from the pins sticking in them) are no longer “bare particulars,” the featureless somethings of the Platonic theory. They have features, they can be described, and so can be distinguished from one another. Some of them even have an internal *structure* — parts.³³

Now let’s bring all this back to the question that got the whole thing started: essential properties and accidental properties. The features of a thing that are involved in its substantial form are the “essential” features of the thing, according to the Aristotelian terminology. In a human being, for example, the substantial form involves rationality³⁴; so we say rationality is “essential” to a human being. Likewise the substantial form involves animality; so we say animality is “essential” to the human being.³⁵

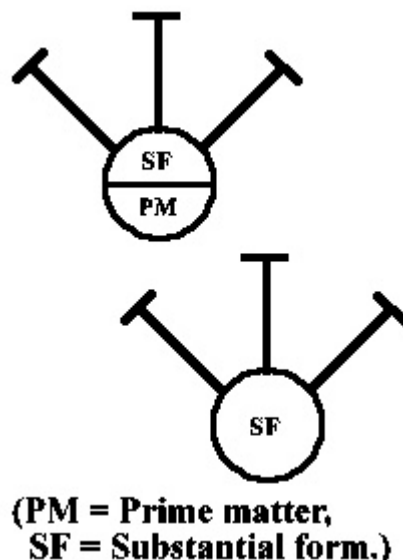


Figure 3

called *prime* matter. I’m no expert on Aristotle, but my understanding is that the present consensus is that he did *not* have that notion.

³² The Aristotelian tradition does not accept the notion of spiritual matter.

³³ But you have to be careful here. Sometimes the word ‘from’ is used in a more restricted sense, to mean the substantial form of a *physical* substance only. See, e.g., Aquinas, *Summa theologiae* I, q. 76, a. 1, obj. 2. (Don’t worry about cryptic references like this. They’re simply included in case you want to track things down in the future.) Also, I should perhaps take this opportunity to warn you that, although I’ve talked about Aristotle and Aquinas, and about the broad Aristotelian “tradition,” that tradition was by no means a monolithic, homogenized one; people disagreed on details, sometimes on quite important details. Here I’m simply drawing a sketch in broad strokes, for the sake of getting you oriented. You can refine things later.

³⁴ “Man is a rational animal,” remember, although my experience does not confirm it.

³⁵ I’ve been deliberately vague here, and put this in terms of the substantial form’s “involving” this or that. That’s all I want to say about it for now.

Thus the essential features of a substance are the features of the “pin cushion” — the ones it has *on its own*. Everything else — everything that is “attached” as something extra, the “pins” — are what are called “accidents.” Some of them may be permanently and necessarily attached, given that the substance exists at all, some not. That makes no difference. They are all still “accidents.”

In short, the distinction between the essential and the accidental for the Aristotelian tradition is *not* the distinction between the necessary and the contingent, but rather the distinction between the internally and the externally attached, the pin cushion and its pins.

In fact, we have to be careful of our vocabulary. There really is no good term in the Aristotelian lexicon to cover all the things we typically mean by ‘property’ nowadays. That’s because our modern philosophical vocabulary is secretly *Platonic* in outlook. ‘Property’ in modern parlance includes both the essential and the accidental features of a thing. But there is no one word in the Aristotelian tradition that includes both these things without dangerously wrong connotations. The word ‘property’ itself (= *proprium*) is one of the five Porphyrian “predicables,” and so is not general enough. ‘Predicable’ is not bad. It at least covers all the right things, but it has connotations from mediaeval logical theory that are inappropriate here. ‘Attribute’ may work too. But that is frequently used to translate the Latin ‘*passio*’, which is just another term for “*proprium*.” ‘Accident’ covers only some of the cases we want. ‘Quality’ is even worse, since according to the *Categories*, quality is just one of *nine* kinds of accident.

As a result, I have used the neutral term ‘characteristic’ or ‘feature’ here, which really has no Aristotelian counterpart.

III.1. Change.

Now why do you suppose the Aristotelians held the views they did about substances? Why did they think substances (the pin cushions) have internal features of their own, and why did they go even further and say that some substances, at any rate, also have a real internal *structure* of matter and form?

Well, with respect to the first point, you — speaking now for the Aristotelian — might argue like this: Look, this is the only way out of the problem of “one or many” we had on the Platonic view earlier. (Was there one core object or several?) This is the only way to avoid violating the Law of Non-Contradiction without running afoul of the Identity of Indiscernibles. We have *many* cores or pin cushions, but they are all distinguishable from one another in virtue of their internal features.

That’s perhaps a powerful consideration, as far as it goes. But still, why postulate a *composition* of matter and form in at least some substances? In other

words, if you are going to reject the theory that completely indeterminate, featureless matter is the subject of predication in every case, why do you need to retain the notion of matter at all in *some* cases? Plainly, matter is going to have to play a different role in the Aristotelian tradition than it did in the Platonic tradition. And in fact, the Aristotelians argue, we need matter in order to account for certain kinds of *change*.

We are now shifting gears to a quite new topic. Previously, we talked mainly about predication. That is still in the background, but now I want to talk about change.

III.1.i. A philosophical myth.

Let me begin by telling you a myth about the history of philosophy. It's a common myth, and — like most good myths — there is a lot of truth in it. Here it is:

Once upon a time, long ago, the main philosophical problem was how to do justice to both Parmenides and Heraclitus. Parmenides, according to the story, had held that the senses are untrustworthy, that the dictates of reason must be followed, and that reason dictated, among other things, that reality is undifferentiated and static. *There is no change*.

Heraclitus, on the other hand, had held that one must *accept* the testimony of the senses, since they are all we have to go on, and that the senses tell us that reality is constant and chaotic change and flux. *There is no stability*.

Plato, the myth continues, solved this problem by adopting *both* views: each was true of a different realm. The visible world of Becoming, the familiar world we live in, is indeed a world of constant and chaotic change. There is no stability to be found there. But, in addition to this world, there is also another realm, a world of *Being* populated by the eternal and changeless Forms or Ideas.

Aristotle, on the other hand, solved the problem differently. According to the story, Aristotle thought that while it is true that the world around us is in constant flux, there are nevertheless *limits* to that flux and change. The change is not chaotic; it is *ordered*. If I plant an acorn, I will get, under favorable conditions, get an oak tree by a process of growth and constant change. But I *won't* get a cow or a rhubarb plant, much less a diamond or an iceberg. In short, there are *limits* to the constant change in the world. These limits, whatever they are, are tied up with the “natures” of things, and this notion of “nature” is in turn tied up with the notion of *essence* in ways that will take some working out.

So, the story goes, Aristotle in effect brought the Platonic Forms down out of their separated heaven, and implanted them in the interior structures of things here in the visible, sensible world; they become *substantial forms*.

That is the myth, nice and neat. The story then is that while Plato gives us only a kind of juxtaposition of Parmenides and Heraclitus, each in his own realm, Aristotle presents us with a real *compromise*. Each side must give up something:

- (a) Heraclitus gets his constant change. But it is not chaotic change. There is pattern to it.
- (b) Parmenides gets his stability and firmness, in the “natures” of things. But there is still room for constant change.

Now, this story will provide a motive for introducing “features” or “characteristics” into what we previously thought of as bare particulars. Such features will be the *essential* features of a thing, and pertain to its very core, the pin cushion. They account for Aristotelian natures.

What then is wrong with the myth? Well, you ought to be able to tell there is something wrong, at least with what it says about Aristotle, because if this were all there is to the story, then there would be no reason to introduce *structure* into the cores, no reason for a composition of form and matter. In short, if the considerations raised so far are all Aristotle is concerned with, then why bring matter into the picture at all?

Suppose you had these Aristotelian substantial forms *without matter*. (That is, suppose you have Aristotelian “separated substances.”) You could still have change — at least nothing we’ve said so far prevents it. It would be change with respect to the *accidents*. Some accidents would be permanently attached to their pin cushions. Which ones they are would presumably be determined in some way by the substantial forms. But the other accidents could come and go. There could well be change, then. But there would be limits to it, based on the natures or essences of things. Why then bring matter into the picture?

This suggests that something is not quite right with our myth. And that’s so. The myth makes the Aristotelian “compromise” between Parmenides and Heraclitus look altogether too neat. On the contrary, in actual fact, Heraclitus comes off far better than Parmenides does in the Aristotelian theory. Parmenides has to give up more. And this what is *not* reflected adequately in the myth.

According to the myth, the essential features of a thing are fixed and not subject to change. If any change does occur, it will be a case of the shifting of *accidents*. And in fact Aristotle does allow for accidental change. He even provides a kind of “catalogue” of the kinds of accidental change, of what he calls “motion”:

- Change of quantity = augmentation (growth) or diminution (shrinking).

- Change of quality = alteration.
- Change of place = locomotion.

(We generally reserve the word ‘motion’ for the last kind.) See Aristotle, *Physics* v.1–2, repeated in abbreviated form in *Metaphysics* xi.11–12. (Note: Here’s an interesting question for you: Aristotle allows nine categories of accidents in the *Categories* — although in *Physics* v he lists only seven. Why then are there not nine — or at least seven — kinds of accidental change instead of only three?)

But in addition to the above three kinds of accidental change that Aristotle calls “motion,” he also has a fourth kind of change that cannot be accounted for on the sketch we’ve just given in our myth:

- Change of substance = generation or corruption.

See *Physics* v.1 and *Metaphysics* xi. In fact, Aristotle wrote a whole book on this kind of “substantial” change, the *De generatione et corruptione*.

In short, for Aristotle, *the pin cushions can change too!*

The mythological picture we have sketched so far is therefore not radical enough for what Aristotle actually did. When he says there are “limits” to change, all that really means is that there are limits to *accidental* change. That is, there are limits to how much a thing can change and *still be the same thing*. Those limits are accounted for by the substantial form of the thing.

On the other hand, with respect to change here in the visible, sensible world (the separated substances are another case altogether), there are *no* limits to *substantial* change. The four so called “elements” — earth, air, fire and water — are constantly changing into one another, and they are the ingredients of all other physical objects (the so called “mixed” bodies). Thus, any kind of physical thing can change into any other kind of physical thing whatsoever.

Here then is the picture: If, at the end of a change, you are left with *the same object you started with* — it’s changed in some respects, of course, but it’s still identically the same thing — then what we have is an accidental change, and the thing that endures through the change is called a “substance.” But if the change results either in the production of an entirely new individual that wasn’t there before or in the destruction of an individual that was there before, then we have *substantial* change: generation or corruption.

Of course, this distinction depends crucially on the notion of a thing’s retaining or losing its identity. Just how does that work? Well, that is an excellent question, but let’s not demand an answer to it just yet. For the present, let’s just take it that this *is* what is meant to be the distinction between substantial and accidental change, and let’s move on.

In any change, either substantial or accidental, you need two factors:

- (a) something that differs, and
- (b) something that stays the same.

If there were nothing at all different at the end of the change, nothing different from what we had at the beginning, then no change would have taken place; everything would be just as it was. Hence the need for (a). On the other hand, if there were nothing that stayed the same and endured throughout the change, we would not have “change”; we would have mere *succession*. For example, if I die and you are born, we would not say I have *become* or *changed into* you. We would have a mere succession here: first me, and then not me but you instead. But we *would* say I had become or changed into you *provided* we believe in something like the transmigration of souls — or in general, provided there is *something* that stays the same and endures, something that is first me and later on you. Hence the need for (b).

In the case of accidental change, the factor that stays the same is obvious. It is the *substance*, the individual object, the pin cushion. The whole idea of accidental change is that it is the kind of change that can take place while the underlying object remains the same thing.

What then is the enduring ingredient in a *substantial* change? We need one, in order to have genuine change and not mere succession. But this enduring factor cannot be a fully constituted individual in its own right, because then we would *accidental* change all over again, not substantial change. This underlying, enduring factor, *whatever it is*, is going to be what the Aristotelians call “matter.”

On the Platonic theory we sketched earlier, matter was the subject of predication. Here matter is introduced for a different purpose: as the underlying, enduring substrate of substantial change. For the Aristotelian pedigree of this theory, see *De generatione et corruptione* I.4 319^b31–320^a8.

There are two observations to make at this point:

- (a) This approach means that Aristotelian separated substances (Aquinas’s angels) do *not* undergo substantial change; they are immaterial, after all.
- (b) Aquinas and many other mediaeval Aristotelians will talk about “*prime* matter” — a kind of ultimate substrate that underlies *all* form in the visible world and that has no form whatsoever all by itself. (To this extent, it is like the notion of matter we saw earlier, in the Platonic tradition.) On the other hand, it is not so clear whether Aristotle himself ever

had this notion of *prime* matter — ultimate matter — or whether matter for him was a more relative notion: the clay is “material” with respect to the statue made out of it, and the four elements are “material” with respect to the clay that results from a particular mixture of them. And so on, but with no *completely* featureless matter anywhere in the analysis. There is controversy over the proper way to interpret Aristotle on this point. The passage I just referred you to from *De generatione* 1.4 certainly *seems* to indicate a doctrine of prime matter. In any event, for present purposes we’ll just take Aristotle as having had such a view, since that is the way he was interpreted in the Middle Ages.

So far, we have only a “functional” account of prime matter. We have specified a kind of “job description,” and agreed that whatever does that job will be called “prime matter.” But we have said nothing at all about what kind of entity we are going to hire to *fill* that job. We do not yet know what matter *is* or what it is *like*. All we know is what it *does*.

So let’s look more closely at prime matter. What can we say about it? Well, it turns out to be exceedingly strange stuff.

III.1.ii. Prime matter.

To see just how strange it is, let’s go back and consider change once again. (On this analysis, compare — loosely — Aristotle, *Physics* 1.7–9.)

Consider two terms ‘A’ and ‘B’ (I’m talking about *terms* here, pieces of language, not other things) that can be truly predicated only of things that exist, of *beings*. That is, they are “existence-entailing” terms. (I impose this restriction only because I don’t want to be troubled by such “funny” terms as ‘imaginary’, ‘dead’, etc.) Then consider sentences of the form:

A has become (or changed into) B.

Any real change can be expressed in such a form.

There are two kinds of cases here, depending on the particular choice of terms ‘A’ and ‘B’:

Case (1): ‘A has become B’ can be read as: A was not B, and now A is B. For example, ‘The food has become cold’. It wasn’t cold before, but now it is.

If we want to be formal about it, we can express this as: There exists an x such that x was A but not B , and now x is A and B .

In a case like this, the continuous factor that remains throughout the change is clear. It's A (or the x that is), the food that remains the same food before and after its becoming cold. Now contrast this with:

Case (2): in which ' A has become B ' cannot be analyzed as before, in Case (1). For example, 'Earth has become fire' (the substantial change among the Aristotelian elements), or 'The bread has become flesh' (that is, it has been eaten and assimilated — I'm not talking about Eucharistic doctrine).

Here it is not so easy to identify the continuous factor throughout the change. It's not the earth, since in the process of becoming fire it ceases to be earth. So too the bread ceases to be bread as it is assimilated and becomes flesh.

Now all cases of kind (1) are instances of accidental change. There is an underlying individual entity — the A , the food, or the x in our formal version — that stays the same throughout the change.

What about cases of kind (2)? The examples I actually gave of kind (2) were both cases of what Aristotle would call substantial change. But not all cases of kind (2) are like that. For example, consider: 'The body has become the man', 'The vice president has become chairman of the board'. These cases of kind (2) change can be analyzed, and in a sense "reduced" to kind (1) change by just pushing a little deeper:

There exists a *person* (Socrates, say) who *was* a boy and not a man, and who is *now* a man and no longer a boy.

Likewise in the other example:

There exists a *person* (S. Julius Bloodworth-Bigdome, let's say) who *was* vice president and not chairman of the board, and who is *now* chairman of the board and no longer vice president.

In cases like this (let ' C ' be an existence-entailing term like ' A ' and ' B '),

Case 2a: ' A has become B ' can be read as: There is a C such that C was A and not B , and now C is B and not A .

Plainly, this too is a case of accidental change, since we can identify an identically the same existing substrate that endures throughout the change — the C.

III.1.iii. Atomism.

Now, here's a question for you: Are *all* cases of kind (2) change also cases of kind (2a) change? If so, then all changes are accidental changes and there is no substantial change at all, and Aristotle was misled.

If that is so, then under pain of infinite regress, whenever we have a change, we can always find (if we look deeply enough) an ultimate *substrate-substance* — call it Z — that does *not* change according to kind (2), but if it changes at all, changes only according to kind (1).

That it, if all instances of case (2) are instances of case (2a), then there must be *ultimate* substances such that all change is *accidental* change in such substances. There are two forms of such a view.

- (a) You might hold that the same substrate underlies *every* change, that in any change whatever, if you just push the analysis hard enough, you always end up at the same place. In that case you have the notion of a kind of single substance — like Plato's Receptacle, or "matter" in the Platonic tradition — that underlies all change (as well as underlying all predication). The problem with that view is one we have already seen: it would require the same substance to have contrary properties at the same time.
- (b) Alternatively, you might say there are *several* such ultimate substances. This view is in effect "atomism." There are two subcases
 - (i) You can say these substrates or atoms have no distinguishing features at all, that they are all just bare particulars. There problem here we have likewise already seen: the Identity of Indiscernibles.
 - (ii) Or you can say these substrates or atoms do have features of their own. Then you might say there are four — earth, air, fire and water — or you might say there are an infinite number of them, as Democritus did, or you might say something else along these lines.

On any of these atomistic alternatives, the upshot is the same: all real change is accidental change in these ultimate substantial atoms. Generation and corruption, in Aristotle's sense, is just an illusion. *All* change is to be accounted for by the alteration and rearrangement of atoms.

Now Aristotle and the tradition following him not only reject the Platonic alternative — for pretty good reasons (the Law of Non-Contradiction). They also reject atomism. Aristotle does this, for instance in the *Physics* and the *De generatione et corruptione*. Accordingly, the Aristotelians must reject the claim that all kind (2) change is also kind (2a) change. In other words, they must say there are some cases where A has become B, but where there is *no* underlying existing entity that remains identically the same throughout the change. These will be the *substantial* changes.

On the other hand, we know that *every* change requires a substrate of some kind or other to remain the same, in order to distinguish from mere succession.

So here we are. The Aristotelians insist there are genuine substantial changes, and these changes require an enduring substrate. But that substrate cannot be a fully constituted entity that *exists* in its own right. In short, *it doesn't exist!* And that's what prime matter is.

Now what on earth are we going to do about this fine fix? Note the dual pressure:

- (1) On the one hand, we cannot say the substrate of substantial change doesn't *exist* — just like that. Insofar as we are talking about substantial *change*, and not just a mere succession, there is a job for the substrate to do: a *unifying* job. It has to stay the same *one* substrate both before and after the change. Given the traditional “convertibility” of being and unity, therefore, the substrate *must* exist to the extent that it stays the same one thing, and it must do the latter in order to do its job.
- (2) On the other hand, we cannot say the substrate does exist either, as an entity with its own enduring identity. That would make all change accidental change in that substrate, and we would be back to either Plato's Receptacle, or else some form of atomism — both of which alternatives the Aristotelian tradition rejects.

So what do we do?

III.2. Being in potency.

Well, we could just push the point and insist that what we have here is a blatant contradiction, and this shows there simply *is* no substantial change of the kind Aristotle is thinking about, so that therefore either Plato or the atomists are right. And, as long as we're pushing points, let's push further: Since Plato, as we've seen, runs up against the Law of Non-Contradiction, this means that what we have here is a *proof of atomism* — atomism in the sense that all change is accidental change in a variety of ultimate substances.

But that isn't what the Aristotelians do. They insist on the reality of genuine substantial change. And so they come up with the exquisitely delicate notion of prime matter as a *being in potency*.

Here we see the first appearance of the notion of “potentiality,” and the distinction between “actuality” and “potentiality” or “potency.” The doctrine is *extremely* important, and also extremely difficult and obscure.

The fact that the dual pressure — (1) and (2) just above — looks as if it leads to an out and out contradiction adds a certain urgency to the important question here: Why are the Aristotelians so confident there really *are* substantial changes? In short, *what's wrong with atomism after all?* I have some thoughts on this, but let's not develop them here.

III.3. Final thoughts on the “Aristotelian” approach.

The time has come to draw all this to a close. Here is a quick summary of the Aristotelian picture we have come up with so far:

The pin cushion here has both

- (a) internal *features* of its own, so that we can have several distinguishable such pin cushions — “core objects,” substances. Hence no Platonic Receptacle, “Platonic” matter, bare particulars. The substantial form is what is responsible for these internal features;

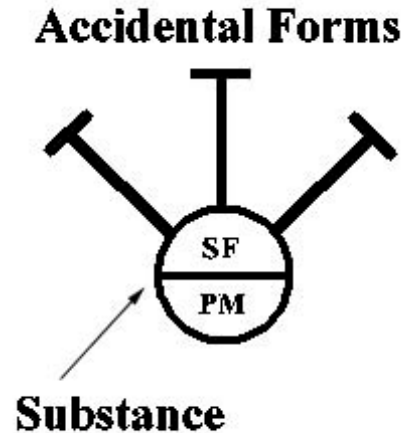


Figure 4

- (b) an internal structure of its own too, made up of prime matter and substantial form. It is the prime matter that allows each such pin cushion to change into a different and new one.

The composite of these two is the individual substance. (There are also “separated” substances that do not have matter. But for now we’re confining ourselves to material substances.)

In addition to prime matter and substantial form, other forms can be “externally” attached to the substance. Some may be permanently attached, some not. But *all* of them are *accidental* forms.

On this picture, the grammatical distinction between subject and predicate is *not* a reliable guide to the ontological structure of a substance. Some predicates answer to the *internal* features of the substance, the substantial form. They are the essential predicates; other predicates answer to the accidental features, permanent or otherwise.

Thus predication does not answer to a single kind of ontological relation, but to at least two quite different kinds.

Étienne Gilson, the great patriarch of historians of mediaeval philosophy, often distinguished between a so called “logical” approach to reality and a “metaphysical” approach, and often criticized — even ridiculed — the “logical” approach. For a long time I couldn’t figure out what he meant. But now I think I know. His criticism of the “logicians” doesn’t mean he preferred bad arguments to good ones (although there may be other reasons to think that). It means that he rejected the “Platonic” view that looks to the facts of predication for a guide to reality. (It is perhaps not completely out of place to compare the “Platonic” view with the early Wittgenstein’s “picture”-theory of the relation between language and the world.) For Aristotelians, Gilson included, there is no such neat relation as this.

IV. A final point of terminology.

Finally, let me give you a point of terminology. In addition to the metaphysical notion of accident I have stressed so far, there *is* also a “logical” usage in which accidents are just the things that are contingently predicable of a thing. Aristotelians as well as Platonists use this notion. This can result in some pretty confusing passages if you’re not careful. This “logical” notion of accident doesn’t indicate anything whatever about the metaphysical structure of a thing. It is metaphysically an entirely neutral usage, compatible with lots of different metaphysical positions.

For an example of this usage, see Aquinas, *In Boethii De trinitate* (= his commentary on Boethius's *De trinitate*), q. 4, a. 2, obj. 3. The question Aquinas raises here is "Whether the variety of accidents makes a diversity according to number." Obj. 5 of the question states, "Moreover, when the cause is removed, so is the effect. But every accident can be removed from its subject, ..." Don't worry about the rest of the argument; here I'm only trying to illustrate the usage of the term 'accident'. As we know, in the metaphysical sense of 'accident', there are *necessary* accidents, so that *not* every accident can be removed from its subject. In Aquinas's question on Boethius, therefore, it is plainly a different sense of 'accident' that is at stake.

This "logical" notion of accident is associated with Porphyry, who defines it in his *Isagoge*. For its authentically Aristotelian pedigree, see *Topics* 1.5 102^b4–8 and *Metaphysics* v.30. In both passages, Aristotle describes both the metaphysical and the logical senses of 'accident'.

The end

**Finitum hoc totum,
Da mihi potum.**