

Aristotle's Conception of Universality

Gregory Salmieri

“Universal” is one of many English words whose ancestry traces back to Aristotle. It is common in scientific, moral, and even ordinary discourse, but has a particularly central role in philosophy, where it has generated the set of perennial philosophical controversies known as the “Problem of Universals”. Aristotle is widely supposed to have authored one of the standard solutions to this problem: the position known as “moderate realism” (or sometimes “Aristotelian realism”).¹ I will argue that he did not in fact hold this view (which, in any event, predates him), and more generally that the way in which he conceived of universality is not well understood. His position is worth taking the time to understand, both for its own sake, and for the dividends it can pay in our own reflection on universals. These dividends, however, are a topic for another occasion; here my focus will be limited to Aristotle’s conception of universality.

This is in itself a large topic that takes us into many of the corpus’ most disputed texts, and I will only be able to treat the issue in broad outlines here. I will begin, in Part I, with a discussion of the context in which Aristotle introduced the term “universal”, and on his likely reasons for introducing it. I will then, in Part II, note some features of Aristotle’s distinction between universals and particulars that make it different from the version of the distinction that is dominant today. In Part III, I will discuss realism as a theory of universals, focusing on the moderate realism that Aristotle is so widely thought to have held. In Part IV, I will summarize the main evidence for attributing the position for him and then, in Part V, call our attention to some passages in which we can see him rejecting it. In Parts VI and VII, I will draw on these texts and others to sketch what I think is Aristotle’s actual position on the matter.

I. The Socratic Context for the term “Universal”

“Universal” was coined in Latin as a translation for the Greek *katholou* which appears for the first time in Aristotle and is a contraction of a seldom-used propositional phrase, “*kata holou*”, meaning “as a whole”. It cannot be established with certainty whether Aristotle coined the term or found it already in use in the Academy, though its absence from the early work “On Forms” (*Peri Idion*) suggests strongly against the latter hypothesis. I’ll have more to say about the etymology of the word shortly, but it is worth asking first why Aristotle (or someone) should feel the need to invent such a word at all. We can better see the force of this question if we consider the immediate historical context for the coinage.

Plato had already authored the first thing we can recognize as a theory of universals: his theory of transcendent Forms (*eidē* or *ideai*), the existence of which he thought was a precondition of the possibility of knowledge. There was much debate in the Academy about whether these forms indeed existed, and, if so, whether they had the features Plato claimed for them. We can see several competing accounts of forms (*eidē*) in Plato’s own *Parmenides* and Aristotle tells us that Eudoxus differed from Plato in thinking that *ideai* exist *in* rather than “separate from” ordinary objects (*Metaphysics* A.9 999a12-19, M.5 1079b15-23). Eudoxus’ position is precisely the one attributed to Aristotle by countless textbooks. The following paragraph is typical:

Unlike Platonic forms, Aristotle’s forms exist in individuals, and good observation, which includes the use of reason, can discern the forms that exist in

individuals. For Aristotle, forms are *immanent* in individuals, and thus Aristotle elevated nature and human affairs by bringing Plato's forms down to earth.²

In fact, Aristotle rejects Eudoxus' position as "very easily upset; for it is not difficult to collect many insuperable objections to such a view" (991a18-19),³ and as we'll see later he tells us flatly on several occasions that the forms do not exist,⁴ but we can put these point aside for the time being. The present moral I want us to draw from Eudoxus' position and Aristotle's account of it is that the term "*idea*" was used in the Academy to refer not only to refer to the transcendent Forms that Plato had posited, but also more widely. It embraced the full range of objects believed in by the people we today call "realists" about universals. It seems therefore to be equivalent to our term universal, and indeed Russell, when introducing the term "universal" in his *Problems of Philosophy* tells us that he means by it what Plato meant by "*eidos*" and "*ideai*".⁵

If "*idea*" already meant what we mean by "universal", then why should anyone want to make up a new and ungainly word by contracting a propositional phrase? I would like to suggest that Aristotle did this in order to *reconceive* the central issue at stake in the debate over Plato's theory. If I'm right, then, in coming to use "universal" as a synonym for the Academy's "*idea*", posterity has missed Aristotle's point.

To see what Aristotle's point was we will need to return to the etymology of "*katholou*". I have already mentioned that it is a contraction of "*kata holou*" and that this is an unusual phrase. The *Thesaurus Linguae Graecae* includes just a handful of occurrences. Only one of these predates Aristotle, and it can be found in Plato's *Meno*.

But come on and try to fulfill your promise to me by stating about virtue as a whole (*kata holou*) what it is, and stop making many from one, as jokers say

when someone breaks something—rather, leaving it whole and sound, state what virtue is. (77a5-9)⁶

Socrates is speaking to Meno, who has promised Socrates an account of virtue but has now for the second time instead given him examples of virtues, implying that there are indefinitely many, each with its own account (71e-72a, 73d-74a). We're told earlier that Meno has learned from the sophist Gorgias to define the virtues severally (71d ff.), but Socrates is insistent that he instead provide a single overarching definition for virtue. Without such a definition, he maintains, he does not know what virtue even is, and so cannot know anything about it—specifically he is not in a position to answer Meno's question whether virtue can be taught:

If I do not know what something is, how can I know its qualities? Or do you think that someone who did not know at all who Meno is could know whether he is beautiful, wealthy, wellborn, or the opposite of these? (71b)

Socrates is clearly committed to some epistemological principle here to the effect that knowledge of a definition is a prerequisite for (at least certain) other knowledge about the definiendum.⁷ There is considerable debate about precisely what premise he's committed to and in what other dialogues this same premise is implicit.⁸ We can put the debates to one side, however, because this much is both clear and uncontroversial: there is some *sort* or *degree* of knowledge of a thing's attributes that Socrates thinks is made possible by knowledge of *what it is*—i.e. of its definition. This premise is most explicit in the *Meno*, but some form of it is clearly present in the dialogues usually thought to belong to the earlier period of Plato's career.⁹ The premise persists into Plato's later works, and, more importantly for our purposes, is accepted by Aristotle.

Aristotle regards definitions (along with hypotheses and axioms) as one of the three types of principles of demonstration, where demonstration is a sort of deduction that produces *epistēmē*, a particularly potent form of knowledge, of its conclusion. Speaking roughly, we have *epistēmē* of a thing's attributes when we can deduce them from its definition. Aristotle tells us that Socrates, Moreover, he tells us that Socrates, who was the first to “seek the universal” (*Metaphysics* A.6 987b3) or “universal definitions” (M.4 1078b19), did so with this same end in mind: “It is natural that Socrates should seek the what-it-is, because he was seeking to deduce and the what-it-is is the principle of deductions” (1078b23-50). This is clearly Socrates' motivation in the *Meno*: he is inquiring into whether virtue can be taught (70a, 86c) and thinks that it can be if and only if it is knowledge (86d-87c). Virtue will either be defined as (a type of) knowledge or as something else, and in either event, once he has the definition, Socrates will be able to deduce whether it is teachable. In Aristotelian jargon, the account of virtue *kata holou* is supposed to serve as a middle term between virtue and teachable.

Epistēmē differs from other forms of knowledge in that it grasps its objects as necessary by seeing them as following from their causes—which, for Aristotle, means from a *precise* articulation of what the substances involved *are*.¹⁰ A recurrent theme in the *Posterior Analytics*, is that this requires that one's deductions be universal. To use his favorite example, in order to have *epistēmē* that the interior angles of a triangle have a sum equal to that of two right angles, one must deduce this from the definition of triangle. If you proved this same conclusion in some other way, for example by proving it separately of several types of triangles and then showing that these types exhausted all the possible triangles, Aristotle allows that there is a sense in which you would know your conclusion, but he maintains that there is an important respect in which you would not.

[E]ven if someone proved of each triangle, whether by a single demonstration or by different ones, that each has two right angles ([proving this] separately of the equilateral, the isosceles, and the scalene), he would not yet know (*oide*) of the triangle that it had two right angles, except in the sophistic manner; nor would he know it of triangles universally, not even if there are no other triangles besides these. For he would not know [it] *qua* triangle, nor of every triangle—or rather, [he’d know it of every triangle only] in number, but not of every [triangle] with respect to form, even if there were none of which he did not know [this].

(*Posterior Analytics* I.5 74a25-32)

To make fully clear why Aristotle thinks this would require would require a lengthy discussion of the *Posterior Analytics*, but I trust that the point is familiar enough that we can forgo that here. I do want to stress, however, that this is a recurrent doctrine in the work. I.5, from which the preceding quote was taken, is devoted to the ways in which one might fail to demonstrate universally; I.24 considers and rebuts arguments that it is better to prove of isosceles triangles rather than of triangles in general that their angle-sum is equal to two right angles; and I.31 argues that we cannot get *epistēmē* (directly) from perception because knowledge of causes requires universals which are not present in perception (though they are grasped on the basis of it). “The universal is honorable”, he tells us, “because it reveals the cause” (88a5-6).

Moreover, the distinction we see in the passage from I.5 between knowing something properly and knowing it “in the sophistic manner” is present in I.2’s initial characterization of *epistēmē*:

We think that one knows (*epistasthai*) *simpliciter* (rather than in the sophistic manner, incidentally) when we think he apprehends (*gnōskein*) the cause due to

which the object exists, that it is cause of this [object], and that it does not admit of being otherwise. (71a9-13)¹¹

The sophistic sort of knowledge, with which Aristotle contrasts genuine *epistēmē*, is the kind with which Gorgias has filled Meno's head to Socrates' consternation. Though Meno (and Gorgias) take it to be knowledge *about* virtue, it is of virtue only incidentally; the proper objects of their claims make up a loosely connected "swarm" of states (72a) that they take to be virtues, without knowing precisely what they mean by "virtue". Thus even if some of their claims about courage, justice and the like do constitute knowledge, it is not knowledge *of* virtue.

In both the *Meno* and the *Posterior Analytics*, then, we have a contrast between genuine or high-grade knowledge and the type of intellectual content peddled by the sophists, and in both works the genuine knowledge is supposed to come about by a deduction in which the middle term is a definition of the minor term *as a whole*. My suggestion is that Aristotle's "*katholou*" is a reference back to this scene in the *Meno*, and is meant to capture the *universality* that an account must have if it is to serve as principle of demonstration and source of *epistēmē*.

This is something that had not been conceptualized before. "*Idea*", in the Academic usage, denoted a type of thing—an object posited by Plato, about whose existence and nature debate then ensued. Universality, by contrast, is a *characteristic* of our thinking and, in some sense at least, of what our thinking is about. A universal is whatever holds of some multiplicity of things *as a whole*—it is something that "by its nature is predicated of many things" (*De Interpretatione* 17a39-b2, cf. *Metaphysics* Z.13 1038b11) and therefore is suited to serve as a term in a deduction.

Plato regularly argues for the existence of forms on the grounds that only if they exist can knowledge be possible, and a number of these arguments turn on the *Meno*'s premise that

knowledge requires terms that hold of a multiplicity of things “as a whole”.¹² The introduction of the “universal” allows us to reframe the debate over Platonic forms. Instead of asking whether and in what way the entities posited by Plato exist, we can rather acknowledge that knowledge requires that something be universal, and to pursue some of the implications of this point for logic and epistemology, while (relatively independently) inquiring into the nature of universality. The concept “universal” enables us to conduct this inquiry—to ask one of the questions that the theory of forms is supposed to answer—in a way that is neutral between the theory and alternative answers. This cannot be done with “*idea*” as it seems to have been understood in the Academy or with the “universal” as it is often used today; both refer to a type of existent posited by certain theories, rather than to the need in answer to which this posit was made.¹³

If Aristotle was indeed looking for a way to conceptualize the epistemic role that forms are supposed to play the *Meno* is the natural place for him to look for his terminological inspiration. It marks a transition between presumably earlier dialogues like the *Euthyphro* and *Laches*, in which Socrates seeks definitions without making bold metaphysical claims, and works like the *Phaedo* and *Republic* where the theory of transcendent forms is present. The *Meno* makes more explicit than it had been in earlier works why Socrates’ *what it is* questions needs to be answered; it even hints that proper answers to them will form the basis for a type of explanation superior to that given by sophists and natural scientists (75c-76e), thus anticipating the explanatory use to which the theory of forms is put in the *Phaedo* (96a-106d), from which Aristotle’s theory of demonstration clearly draws its inspiration; and, though the *Meno* does not contain the theory of forms itself, it does introduce a related epistemological-metaphysical doctrine with which Aristotle disagrees—the theory that what we call learning is recollection of material known in a past life (71a-e). Aristotle parts ways with Plato, at just this point, when he

begins to argue that certain bold metaphysical doctrines are required by the Socratic epistemological commitments that Aristotle retains. It is fitting then that Aristotle articulates these commitments in terminology drawn from the *Meno*.

Of course, it is not certain that he coined the term “*katholou*”, so my suggestion as to why he coined it is only a speculation. But it has a basis in the importance of the *Meno* as a context for Aristotle’s own thought about universals, and it is valuable to keep this context in mind when considering Aristotle’s position, whether or not the speculation is correct.

II. Formal Points About Universality

Before turning to the question of the nature of universals and where Aristotle stands on it, to avoid confusion it will be helpful first to make a number of what we might call structural or logical points about Aristotelian universality. This will both help to avoid some confusions that are natural given our contemporary philosophical landscape and to provide further context for the arguments for and against the attribution of moderate realism to Aristotle. We can begin with Aristotle’s definition of universal and particular:

Some objects (*pragmata*) are universal while others are particular. By universal I mean that which by its nature (*pephuke*) is predicated of many, and by particular [I mean] that which is not—e.g., man is a universal, but Callias is a particular. (*De Interpretatione* 7 17a38-b1)

Universals, as defined here, are *predicates*. This may put us in mind of a contemporary way of thinking of the distinction between universals and particulars, which is often and incorrectly assumed in discussions of Aristotle.¹⁴ We tend to think of universal predicates as what Sellars called “repeatables”—as the sort of thing represented by uppercase letters in our predicate calculus.¹⁵ Particulars, by contrast, are seen as the “irrepeatable” things represented by lowercase letters, and the alternative between these two is mutually exclusive. Aristotle has his own informal terminology for this sort of distinction, which I will adopt. He distinguishes *suches* from *thises*.¹⁶ A *this* is an individual entity, and a *such* is a way that a *this* is—a way which some other *this* could also be. For example, Socrates is a *this*, and amongst his *suches* are being a man, white, old, snub-nosed, bearded, brilliant, ironic, a teacher, husband to Xanthippe, and so on. Aristotle tells us that all universals are *suches* (*Metaphysics* B.6 1003a9, Z.13 1039a1, cf. *Posterior Analytics* I.31 87b28-30), but it is doubtful that he would regard all *suches* as universals; and, in any event, what it is to be a universal is different from what it is to be a *such*.

Unlike “suchness” (or “repeatability”) Aristotelian universality is a matter of degree. Aristotle happily uses comparative phrases like “most universal”.¹⁷ White is a universal, but color is more universal, and quality still more; with “being” and “one” being the most universal terms of all. There can be such differences in degree because, unlike “suchness”, universality is a relational concept. Something is a universal relative to the subjects of which it can be predicated. Since, unlike modern logic, Aristotelian logic agrees with natural language that the same term can function as predicate in one proposition and a subject in another, Aristotle can treat a term as universal relative to its subjects and particular relative to its predicates, thus creating a hierarchy of universality, and giving sense to talk of one term being more universal than another.

There are, of course, things that are absolutely particular, in that there is no plurality of which they can be predicated. Seemingly Aristotle has such particulars in mind in the definition quoted above, where he gives Callias as an example of a particular; but in almost all contexts he is happy to call things “particulars” that are predicates of multiple subjects, when he is considering them as among the subjects to which some more universal predicate applies.¹⁸ And of course, universal’s being a relative term does not prevent Aristotle for making claims about what holds of universals as such without making specific reference to the subjects relative to which they are universal, just as parent’s being a relative doesn’t prevent us from saying, e.g., that all parents are over seven years old.

I turn now to a second difference between universals and *suches* or repeatables. In introducing the idea of a *such* above I enumerated various of Socrates’ *suches*: he is a man, white, old, snub-nosed, bearded, brilliant, ironic, a teacher, Xanthippe’s husband, etc. Each of these nine is a *such*. But we can also speak of being “an old, white, snub-nosed man”, treating what we earlier treated as four *suches* as a single item. We could even speak of being “such as Socrates”, intending by this the nine traits listed above plus many others that are in fact only true of Socrates but could be (or could have been) true of someone else. Modern logicians would have no scruple about treating this *such* as a universal, but Aristotle would deny that it is a term and *a fortiori* that is a universal or predicate.

It is not a single affirmation or denial to affirm or deny one thing of multiple things or multiple things of one, unless some one thing is composed from the multiple things. I do not call it one if one name is posed though there isn’t any one thing from them. E.g., man is, perhaps, animal and biped and tame, and yet some one thing comes from these; but there is not one thing from white and man and

walking. So, if someone affirmed some one thing of these, there would not be a single affirmation (rather, while the utterance (*phonē*) would be single, the affirmations would be multiple), and likewise, if someone affirmed these multiple things of one thing. (*De Interpretatione* 11 20b12-22)¹⁹

Aristotle makes this point repeatedly throughout the *Organon*, and, as we will see later, it plays a significant role in his *Metaphysics* as well. A proposition predicates *one term* of another. Not just any thing that can be expressed in a grammatical phrase qualifies as a genuine term.²⁰ “White, walking man” (or even “white man”) does not. I cannot explain here what Aristotle thinks is required for something that is analyzable into parts to constitute a single term, as doing so would require going too far into his ontology, though I will comment briefly on this issue later.²¹ I mention the point here only because it shows that not all *suches* are universals.²² As a predicate a universal must be a single term, and not all *suches* qualify “white running man” or “such as Socrates” does not.

A final formal or structural point about Aristotelian universals is that there are several varieties of them. The two paradigmatic type of universal, and the two on which I will focus in what follows, are forms and kinds (*eidē* and *genē*, alternately translated “species” and “genera”)—indeed, it is a question mentioned by Porphyry about the ontological status of these two that ignited the Medieval speculation on universals.²³ Form and kind are, like universal and particular, relatives for Aristotle. Forms fall into kinds (e.g., the forms horse and mule into the kind equine, but a given kind might be a form relative to a higher kind under which it falls (e.g. equine is a form of viviparous quadruped). However there are highest or “greatest” kinds (*megista genē*, often translated with the Latin “*ultima genera*”) and lowest or “uncuttable” forms (*atoma eidē*, “*infima species*”). One can divide a kind into forms by adding differentiae, as

Aristotle, in the passage quoted above, adds tame and bipedal to animal to get the form man. But uncuttable forms, of which man is the standard example, are such that any term one might add would not be a proper differentia yielding a new form, but a mere accidental attribute (like white or walking) whose addition would not yield a single term at all. Henceforth when I speak of forms I will be referring only to such uncuttable forms; I will refer to the others as kinds.

Aristotle thinks that it is sometimes possible to speak, think, and know *as a whole* about a set of things that do not fall into a kind. Most notably, he thinks that there can be a science of being *qua* being, though he does not think that there is any *kind* being under which the different categories of being (substance, quality, quantity, relative, etc.) fall. Aristotle in different contexts discusses several ways in which this is possible, each based on some relation between the things in the set. Sometimes he speaks of these things constituting a universal and other times he seems to deny this, even when dealing with things that stand in the same relation to one another.²⁴ Evidently, Aristotle regards these as difficult or borderline cases and we can put them aside for our present purposes.²⁵

III. (Moderate) Realism as a Theory of Universality

With these preliminaries out of the way, we can now turn to the question of how Aristotle understood the nature of universality, and in particular to the question of whether he is, as is usually thought, a moderate realist. It is best to begin by being clear on what is meant here by realism. In general a realist about something is someone who thinks that it exists wholly independently of anyone's awareness or thought of it. Thus a realist in general, as opposed to an

idealist (or more recently “anti-realist”) is someone who maintains that to be is not to be perceived or thought, or known, etc.—and that it is in no way or part constituted by or dependent on such mental activities. A realist about universals is someone, then, who thinks universality is a feature of the world in no way constituted by or dependant on our cognition of it. In particular he thinks that there are *mind-independent universal beings* that serve as the objects of our universal thought and knowledge. These “real universals” then stand in some relation to the particulars that fall under them such that our knowledge and thought of the universals applies (perhaps defectively) to them. Realist theories can differ on just what sort of things the mind-independent universals are and on the relation in which they stand to particulars.

The archetype of a realist theory is Plato’s which holds that the universals are Forms that exist entirely independently of (and indeed ontologically prior to) the particulars, which particulars “imitate” or “participate” in the Forms. This view is traditionally called “extreme realism”. In moderate realism, the universals are supposed to be more intimately connected to the particulars, and usually to be ontologically dependent on them. The view is moderate in that it holds that the universals are real, but not *more real* than (i.e. ontologically prior to) the particulars, as Plato’s view had done. In the history of philosophy and the current literature we can find a number of views that meet these criteria. For my purposes I will focus on the most ontologically modest of them, which can be stated as follows:

Each particular that falls under a universal is composed of two (sorts of) components (or elements or characteristics or aspects); one of these, which is the universal, is exactly identical to a corresponding component in each of the other particulars; the other differentiates the particular from the others.

On this view, the universal is the identical component and the relation in virtue of which thoughts of it apply to particulars is one of composition. The “identity” in question here need not be numerical identity; qualitative identity suffices (if we understand by “qualitative identity”, the relationship between two things whereby there is no difference between them except in number). Some contributors to the contemporary literature on universals take numerical identity to be essential to realism and so would not consider this position a realism at all, but this is the position that until quite recently was held by the overwhelming majority of people who called themselves moderate realists, for it is the position of the neo-Scholastics from whom we have inherited the term.²⁶ These same neo-Scholastics wrote the textbooks which are the *loci* of the “traditional” interpretation of Aristotle as a moderate realist. For example DeWulf writes:

Aristotle... formulated the main doctrines of Moderate Realism... The universal is not a thing in itself; it is immanent in individuals and is multiplied in all the representatives of a class. As to the form of universality of our concepts (man, just), it is a product of our subjective consideration... It was through this wise doctrine that the Stagyrte exercised his ascendancy over all later thought.
(DeWulf 1909a)²⁷

By the “form of universality” that he says is introduced by the mind, DeWulf means the numerical unity. The “real objective foundation” for introducing it, is the perfectly similar natures of the members of the same class” (Maher 1900 249, cf. Coffey 1958 277-8).

Moderate realism as I am defining it is in an important respect a weaker claim than realism as defined by authors who insist that it must involve the existence numerically singular repeatable things.²⁸ If universals are not even qualitatively identical components of multiple particulars, then they cannot be numerically identical components, so my arguments against

attributing moderate realism to Aristotle will *a fortiori* be arguments against attributing to him this stronger (contemporary) position. It is possible, of course, for someone to hold that there are repeatable numerically identical components of particulars, even while denying moderate realism (as I define it), but such components would not then be *universals* as Aristotle understands that term, because they would not be responsible for the universality of our thought and knowledge.

We're in a position now to consider the evidence for and against moderate realism in Aristotle. But, before turning to it, I'd like to close this section by looking back to the *Meno*, where I think we do find an endorsement of moderate realism.

Socrates: ...if, when I asked what the substance of bees is, you said that they are many and varied, what would you reply to me, if I asked you: "Do you claim that they are many and varied and differ from one another in being bees? Or do they not differ at all in this way but in some other way—such as in their beauty or their size or in some other such way?" Do tell, what would you answer when questioned in this way?

Meno: That's what I would say, that they do not differ at all from each other in their being bees.

Socrates: If, after this, I said "Then, tell me, Meno, this thing itself, in which they do not differ at all but are wholly the same, what do you claim it is?", perhaps you would have something to say to me?

Meno: I would.

Socrates: And so too with the virtues; even if they are many and varied, they all have one same form (*eidos*), due to which they are virtues, and to which it is proper to look when asked to make clear what virtue is. (72b-d)

The many bees are all bees (and the many virtues all virtues) because of some same form that they share, and this form is something in which they do not differ. Their differences are all with respect to other things, such as size or beauty. To be a moderate realist in the sense I am using that term, is to identify universals with such forms. Our question for the remainder of this paper is whether this was Aristotle's view.

IV. Evidence for Moderate Realism in Aristotle

There are several broad sorts of evidence for moderate realism in Aristotle. I think the most significant two are statements to the effect that universal knowledge requires universal objects and direct evidence that kinds or forms are components of the particulars of which they are predicated. These are the two sorts of evidence that I will be concerned with in the rest of the paper, but it is worth discussing here a third category of evidence that I find less telling.

There are a number of passages in which Aristotle refers to universals in language that implies, or might be taken to imply, that they are real objects. In the definition from *De Interpretatione* 7 quoted earlier, he refers to them as *objects* (*pragmata*). Moreover, he says that they are predicated of many things "by their nature" (*pephuke*), implying that they have a *nature*. Perhaps most strikingly, in *Categories* 2, he tells us that some *beings* (*onta*) are "said of a subject", a phrase which is (for him) equivalent to "universal" (1a20-21).

I don't say that evidence of this sort has no value, but on reflection it is much less impressive than it may at first appear. *Pragma* ("object") is not an ontologically-loaded term for Aristotle at all (despite its frequent mistranslation as "actual thing"). In the relevant sense, it refers to the object or subject matter of a thought (or other mental item) as opposed to the thought itself considered as a mental item, but this need not mean that there is any *real, existing* object there. Centaurs are the objects of thoughts about centaurs and non-existence of thoughts about non-existence, yet these things do not exist. Of course one might contend that in some sense they must exist (or "subsist" or whatever) in order for us to be able to think about them, but one does not need to hold some such theory to feel comfortable describing these as the objects or subject matters or *pragmata* of thoughts, so Aristotle's calling universals *pragmata* needn't commit him to any particular ontology.²⁹

Turning now to the occurring of "by its nature" in the definition of universal, I don't think Greek term "*pephuke*" commits Aristotle to the position that universals have a nature of their own (as the English phrase "by its nature" may). What Aristotle means to exclude by including the word is a case where I predicate "Callias" of many things by saying, e.g., "This man is Callias", "The victor is Callias," "My landlord is Callias", and so forth. Since man, victor and landlord are different, we might say that Callias is predicated of different things in each, but these are what Aristotle would call "accidental" rather than natural predications, because properly speaking being my landlord and a man are predicates of Callias, not Callias of these things.³⁰ A universal is a predicate in predications that don't offend against nature in this way, but it's not obvious that the nature in accordance with which the universal is predicated is the universal's own nature rather than, say, the nature of proper reasoning. Even assuming that the universal does have a nature, it may have a nature as a thought of a certain sort.

Finally, Aristotle does say that the “things said of a subject” are beings, but not all beings are mind-independent things of the sort that (moderate-)realist universals are supposed to be. He sometimes (e.g. in *De Anima* III.4 at 429b18) describes mathematical objects as objects that “exist by abstraction” (*aphairesei ontōn*), where abstraction is an act of thought. These then, are beings whose being depends on thought, and so not “real” beings in the relevant sense.

Even the most thoroughgoing contemporary nominalist may sometimes use language that could easily be interpreted as endorsing the existence of real universals, particularly in contexts like that of introducing distinctions between particulars and universals in an elementary logic class, and it is such contexts in which Aristotle makes the statements that we have been considering. It is not to such statements, then, that we ought to look to get clear on what Aristotle’s position is.

Better evidence for realism in Aristotle can be found in the various passages where he tells us that *epistēmē* or thought is of universals, whereas perception is of particulars (e.g. *Posterior Analytics* I.24 86a29, I.31 87b37-8, II.12 97b28-31, *Metaphysics* A.1 981a12-28). Generally, for Aristotle, different states of the soul act on (or with respect to) different objects.³¹ There is little to say about this evidence at this point other than to note it. I will return to it in the final section. I turn now to the direct evidence of moderate-realist composition in Aristotle.

We discussed earlier how one can generate a form from its kind by adding the differentia. By the same token, Aristotle sometimes speaks of *dividing* the form into its kind and differentia, or of the form as being composed of these two things. Don’t we have here, then, an example of just the sort of composition that is definitive of moderate realism? The kind-form relation is a relation of a universal to a particular. And it seems that all the forms in the kind are composed of two components, the kind itself which is shared with the other forms and the differentia, which

makes each form different from the next. For example, if man is defined as (amongst other things) a bipedal animal and horse as a quadrupedal animal, then in the definition of each particular (form) we have the universal animal, plus a differentiating component (bipedal or quadrupedal).

We can find evidence of this same composition relation between uncuttable forms and the particulars under them, when we remember Aristotle's hylomorphism. He distinguishes between matter, "which, in itself, is not any *this*", form "which makes it a *this*", and "the compound of matter and form" (*De Anima* II.1 412a6-9). An individual man is such a compound. This distinction is to explain how a *this* or substance can come to be, given that nothing can come to be out of nothing and all change requires an underlying subject. The matter (say a quantity of bronze or the stuff which is capable of being a man but is not yet one) comes to be a *this* (a bronze sphere or a man) by acquiring the form. If we consider the case of a man's coming to be, his matter will acquire the very set of features, shared with all other men, that we might reasonably take to be the object of our thought or knowledge about men. That is it will acquire the human form, which is a universal shared by all men. And just as we can in some sense compose this human form by adding a differentia (e.g. bipedal) to the genus animal, so it seems that we can compose an individual man by adding differentiating matter to this form. To quote a textbook cliché: Form is the principle of universality and matter the principle of individuation. Aristotle seems to tell us as much in *Metaphysics* Z.8, when he writes of Callias and Socrates that "they are different through the matter (for it's different), but they're the same in form (for the form is uncuttable)" (1034a6-8). Moreover, form and matter must exist independently of anyone's thought of them, since they are introduced as factors in a natural process that could take

place if there were no minds at all to observe it, so these components are clearly *real* in the relevant sense.³²

It is primarily because of the relations of forms to individuals and of kinds to forms, understood in this way that Aristotle is traditionally interpreted as a moderate realist. And given the evidence that we have looked at thus far, this is the most reasonable way to interpret him. But we have not yet exhausted the evidence. I turn now to several passages in which I think we see what at least seems to be Aristotle rejecting realism generally and moderate realism in particular.

V. Evidence Against Moderate Realism in Aristotle

We can begin with a well-known passage from *Metaphysics* Λ.5:

Further one must see that, while some [causes/principles] can be stated universally, others cannot. Indeed, of everything, the first [i.e. proximate] principles are [1] the first *this* in actuality and [2] another thing that's in potentiality. So, then, those are not universals; for the particular is a principle of particulars; for man [is the principle] of man universally, but there is none; for Peleus [is the principle] of Achilles, and your father of you, and this B [is the principle] of this BA, but B [is the principle] of BA *simpliciter*. Therefore, if indeed the [principles] of substances are causes and elements [of them], but other [principles are causes or elements] of other things, as has been said, [the principles] of what is not in the same kind—of colors, of sounds, of substances, of qualities—[are different from one another] except by analogy; and the [principles]

of things that are in the same form are other, not in form but because of different particulars—[there is] both [a] your matter and form and mover and [b] mine, but their universal account is the same. (*Metaphysics* Λ.5 107a17-29)

This passage is often read for the claim that different people have different forms. This claim itself is significant for our purposes, but there I want to focus first on something else. Aristotle is here distinguishing the respects in which there is and is not a single, universal set of causes or principles (i.e. unexplained explainers) for everything. Ultimately, he thinks that the principles for everything are one in a way—not in number, in form, or in kind, but by analogy, which is one of the weaker forms of unity I alluded to earlier. In order to pave the way for this idea, he discusses causality in the more familiar case of unity in form or kind (without here distinguishing between the two). He tells us that the principles of a form such as man “can be *stated universally*”, but he denies that there is a universal cause in a stronger sense. Rather, the cause of any given man is some other man (his father); if *man* (i.e. the universal form of man) were to be a cause it would have to be the cause “of man universally” (or perhaps “of a universal man”, the Greek is “*anthrōpou katholou*”), but Aristotle tells us “there is none”. That is: there is no universal man to serve as either cause or effect. When we say “man causes man” this is just a universal way of *stating* such particular facts as Pelius caused Achillies, you father caused you, and so forth.

This is doubly significant. First, what Aristotle is telling us doesn’t exist here is precisely the universal man, about which he is supposed to be a realist. Second, he is telling us that this universal does not need to exist for there to be *causal explanation*. Recall that “the universal is honorable because it reveals the cause”—that is the context that gives rise to the need for universality is that of uncovering causes from which we can deduce effects and therefore acquire

epistēmē, if this is possible without the existence of mind-independent universal objects, then there is no need to suppose that there are any such objects.

A father causes his son, on Aristotle's view by conveying a form into matter that resides in the mother's womb. The statement that each father is the cause of his son rather than some universal man causing all of them, suggests that the form conveyed by any given father is his own distinctive form rather than some universal human form, as we supposed in the last section, when we concluded that it is the human form that makes matter into a man and the matter that distinguishes one man from the next. If it was a universal human form that was conveyed, then properly speaking this form would be the cause or the father would be only insofar as he was a carrier of this form, which (by Aristotle's lights) amounts to the same thing. And indeed the passage does speak of different people having different forms, which are the same only "in universal account". Z.8's statement that Socrates and Callias are the same in form and differ through their matter, remains strong evidence of moderate realist composition, but the present passage's implication that they differ in their forms as well is strong counter evidence. I'll postpone the question of how to resolve the tension.

We should recall, though that in order to be a moderate realist, Aristotle need only think that forms are qualitatively identical. One might interpret the present passage to mean that different men have numerically distinct forms and causes, and think each man's form and cause is qualitatively identical to every other's. This is in fact, how the passage is understood by most contemporary interpreters, who take the passage to show that Aristotle believed in particular forms. For all they mean in calling forms particular is that they are numerically distinct.³³ If one reads the passage this way, one can suppose that all that is involved in giving a universal statement of the different particulars is generating a numerically singular thought or utterance

about things that are numerically distinct but qualitatively identical. (This is doubtless how DeWulf and other “traditional interpreters” would read the passage.) On this reading, Aristotle would qualify as a moderate realist after all.

However, as Balme (1987), has shown, the idea that the forms that different fathers convey to their children are qualitatively identical becomes implausible if one considers Aristotle’s theory of animal reproduction. The form-matter distinction recall was introduced to explain the coming-to-be of substances, of which biological reproduction is the paradigm case, so Aristotle’s account of its details is directly relevant to how we should understand hishylomorphism generally; and the theory requires fathers to have qualitatively different forms in order to pass their distinctive traits on to their offspring. Since, to make this case in any detail, would require a lengthy digression, I will not pursue this point further here.³⁴

Instead I will return to the idea that what causal-explanation requires is not a universal cause but only a cause that *can be stated universally*. Notice that this requirement is not trivial. The point is not simply that we don’t need real universals, because we can make universal statements about particulars. We are told that some particular causes can be stated universally, while others cannot be. There must be some fact about certain particulars—likely some relation between them—that enables us to make universal statements about them. What Aristotle is doing in the Λ.5 passage is calling our attention to the fact that this is so in the case of kinds and forms where we are so used to speaking universally that we might suppose that we’re talking about universal things, rather than making universal statements about particulars. Once we recognize what is actually going on in these cases, we will be more open to the idea that universal statement may be possible also in cases where things do not fall into forms or kinds, but where there is some other suitable relation between them.

We find the idea of “universal statement” occurs also in the opening of *Posterior Analytics* I.11, a classic anti-Platonic statement:

It is not necessary that there be forms (*eidē*) or some one thing besides the many if there is to be demonstration; however it is necessary that it be true to state one thing of many; for there will not be a universal if this is not so, and if there is not a universal, there will not be a middle, so that there will not be a demonstration. Therefore, there must be something one and same that applies to many non-homonymously. (*Posterior Analytics* I.11 75a5-9)

Before turning to what I take to be the most dramatic feature of this passage. It is worth pausing on a point of terminology. The verb I’m translating “state” here and in *Metaphysics* Λ.5 is “*eipein*”. This is the same word Socrates uses (twice) in *Meno* 77a5-b1 when asking Meno to “state” what virtue is “as a whole”. The verb is not unusual, so we should not infer too much from this, but I think it lends some confirmation to the theory that Aristotle keeps the *Meno* passage specifically in mind when thinking about universals and differentiating his view from Plato’s. The Socratic insight is to grasp causes and achieve *epistēmē* we must *state things universally*, and the Platonic misstep is the thought that this would be impossible unless there are forms, in the Platonic sense of “universal substances”, to serve as the objects of these statements.

In the present passage, Aristotle is telling us that demonstration (and therefore *epistēmē*) does not in fact require this. It merely requires a universal to serve as a middle term, but notice how he puts this: “it is necessary that it be true to state one thing of many; *for there will not be a universal if this is not so*”. This is precisely the opposite of what we would expect him to say if he were any kind of realist about universals. Realism is the view that universals are mind-independent objects whose existence makes possible the universality of thought or speech—the

stating of one thing of many. But here Aristotle seems to be treating the existence of a universal as dependent on the possibility of truly stating one thing of many. Since the existence of a universal requires that it be *true* to state one thing of many, there is clearly an ontological requirement here (as we saw there must be behind the fact that some causes can be stated universally while others cannot), but this ontological requirement doesn't seem to be the existence of a universal itself what it makes possible is a certain kind of *stating* and this either is or gives rise to the universal.

Now, though *eipein* is a linguistic verb, Aristotle's point needn't be one about language or speech as such. Evidently something is stated universally when the universal *logos* ("account") of multiple things is the same; and, though the root meaning of "*logos*" is speech, it can mean reason, proportion, and a host of other things. It is unclear exactly how to take it and *eipein* here, the point seems to be that certain beings (and in particular causes) admit of being formulated, thought, or conceived universally. And, of course, we need to so formulate them if we are to grasp causes at all and so to have *epistēmē*.

(Since Aristotle thinks that grasping causes requires universals, and since there is no evidence in the corpus of the idea that there are causes that are inaccessible to human knowledge, we should not understand the claim that some causes cannot be stated universally to mean that there are causes that cannot be revealed by any universal statement whatsoever. Rather the point is presumably that if one takes a random set of particular things with their particular causes, there may not be any universal revealing the cause of all of them. However, for any particular with its particular cause, there will be some set of things so related to it that a universal statement can be made revealing its cause.)

Posterior Analytics II.11 gives us what I think is quite powerful evidence that in some sense that he takes to be important Aristotle thinks that universals are posterior to some sort of human action—to stating. However, the passage can be interpreted along the same lines I suggested for a traditional moderate realist reader in connection with *Metaphysics* Λ.5. In both passages we see that there must be some mind-independent basis for the universal stating, and that might be the sharing of a qualitatively identical component, so that all that is introduced by the stating is the numerical unity of the thought or statement.

I’ve indicated already why I think this approach is ultimately implausible in the case of forms. There is extremely strong evidence against it in the case of kinds. To be a moderate realist about kinds, Aristotle would have to hold that a kind is a component in its forms that “does not differ but is wholly the same” from form to form and is distinct from the traits that make each form different from the next, as Socrates thought the form of bee was distinct from the beauty and size of each particular bee. But he denies precisely this in several passages. Consider *Metaphysics* I.8:

That which is other in form than something is other in something, and this thing must belong to both—e.g., if an animal is other than an animal, both are animals. Necessarily, therefore, things other in form are in the same kind. For this is what I call a kind: the one same [thing] said of both that is non-accidentally different (whether matter or otherwise). For not only must the common [thing] belong—e.g., both are animals—but this same animal must be other for each—e.g., horse for this one, but man for that one. That’s why the common [thing] is other in form [for one] than [it is] for the rest. In themselves, then, this one will be such an animal and that one will be such [an animal]—e.g., this one [will be] a horse, and

that one [will be] a man. Necessarily, therefore, this difference is an otherness of the kind. For I call a “difference of the kind” an otherness that makes this itself different. (*Metaphysics* I.8 1057b35-a8, cf. 1054b22-a12, 1018a9-15)

Though man and horse both fall into the kind animal, this kind he says here is itself *non-accidentally different* in the one from the other. That is: the kind will not be related to the difference accidentally as (Socrates supposes) being a bee is related to the differences in beauty and size that separate one bee from the next; rather than “being wholly the same” from form to form the kind will itself somehow differ.

We can see why Aristotle thinks this if we return to the point that not just any collection of terms constitutes a new term. If the kind and the differentia were related like being a bee and beautiful are, then the form composed from them would have the same kind of unity as beautiful bee, or any random phrase, but Aristotle does not think that such phrases amount to *one thing*—to a term that can be predicated of anything (or have anything predicated of it). Consider how he puts the point in Z.12 and H.6:

Now let us speak first of definition, to the extent that it has not been discussed in the *Analytics*; for the difficulty that’s been spoken of there is applicable to our accounts about substance. I mean this difficulty: that whose account we call a definition, why in the world is this one thing? Take, e.g., man, i.e., biped animal—let this be its account. Why, then, is this one thing and not many, animal and biped? (1037b8-15)

Yet whatever is in the definition must be one, for the definition is a certain single account and of a substance, so that it must be an account of a single thing; for substance signifies a certain one and a certain this, as we say.

Now a definition is one account, not by a bond in the manner of the *Iliad*, but by being of a single thing. Well, then, what is it that makes man one? Why is it one thing, not many, e.g., both animal and biped?—especially, indeed, if there are, as some say, a particular animal-itself and biped-itself? Why aren't those "themselves" man, and the man will exist by participation not in man—not in one thing—but in two, animal and biped, and generally animal won't be one, but more than one: animal and biped? Clearly, then, for those who pursue defining and giving accounts as they're accustomed, it's not possible to answer and escape this difficulty. (1045a12-22)

The difficulty Aristotle raises here is not limited to the case of transcendent Platonic forms, though it is particularly pronounced with them. It arises from the independence that Socrates already in the *Meno* insists there must be between the universal and the characteristics in virtue of which particulars differ. So long as there is this sort of independence, between kind and difference, the thing composed from them can have no more unity than white, walking man or than waxing wroth and skulking in one's tent until one's lover is killed in battle at which point one kills the son of the opposing king, etc.—i.e. than the *Iliad*.

The difficulty is inherent in the moderate realist view that a particular is composed of distinct components, one identical to and the other different from corresponding components in the other objects. (And it is inherent also in corresponding claims in at least some other varieties of realism). In positing such a distinction one undercuts the unity of one's particulars, and the problem is multiplied as iterates the theory to explain the particulars falling under higher and higher universals. Suppose that having analyzed some particular bee, as Socrates would have us do, we have isolated the form of bee from its beauty, size, and other differentiating

characteristics. Since bees are insects, the form itself will have to be analyzable into being an insect and whatever sets bees apart, and being an insect will be analyzable in like manner and so on until we get to the greatest kind. But having done so we will have analyzed the single bee into a swarm of terms and there will be no basis for grouping these terms back together in the specific way (and order) we need to if there is to be a taxonomic hierarchy. And unless we can do this, there won't be any forms or kinds about which we can say things *as a whole*.

The Socratic sort of position leads to everything being (to borrow a phrase of Hume's) "loose and disconnected", and as a result renders mysterious predication as such:

It's due to this puzzle that some speak of "participation" and puzzle over what the cause of participation is and what it is to participate, while others [speak of] a "communion", as Lycophron claims there is of knowledge and soul, and others [claim] that life is a combination or conjunction of soul and body. Further, the same account applies to all, for even being healthy will be either a communion or conjunction or combination of soul and health, and the bronze being a triangle [will be] a combination of bronze and triangle, and being white, a combination of surface and whiteness. (1045b7-16)

If we think of every universal that applies to something as a thing or part of it. Then it is unclear what we are doing in predications, in which both the subject and propositions. They seem to be no more than assertions of co-presence between universals in particulars—a result which Aristotle regards as bizarre and unacceptable. (Notice, incidentally, that this is precisely how such predications are represented in the predicate calculus, which I have already suggested is related to an un-Aristotelian—indeed, pre-Aristotelian—way of thinking of universality.³⁵)

To answer this objection, a moderate realist would have to posit some special relationship between any given form and the other forms in terms of which it is known or defined, and Aristotle is dismissive of such posits, which he regards as *ad hoc*, complaining that terms in which the Realists describe the relevant relationship are empty or absurd (Z.14 1039b5-7). His own view is that the puzzle is a sign that there was something wrong with the conception of the kind-difference relationship that led to it. And this brings us to Aristotle's alternative.

VI. Aristotle on the Nature of Universality

In the space remaining, I will be able only to sketch what I take to be Aristotle's positive view of universality. I'll do this by following up on two leads that we uncovered in the last section. The first is the idea, suggested by *Posterior Analytics* I.11 and *Metaphysics* Λ.5 that universality is based on a mind-independent relationship between particulars, though there are no mind-independent universal objects. The second is the thesis that a kind is non-accidentally different in its forms, and the difficulty raised in *Metaphysics* Z.12 and H.6 that this thesis enables Aristotle to avoid. Let us begin here by exploring the solution to the difficulty that he offers in those two chapters.

If, then, the kind does not exist *simpliciter* besides the forms (as [the forms] of a kind)—or, if it does, it exists as matter (for voice is the kind and matter, but the differences make the forms and the letters out of this)—, then it's clear that the definition is the account out of the differences. (Z.12 1038a5-9)

But if, as we say, one [part of the definition/definiendum] is the matter and the other is the form, and the one potentially and the other actually, then the topic of investigation would no longer seem a difficulty. For this difficulty is the same even if the definition of cloak were rounded bronze; for then this name would be a sign of the account, so that the topic of investigation is: what's the cause of the unity of the rounded and the bronze. But then it's clear that there's no difficulty any longer, because the one is matter and the other form. (H.6 1045a22-30)³⁶

Aristotle's point in both passages is that a form is composed from its kind and differentia in the same way that a composite is composed from its matter and its form, with the kind playing the role of the matter and the differentia the role of the form. Though matter and form are said to compose composites, they are not components of them in anything like the way the timbers of a house are components of it. Rather, the house's timbers taken collectively are its matter, because these are what is *able to be* but is not yet the house.³⁷ Even if they are currently composing a house, they are not "yet" the house, because considered merely as timbers they are equally able to compose number of alternative structures or a heap on the ground. The house's form is the organization in virtue of which the timbers compose a house rather than something else. And more generally, a form is matter's *actually being* one of the things that it is *able to be*. And what it is to be matter is to be *able* to realize some form and alternatives to it. This is what is meant in calling form "actuality" and matter "potentiality".

The components of a hylomorphic compound are not independent of one another, for each is implicated in the very being of the other. It is misleading to refer to these components as components at all, or to the thing composed from them as a compound, but since Aristotle regularly does so, we have to construe this language broadly enough to embrace the form matter-

relation. Though he introduces the distinction between matter and form to account for the coming to be of substances, he applies it also in cases where there is no coming to be and no physical constituents to serve as matter. For example, he describes the stars as having “matter for change of place” (*Metaphysics* H.1 1042b6), by which he means that they are *able to occupy a range of alternative positions*, and he conceives of their occupying a given position as a form. Here the terminology is used to analyze a change that is not a case of coming-to-be. But it is also applied in cases where there is no change at all. In H.6 Aristotle tells us that in addition to “perceptible matter”—the stuff that we can see coming-to-be a substance or, perhaps, simply changing in place—there is “intelligible matter”:

One [sort] of matter is intelligible, the other is perceptible, and always one [part] of the account is matter and the other actuality—e.g. circle: plane figure.
(1045a33-35)

Given the context of this remark, its point is often—and I think correctly—taken to be that a thing’s kind is its matter.³⁸ There are some reasons to dispute this reading and some interpretive difficulties with the idea of intelligible matter more generally, which I cannot go into here; but I will sketch an interpretation that I think is the most plausible.³⁹ Intelligible matter is not an item in Aristotle’s ontology—nor is perceptible matter. “Matter”, generally, denotes that which is able to be something, and the term is relative both to that which it is able to be and to some type of change by which it can pass from not being that thing to being it. Aristotle uses the term “intelligible matter” in two contexts: in the passage just quoted from H.6 and in Z.10-11. In the present passage he means to identify it with the kind and in Z with that out of which geometrical objects can be thought to be spatially composed. In both contexts, the idea is employed to explain how an object can be changed or manipulated *in thought* in a way that does

not correspond to any existential change that it can undergo. Something's perceptible matter is that in virtue of which it is able to come-to-be and pass away existentially or (sometimes) to change in other ways (as in place), because it is that which is able to be both the thing and alternatives to it. Something's intelligible matter is that which underwrites similar operations in thought by being able to be *thought of* as the thing or as alternatives to it. Something's perceptible matter is that into which it can be physically decomposed and from which some alternative can be recomposed. Something's intelligible matter is that into which it can be decomposed in thought and from which one can compose in thought an alternative to it.

A kind is intelligible matter in that when thinking of man, one can de-specify this thought into a thought of the kind—viz. animal. From this thought one can produce the thought of man or of horse by re-specifying—i.e. by adding the differentia. But this differentia is not a component added to man in anything like the way a timber is added to the other timbers of the house. Rather bipedal and quadrupedal are alternative ways that animal can be, just as house-shaped and stage-shaped are alternative ways that the timbers can be. Animal in general is something like a range such alternative possibilities along various axes (how many legs, which sense modalities, blooded or bloodless, etc.) It is, to use modern jargon, a *determinable*, which can be determined into any of several alternative forms.⁴⁰ To be matter of any sort is precisely to be determinable—i.e. to be in itself *indeterminate* and *able* to be any to be determined in any of several alternative ways.

But is the kind real—i.e. mind-independent? Is there a horse partially constituted by some determinable animal that can in any sense be—or have been—a man? If by “be” here we mean existentially be, then the answer is no. There is no common thing or stuff that that is able to come to be a horse, a man, and any other animal but not any non-animal.⁴¹ It is only in thought

that forms of animal can be decomposed into the kind and recomposed from it. For the kind to be matter is for it to be a potentiality of the form (and ultimately, I think, of the individual) to be other than as it is, but it is a potentiality of it to be this way *only in thought*, and this makes it essentially relative to thought rather than mind-independent. It is only *relative to thought* that the form is a complex of a universal kind and a differentia. And, though we will not take up the topic of uncuttable forms again until the next section, I want to suggest now that the same point about composition holds there as well: it is only it is only relative to thought that Socrates in any sense composed of the universal man and something (perhaps his matter) that distinguishes him from other men. To put the point generally: the composition of particulars out of a universal and a differentiating component is not a feature of the world, but something introduced by the mind.

We can see that this is Aristotle's view from *Metaphysics* E.4:

Falsehood and truth are not in the objects [...], but rather in thought (*dianoia*) [...]. But since there is complexity and division in thought rather than in the objects, and this sort of existence [viz. existence as truth] is different from [existence] speaking strictly (for the thought connects or abstracts either what something is or that [it's] qualified or that [it's] quantified), one must put aside existence... as truth; for... its cause is a certain condition (*pathos*) of thought, and... [it depends on] the remaining kind of existence... (1027b25-a2)

Some context is necessary. Aristotle thinks of a proposition as a combination of its subject and predicate term, and he thinks that a definition can be reconfigured into a proposition that asserts the existence of the definiendum by predicating the differentia of the kind.⁴² For example, if man is to be defined as the bipedal animal, then the claim that men exists amounts to the proposition that some animals are bipedal, and both the definition and the proposition can be

thought of as combinations or compositions of animal and bipedality, understanding “combination” and “composition” here in the broad sense in which it applies compositions of matter and form. And in like manner, the proposition “The man is white”, combines man and white. This combination occurs in thought, and the proposition is true when there is a combination in the objects corresponding to it; otherwise it is false (©.10 10541a34-b5, E.4 1027b18-22).

In the present passage Aristotle is denying that this sort of combination really exists in the objects independently of thought. There is an important respect in which we can say that the existence of a man is the combination of animal with bipedality or that a man’s being white is the combination of man and whiteness, but speaking most strictly this is not correct. Independent of thought there are not two items, animal and bipedal or man and white, between which a relation of combination might obtain: there is only a white-bipedal-animal. It is through the advent of thought that there come to be such distinct units as animal-in-general, man-considered-without-regard-for-color and whiteness. Once thought has come on the scene, the original white man remains as he was. What thought introduces is a perspective from which he can now be considered as a combination of man and whiteness (or of animal and bipedality)—the perspective of a mind stocked with concepts for subjects and attributes in terms of which it cognizes the world. From this perspective, which is the one we normally take on the world, combinations in thought like “white man” represent combinations in the world (or, in the case of falsehoods, fail to represent them). But as they exist in their own right, independently of thought, the facts grasped are not *combinations* of anything.

Nevertheless, in representing things as combinations, we do get at mind-independent facts:

it's not due to our truly deeming you to be white that you're white, but rather due to your being white that we, in claiming this, have the truth. (Θ.10 1051b6-9)

By the same token, it is not because we call all men animals, that it is *true to predicate* this one thing of many—i.e., that there is a universal animal, a kind that applies to man *as a whole*. There is something about the men that makes it possible and proper for us to state things about them universally—something that enables us to mentally decompose them into universal terms like animal, bipedality, white, etc. and makes our combinations of such terms true or false.

Before discussing what this mind independent basis is, I would like to return to one of the reasons given in Section IV for thinking that the universals themselves must be mind-independent. Aristotle says on a number of occasions that *epistēmē* and other forms of knowledge are of universals and specifically of kinds. If the universals are *what we know* then they must be real objects. Aristotle thinks that this point creates a strong reason to believe in the existence of universal objects (and principles in particular), unless, that is, the point is properly understood. He explains in *Metaphysics* M.10:

That all knowledge (*epistēmē*) is universal, so that it's necessary also for the principles of existents to be universal and not separated substances, does contain the greatest difficulty of those we've discussed; however, though the statement is true in one way, it is not true in another. For knowledge is twofold, as knowing (*epistasthai*) also is: one is in potentiality and the other in actuality. While the potential, being as matter, is universal and indefinite and is of the universal and indefinite, the actual is definite and of the definite, being a certain this of a certain this. It is rather incidentally that sight sees the universal color, since the color that it sees is a color, and what the grammarian contemplates, a certain A, is an A. If

the principles are universal, it's necessary for what is from them also to be universal, just as in the case of demonstration; but if this is so, nothing will be separate or a substance. (1087a10-25)

Epistēmē in actuality is the state enjoyed by a geometer, for example, while he is contemplating a proof, whereas *epistēmē* in potentiality is the state he enjoys when, having understood the proof, he is able to call it to mind and contemplate it at will, though he is not doing so at the moment. Knowledge in potentiality is what we (and Aristotle) normally call knowledge, and it is what we have in mind when we say that knowledge is of universals. But it is not the fundamental sense of knowledge. In general, for Aristotle, actuality is logically prior to potentiality, which must be understood in terms of it. To know something in potentiality is simply to be able to know it in actuality. Except that, as Aristotle tells us here, what we know in actuality is always a particular, whereas our ability to know is of a universal.

When a geometer contemplates (i.e., knows in actuality) that the diagonal of a square is not commensurable with its sides, he is always (on Aristotle's view) thinking this about the sides and diagonal of some particular square that he perceives or imagines. There is no thought, Aristotle maintains, without an image, and we think universals only in images (*De Anima* III.7 431b2-10, 8 432a3-10; *On Memory and Recollection* 1 449b31-a1.).⁴³ The object of knowledge in potentiality, by contrast, is a universal, but this universal needn't exist as a distinct object to be known: knowledge in potentiality isn't a different kind of knowledge from knowledge in actuality with its own special type of object; rather it is the ability to know the very objects that one knows when one has knowledge in actuality. What's meant in saying that its object is universal is that there are not separate abilities to know each particular. Rather, there is a single

potentiality in virtue of which the geometer is able to know of the diagonal of any particular square that it is incommensurable with the sides.

This point is just an application of a more general fact about the relation between actualities and potentialities. A potentiality is always indeterminate in that it allows for a range of different (commensurable) realizations, whereas an actuality is always fully determinate. Someone building, for example, is building a particular, determinate building. But someone able to build is not limited to building just one particular building (or even to multiple buildings that differ from one another only in number): no matter how specialized his ability may be, there will be some range of different buildings that he will be able to build. *Epistēmē*, then, has a universal object only when we are speaking of *epistēmē* in potentiality, but such *epistēmē* doesn't have any actual objects because it is not actual *epistēmē*, it is the ability to know any of the particulars under the universal that we say is its object. The universality of *epistēmē*, then, when properly understood, does not require (or even suggest) that these universal objects are real things.⁴⁴

VII. The Ontological Basis for Aristotelian Universals

I have been arguing that, on Aristotle's view, universals do not exist in the world independent of the mind. But we have, repeatedly, seen signs that they have a basis in reality. I want to close by sketching, if only in very broad strokes and with little argument, what I take this basis to be.

We can begin with the case of kinds, about which Aristotle has this to say:

Someone might puzzle over why men have not denominated, by some one name encompassing both at once from above, one kind, which comprises

those of the animals that are aquatic those that fly. For there are some affections common to these (and to all other animals). Just the same, they are correctly distinguished in this way [viz. as they presently are, without an overarching kind]. For, while, of kinds, whatever differs in accordance with degree and the more and the less has been yoked together under one kind, whatever is analogous [has been kept] separate. I mean, for example, that bird differs from bird by more or by degree (for one has long feathers, another short feathers), while fish differs from bird by analogy (for what is feather in one is scale in the other). (*Parts of Animals* I.4 644a12-23)

Perhaps, then, it is right, on the one hand, to speak in common in accordance with kinds wherever [one] is spoken of properly (men having defined it well) and has a single common nature and forms in it that are not very different ([e.g., the kinds] bird and fish, and [likewise] any other there may be that, though unnamed, comprises the forms in it like a kind), and, on the other hand, wherever there is not such [a nature], [to speak] particularly (e.g., about man, and [likewise] if there is any other such [form]). (*Parts of Animals* I.4 644b1-7)

By “kind,” I mean, e.g., bird and fish; for each of these has difference with respect to kind, and there are many forms of fishes and birds. But, roughly [speaking], the majority of the parts differ in themselves by oppositions of their affects—e.g., color and figure—one thing being affected more in a way that another is affected less; still, [other parts differ] by multiplicity and fewness, and by largeness smallness, and, generally, by excess and defect.

[...] But, so to speak, most parts, and the ones out of which the entire mass is composed, are either the same or differ by opposition and by excess and defect—for we can count the more and the less as a sort of excess and defect. (HA I.1 486a15-b17)

Before proceeding, it is worth noticing the strong implication in the first two passages that kinds are the result of our own classificatory activities. There are a number of related passages in the corpus that suggest that kinds are the result of our grouping things together and introducing a common name for them.⁴⁵ And, plausibly, it is by doing this that thought gives rise to the universal terms that it then combines to form propositions. What is of interest to us here is the relation of “difference in the more-and-the-less” that Aristotle tells us obtains between the forms of a kind, as this would seem to be (at least part of) the ontological basis for the kind. In the quoted passages, Aristotle is speaking specifically about zoological kinds—kinds of animals, animal-parts, animal-actions, etc.—but it is clear that he thinks the relation of more-and-less difference applies more widely. Consider the following passage from *Metaphysics* I.3-4:

Contraries are different, and contrariety is a certain difference (*diaphora*). The rightness of this supposition is clear from induction; for all are evidently different and they are not merely other (*hetera*). [...] Since the differing things admit of differing from one another in the more and the less, there is some greatest difference, and I call this contrariety. It is clear from induction that contrariety is the greatest difference. For, while things that differ in kind do not have a way to one another—rather, they keep entirely apart and are incommensurable [*asumblēton*]⁴⁶—comings-to-be for things that differ in form are from contraries as

extremes; and the distance between extremes is greatest, so that between contraries must be as well. (1054b22b31-a12 cf. 1018a9-15)⁴⁶

“*Diaphora*”, the word here translated “difference” is the same word translated “differentia”. What distinguishes a kind from an uncuttable form is that it can be differentiated into forms. Forms of a kind stand in a relation of difference, which for Aristotle is something over and above mere otherness. Here we see that it involves “commensurability”—one item’s being more or less than the other—a relationship the extreme form of which is contrariety. This gives the things in the kind a “way to one another”, and this makes it possible for one to “come to be” out of another. Aristotle is not saying, of course, that all the forms of any kind can actually transform into one another—that a cat can turn into a elephant because both are animals. His point is, rather, that it is a necessary condition for a transformation that there be a *continuity* between its termini. This is why it is unintelligible to speak of transformations between disparate things like, say, the Korean War and the color blue. There are no dimensions along which these two can be compared. By contrast when we can compare to things along some dimension, saying that one exceeds or falls sort of the other, we can think of one altering along that dimension to be more like the other, whether or not the thing is in fact capable of undergoing such an alteration. For example, since the Sun is brighter than the moon, we can think of the moon becoming brighter until it is like the Sun in this respect, whether or not the moon is in fact capable of doing this. Difference, as opposed to mere otherness, is always difference in some respect; and this respect serves as the matter that enables the objects to pass into one another at least in thought, if not in reality.

This commensurability is an important part of the ontological basis for kinds, but a little reflection reveals that it cannot be the whole story. If it were, Aristotle’s view would have to be

the following: there are (or, perhaps, we are justified in introducing) just as many kinds as there are dimensions along which things can differ, and all the items that differ along a given dimension fall under the corresponding kind. We can see immediately that this cannot be correct.

First, this view is arguably a form of moderate realism; and, in any event, it is subject to the criticisms we saw Aristotle level against realism. If each kind corresponds to a distinct dimension, then the dimensions corresponding to superordinate and subordinate kinds will need to be distinct, so that the subordinate kind will not really be a determination of the superordinate kind, as we saw that Aristotle thinks it must be to allow for the unity of the subordinate kind. If the subordinate kind is to be a determination of the superordinate kind, it will have to correspond not to a dimension, but to a range along a dimension (or within a wider range) that corresponds to the superordinate kind. Moreover, zoological kinds clearly do correspond, for the most part at least, to ranges rather than dimensions. Consider kinds of tissue (what Aristotle would call “uniform parts”) like flesh, bone, cartilage, sinew, etc. Within each there will be more-and-less variation, with (e.g.) some forms of skin being thicker or moister than others, and some forms of bone being harder than others. But there will also be this sort of difference between tissues of different types. Bone is harder than cartilage, both are harder than skin, etc.

If kinds correspond to ranges rather than dimensions, then there is a question as to how the boundaries of the ranges are set. Why are there separate kinds, bone and cartilage, rather than one embracing them both? And why are there uncuttable forms, like man, when there are evidently all sorts of differences in the more-and-the-less between individual men. All men are bipedal, but some have longer legs than others, etc. Why can't these differences ground subdivisions of man into further forms?

There is a second problem with the view that each kind corresponds to a unique dimension along which its forms vary. It is clear from the passages from *History of Animals* quoted above that, in zoological kinds at least, there is more-and-less variation along a number of dimensions, rather than just one.

What then, besides commensurability forms the ontological basis for kinds? In a word, I think the answer is causality. Recall that universals are honorable because they reveal causes. They do this by serving as middle terms in demonstrations. But this suggests that universals must imply or be implied by other universals, and that implicatures must reflect causal relations.

In fact, Aristotle tells us that we should introduce new terms precisely when we discover new things that follow from or are followed by the terms we already recognize and that by doing so we will discover causal-relations:

Though we now we speak in accordance with the common names that have been handed down, it is necessary to enquire not only in these cases. Rather, also, if any other common attribute should be observed, then, after selecting it, [enquire into] what it follows and what follows it—e.g. possessing a vase belongs to the possessors of horns [as does] not being amply-toothed, then [inquire into] what follows horn-possessing. For it is clear why what was mentioned belongs to these things; for it belongs to horn-possessing. (*Posterior Analytics* II.13 98a13-19)

The context for the passage is a discussion of how we can build what amounts to a database of premises and conclusions for demonstrations by taking note of what follows what; and Aristotle is advising us to introduce new universals when we find that in doing so we would be introducing a term that would follow and be followed by other terms. We get similar advice in *Topics* VIII.2:

While in some inductions it is possible to ask for the universal, in some it is not easy, because a common name has not been laid down for every likeness; rather, whenever anyone needs to take the universal, he says “[it’s] so in all such things”. But this—which of the things put forward are and aren’t “such”—is among the most difficult things to distinguish. And, besides this, [people] often lead one another astray with respect to the accounts, some claiming things to be alike which are not alike while others dispute the likeness of things that are alike. That’s why one must try oneself to make up a name applying to all such things, so that it won’t be permissible for the defense to dispute [on the grounds] that the cited thing is said in an unlike [way], nor for the questioner to allege that [it’s said in a] like [way] to what’s been said, since many of the things said [in an] unlike [way] appear to be said [in a] like [way]. (157a21-33)

Aristotle is considering a case in which notice that a certain group of things that are alike in some un-conceptualized way share some common predicate. The predicate is an already existing universal, and we now want to make an induction that this universal “follows” all things *such as* the ones we began by considering. In order to do this, we need to make up a name, thus introducing a universal. There are two elements involved in our need to doing this, and these form our basis for doing it. The first is that the objects we are going to subsume under the universal are *alike*, which can be understood (along the lines suggested by *Parts of Animals* I.4) in terms of their being commensurable and “not too different”. The second is that, if we take them *as a whole*, something will follow from this whole (which may be what the *Parts of Animals* passage means when it refers to them having a “common nature”).

Matters here are considerably complicated by the difficult question of how Aristotle understands what it is for one thing to “follow” (or be implied by) another. In particular, it is not obvious how this relation relates to that of causation. These are issues on which I do not think Aristotle’s views are well understood, and exploring them is too big a project to take on here.⁴⁷ It will suffice for our present purpose to point out two non-controversial theses that Aristotle is clearly committed to: effects follow their causes, and *epistēmē* (the type of knowledge for the sake of which we have inference) crucially involves seeing an effect *as* following from its causes.⁴⁸ Thus we can take causation as the paradigm case of following.⁴⁹ Given this much, even without knowing how exactly Aristotle understood following, we can reach a provisional understanding of his principle that it is proper to introduce a term when something will follow from it.

The principle means that it is proper to introduce a kind term, and thereby to treat a range of commensurable things *as a whole*, when those things stand in a common causal relation to something else. The something else in question here—the other term of the causal relation—is itself a kind, comprising a range of commensurable things. Certain ranges along certain dimensions are such that falling within them is causally connected with falling within other ranges along other dimensions, and these ranges are kinds. Or, rather, they qualify as kinds once we regard them in the proper way. *A kind is a causally-relevant range of commensurable things, insofar as it is regarded as a whole.* And the kind’s basis in reality is a certain set of relations of commensurability and causality.

Some kinds are such that there are sub-ranges within them that are themselves causally-relevant, in that they are causally-related to sub-ranges of the ranges to which the kind itself is causally-related. These kinds will be divisible into forms. But other kinds are such that they have

no causally-relevant sub-ranges, and these are the uncuttable forms. If a universal is to be a kind, as opposed to an uncuttable form, there must be causally-relevant sub-ranges; and for this to be possible, its members must differ in the more-and-the-less rather than being qualitatively identical. The individual members of an uncuttable form can be qualitatively identical, but they needn't be. Since more-and-less variation is not a sufficient condition for causally-relevant ranges, a form can embrace this sort of variation without thereby being "cuttable"—i.e. without having sub-forms.⁵⁰

The preceding account is very abstract and schematic. It may help to flesh it out with an example. The individuals within the kind bird differ in the more-and-the less along many dimensions: the size, shape, texture, etc. of their wings, beak, talons, etc., the swiftness and height with which they fly, and so on. Falling somewhere within the relevant range along any one of these dimensions is causally related to falling within the relevant range along the others. (Presumably there will be a single range or a small group of them that constitutes *being a bird*, and all the others will follow from this.) Hawks all fall within a sub-range along all or most of these dimensions, and the hawk sub-range along one dimension is causally connected to the hawk sub-range along the next. Hawk-shaped wings, for example, enable a hawk's high and swift flying, which, along with its keen eye-sight and sharp talons, enables it to hunt. When we get to an uncuttable form of bird—say, bald eagle—the form may still embrace differences in the more and the less along at least some dimensions. One bald eagle's talons may be slightly sharper than another's, say, and its wings slightly shorter. But (*ex hypothesi*) these differences are not causally-related, and so there is no basis for dividing bald eagle into narrower forms.⁵¹

Even with this example, the account I've given of the ontological basis of Aristotelian universality, remains an outline. Fleshing it out would require discussing in some detail

Aristotle's view of causality, how it applies in different sciences. And to access the strongest evidence for the account, we would need to consider in detail the reasons he gives, in conducting various sciences, for introducing or rejecting new terms, and we would need to discuss some of the more technical aspects of his view of how thought arises.⁵² It is not possible to do any of this here, but I hope that the sketch I've given in this section is enough to make intelligible how Aristotle could hold that universals have a mind-independent basis without themselves being mind-independent. That held this was the thesis of the previous section.

VIII. Concluding Question

I'd like to conclude by briefly considering a question. I've argued that Aristotle is not a moderate realist, or any sort of realist, in that he does not think that universals are objects that exist entirely independently of the mind. Rather, I maintain universality is, for Aristotle, a feature of our thought and discourse that has basis in the mind-independent relations of commensurability and causality. Am I claiming, then, that Aristotle is a nominalist? If nominalism is defined as the contradictory of realism, then of course I am. But, I would argue that it should not be so defined. If we take a pre-Aristotelian notion of universality, by thinking of a universal as a Form, then it is natural to think of the problem of universals as the question of whether and in what way these forms exist, and so divide theories of universality into two broad groups in accordance with whether or not they posit their existence. But I have argued that a significant insight contained in the introduction of the term "universal" is that we should not think of the problem of universals in this way. Rather we should think of it as the question of how to explain and justify the universality of our thought and speech. If we think of it this way,

than the positing of universal objects is just one explanation, and there is no reason to assume that all the alternatives to it will share anything interesting in common, and therefore no reason to think that they form a *kind* of view.

Thus, I think it is a mistake to think of nominalism as the contradictory of realism. The term ought to be used for the range of theories it has historically denoted—theories that maintain that all mental content is essentially perceptual in form, and that the universality of thought consists in a special way of manipulating images or symbols so as to make them stand for multiple things. How similar Aristotle’s view is to these views and to the views traditionally labeled “conceptualist”, and how best to classify all these views, will have to wait for another occasion.⁵³

¹ DeWulf (1909b 151) speaks of “Moderate or Aristotelian Realism”. The *Blackwell Dictionary of Western Philosophy* (Bennin and Yu 591) reports that: “Aristotelian realism argues that a universal has no separate existence of its own but is a structure embedded in things (a *universal in re*)”. See also the *Oxford Dictionary of Philosophy* (Blackburn 1994 287), which tells of “the Aristotelian belief that universals exist in things (*in re*) but not independently of them”. Similar accounts can be found in Aaron (1952 23), Woozley (1967) and Geirsson and Losonsky (1998 18). Moderate realism is also sometimes referred to as “Thomistic realism,” “Scholastic realism,” or “immanent realism” (which last Armstrong [1978a 36] treats as synonymous with “Aristotelian Realism”).

² Geirsson and Losonsky 1998 18, cf. Roochnik 2004 161, Pojman 1997 246, and Clay 2000 215.

³ One can get a sense of what objections Aristotle has in mind by considering B.2 (998a7-19) and M.2 (1076a38-b11) where Aristotle discusses the similar idea that mathematical objects exist in perceptible things. For useful discussion of the A.9 passage see Dancy (1991, 23-8) and Ross (1924a 198). Both scholars are concerned to show how the position Aristotle ascribes to Eudoxus is different from (what they take to be) Aristotle's own commitment to immanent universal forms. Ross takes Eudoxus' position to be that forms are immanent "substances in the fullest sense" and Aristotle's position to be that universals are "not substances in the proper sense of the word". Since Platonic forms are supposed to be substances—indeed the only true substances—this reading makes Eudoxian forms re-located Platonic forms in a way that Aristotelian forms are not. Dancy thinks that the relationship between the three thinkers is more complex, but he agrees with Ross that both Aristotelian forms and Eudoxian forms are immanent universals and that Eudoxus' view is closer than Aristotle's it is to Plato's "High Theory of Forms". These readings would be plausible, though not entirely satisfying, if there were good antecedent reason to think that Aristotle believed in immanent universal forms and no other strong reason to doubt this, but as I will go on to argue, this is not the case.

⁴ See especially *Metaphysics* A.5 1071a17-29 and *Posterior Analytics* I.11 and 22.

⁵ Russell 1991 92.

⁶ In *Republic* V, we find an occurrence of "*kata holon*":

I seem to be a ridiculous and obscure teacher; so just as unable speakers do, I will try to reveal what I intend to you not *kata holon* but rather by taking up some part.

(392d-e)

The meaning seems to be slightly different. The genitive in *kata holou* is presumably the same genitive one finds with verbs of predication—it is the case for that *against* which one makes an

allegation, whereas in the *Republic* passage it is more natural to translate the *kata* + accusative with some formula like “according to”. (Also worth looking at in connection with the etymology of “*katholou*” is *Prior Analytics* 43a39, where Aristotle speaks of what’s required to establish something “*kata tinou holou*”.)

⁷ Brickhouse and Smith (1994 52) claim that this passage doesn’t actually commit Socrates to this principle because it is a question. “Meno makes the commitment; Socrates merely solicits it”. But Socrates does not merely solicit the commitment; he presupposes the principle when he sets up a challenge to the possibility of knowing a thing’s attributes without first knowing what it is, and he then argues for the principle by reducing the idea that the challenge can be answered to absurdity. Santas (1979 123) manages to treat the statement as ambiguous in its range only by ignoring the latter half of it, which is perfectly general. This sort of range-restricting argument is plausible however for *Laches* 189d-190b which might be otherwise be read along the lines of the present passage.

⁸ It was once conventional wisdom that, throughout the “

¹¹ I translate “*gnōskein*” “apprehend” here to distinguish it from “*epistashtai*” and “*eidenai*”, which I’ve been translating “know”, though arguably “*gnōskein*”, as Aristotle uses it, is closer to our English “know” than the other two verbs. On the relation between these three verbs in Aristotle, see Salmieri 2008, §3.0 and §3.2.1.

¹² See Salmieri 2008, §1.2.3.

¹³ On the parochial character of the currently dominant way of conceiving the problem of universals, see Salmieri 2008, §1.3.5.

¹⁴ See, for example, Sykes (Sykes 1975 313), who argues that Aristotle’s definition of universal and particular commits him to “a dichotomy between particular and universal which appears to be both exclusive and exhaustive”. Cf. Albritton 1957 n.2, who rejects as unintelligible the view that Aristotle might have regarded forms as, in their own right, neither universal nor particular. This view, which had been held by the Thomists and was standard in late 19th and early 20th Century textbooks has receded almost entirely from scholarly consciousness, because it is hard to make sense of from the perspective of contemporary assumptions about universality. Albritton’s article (along with the piece by Sellars on which it is a comment) is a turning point here. It inaugurated the literature, which persists to this day, on the particularity or universality of Aristotelian forms, and did so in a way that imported contemporary assumptions and so insulated the discussion from the prior interpretations.

¹⁵ Sellars (1963) section VI, 156-61.

¹⁶ See *Metaphysics* B.6 1003a9-12, Z.13 1039a1-6, *Posterior Analytics* I.31 87b28-30.

¹⁷ *Metaphysics* B.12 999a21-2, cf. *Posterior Analytics* I.2 72a4.

¹⁸ For example: health, sickness, justice, injustice, courage and cowardice are each called “particulars” in *Categories* 10 (13b37), fire and earth in *Metaphysics* Λ.1 (1069a29), and

isosceles and scalene in *Posterior Analytics* I.5 (74a25-30). In *De Anima* I.1 (402b6-7), dog, man, and horse are particulars, and in II.4 (414b32) plant and beast (which is predicated of dog and horse) are called a particulars as well. For further discussion, of Aristotle's use of particular, see Cooper (1986 28-31) and Owens (1981c 64-5).

¹⁹ See also *De Interpretatione* 8 18a12-25, *Prior Analytics* I.23 40b35; I.2 72a9; *Posterior Analytics* I.22 83b17-31, II.10 93b36; *Sophistical Refutations* 6 169a6ff, 17 179a39ff, and 30; and *Metaphysics* Γ.7 1011b24. The issue of what constitutes "one proposition" is of special significance to Aristotle, especially in the *Sophistical Refutations* because of the common sophistic tactic of "making two questions into one" by asking a question with an equivocal term and taking the answer to apply to both of the term's senses.

²⁰ Ackrill (1963 145) regards Aristotle's position on this issue as "clearly unsatisfactory" because:

He fails to recognize that a statement which contains a name (or verb) which does not stand for a genuine unity may nevertheless be itself a unitary statement, incapable of decomposition into simpler statements. 'Some men are musical cobblers' and 'no musical cobblers are wise' cannot be construed as conjunctions of simpler statements containing no such compound terms as 'musical cobblers.'

It is unlikely that Aristotle would have been moved by this criticism. He is concerned less with providing an analysis of every possible sentence than with providing an understanding of terms and propositions that can explain their function in argument and ultimately in knowledge. Consider how one would argue to or from Ackrill's statements about musical cobblers. To prove that some men are musical cobblers one would first have to argue that some men are musical and then give a separate argument that some of these men are cobblers. There are no unitary

propositions that would count as evidence that someone is or is not a musical cobbler. Similarly, if propositions about musical cobblers are used as premises in an argument, they will not be used as propositions about musical cobblers. For example, consider a putative demonstration of the (imagined) fact that no musical cobblers are wise: Musical cobblers are manual laborers, but no manual laborers are wise, therefore no musical cobblers are wise. Here the musicality of the cobblers would be wholly irrelevant; for it is simply *qua* cobbler that a musical cobbler is a manual laborer. Could there be a demonstration that employed both the musicality and the cobblerhood? Perhaps: Musical cobblers are busy, busy people cannot acquire wisdom. But here again it is not *qua* musical cobblers specifically that the musical cobblers are busy, but *qua* people engaged in sets of disparate activities. There's something defective about statements about musical cobblers with respect to their ability to function in our cognitive economy. It is worth observing how Aristotle himself proceeds when he needs to record facts that might be expressed with sentences like "No musical cobblers are wise". This situation often arises in the *History of Animals* where he makes observations about what features are and are not found together. Typically instead of writing something to the effect that "no musical cobblers are wise" he will write something like "Of men, whichever (*hosa*) are cobblers are not wise". The *Organon* does not offer any analysis of this form of speech, which preserves a unitary term as the subject and introduces two distinct unitary predicates, but it is clear that it must be understood as some sort of compound or conditional. From Aristotle's (too brief) discussion of conditionals in *Prior Analytics* I.44, we can see that he takes them to be it is clear that he thinks that they are neither arguments nor premises, but play another (somewhat difficult to characterize) role, the need for which does not arise in mature bodies of knowledge.

²¹ On the issue of the composition of terms, see Salmieri 2008, §3.1.

²² I said earlier that I consider it doubtful that all suches are universals on Aristotle's view. It is certain that they are not if one allows "white man" and the like are suches, as I have been assuming Aristotle would. But I am not positive that he would allow even this.

²³ *Isogage* 1 10-13

²⁴ Compare the usage of "universal" in *Nicomachean Ethics* I.6 with its use throughout the *Metaphysics*.

²⁵ It is worth noting, though, that a moderate realist interpretation of Aristotle is quite implausible for these cases. See Salmieri 2008 §2.1.3.

²⁶ The ultimate origins of the term "moderate realism" are something of a mystery, but it seems to have passed into general usage as a result of its use in the Louvain school. On both the term and the neo-Scholastic position, see Salmieri 2008, §1.3.4, and the sources cited there.

²⁷ Or, to be more exact, these neo-Scholastic works are among the loci of the traditional interpretation. There is another (non-Scholastic) broad tradition of 19th and early 20th Century Aristotle scholarship of which we can take Ross and Zeller (in different ways) as paradigms, but they also understood the claim that Aristotle believed in immanent universals in something near to the way I'm describing here. For elaboration, see Salmieri 2008 pp. 101-2 (including especially n. 29).

²⁸ Contemporary realists who take this sort of position include Aaron (1952), Blanshard (1964) and Armstrong (1978b, 1991).

²⁹ I know of no case where Aristotle calls something a *pragma* that he unambiguously thinks does not exist, but this is not surprising as he uses the word most often in psychological contexts where this sort of possibility is not especially likely to arise. However, he does use it in *Politics* III.1 1275a33ff. to describe objects whose subjects are related in such a manner that there is

“either nothing at all or hardly anything common to them as such”, if there were *nothing* common to them as such, it is doubtful that Aristotle would think that there was any real *thing* to refer to, and this is not (in the end) his position with respect to the relevant objects, but that he would use the word *pragma* while considering this possibility suggests that he would use it for the (supposed) objects of thoughts of falsely thought to exist. On Aristotle’s view of the semantics of such terms, see Salmieri 2008 §3.1.

³⁰ On this point, see *Posterior Analytics* I.22.

³¹ *Nicomachean Ethics* VI.1-2, cf. *De Anima* III.1 402b14ff.

³² I leave aside the role played by Aristotle’s god, which is (on most interpretations at least) a mind, in all natural processes. However we understand its role, it is clear that this god does not spend its time thinking about such things as Socrates and his matter.

³³ Frede (1985 23), for example, writes:

[T]hings of the same kind have the same form only in the sense that for things of the same kind the specification of their form is exactly the same... It is a basic non-trivial fact about the world that things come with forms which are exactly alike, and not just sufficiently similar to class them together in one kind. The reality of kinds amounts to no more than this, that the specification of the form of particular objects turns out to be the same for a variety of objects. But for this to be true there is no need for a universal form or a universal kind, either a species or a genus. And in fact the import of Z13 seems to be that there are no substantial genera or species in the ontology of the *Metaphysics*.

See also: Tweedale (1988 520)—“each individual form taken in itself is indistinguishable from every other individual form of the species on question”; Witt (1989 179)—“[Socrates

and Callias'] individual forms have the same features, and so differences between them must be explained by their matter"; and A.C. Lloyd (1981 2)—"In my view neither the form of pale possessed by an individual man Socrates nor the form of man with which... Socrates is in some sense identical is a universal, for neither is one and the same, that is numerically the same, form as either of those possessed by or identical with any other pale man". (Note that Lloyd 1981 is a significant departure from Lloyd 1970.)

³⁴ For further elaboration and defense of this position, see Salmieri 2008 §2.4.

³⁵ It is not the case, as it is so often alleged to be, that such a radical departure from Aristotle is necessary to formalize inferences that his logic cannot: see Sommers 1982

³⁶ For discussion of alternative readings of this passage, see Salmieri 2008 §2.2.3 (especially n. 54)

³⁷ The root meaning of "*hulē*", the word translated matter, is timber.

³⁸ This is how he is read, for example, by Ross (1924b 199-200, 238) and Grene (1974 65-66). For alternative readings see Rorty 1974 76 and Bostock 1994 284-5.

³⁹ See Salmieri 2008 §2.3.3 for a discussion of these and a defense of the reading I employ here.

⁴⁰ The term determinable was introduced into modern logic by W.E. Johnson (1921, 1922, 1924). For useful discussion see Prior 1949. To my knowledge Granger (1980 and 1992) was the first to describe the kind-form relation in Johnson's terminology. My position differs from Granger's in two important respects: (1) Granger thinks that Aristotle "treats the genus as though it were a determinable of its differentiae," without having "a clear idea of the determinable-determinate relation" (1992 82), but I see no reason to think that Johnson's or Granger's idea of the relation is any clearer than Aristotle's. As I argue below, Aristotle makes every essential point about the relation that Johnson does. (2) I disagree with Granger's thesis that the determinable-determinate

conception of the genus-differentia relation is the last of three incompatible views of the relation that Aristotle held during different periods of his career. The three views are: (i) that the genus is an οὐσία and the differentia an attribute, with the genus being the more “important” element in the definition, (ii) that the genus and differentia are both attributes and of equal importance, (iii) that the genus is a determinable attribute of which the differentia is a determination and that the differentia is the more important element in the definition. In fact there is no conflict between the texts that Granger takes to belong to these different stages (many of which he finds only lines apart from one another). A genus marks out a class of οὐσία by a determinable attribute, and a differentia is a determination of that attribute. The appearance of conflict is caused by engaging in vague talk about the “importance” the different parts of the definition and by ignoring *Categories* 5 3b18-21 where Aristotle tells us that a secondary οὐσία (i.e. a kind or form) signifies neither a τόδε τι nor a quality *simpliciter*, but rather a quality that marks off an οὐσία or an οὐσία of certain qualification. Not only is there no conflict that needs to be explained away by Granger’s dubious developmental thesis, but adopting the thesis would force us to conclude that there are serious logical problems with Aristotle’s metaphysical project. Had Aristotle rejected the premise that a genus and its differentia fall in different categories, he would have undermined his argument that being and unity cannot be γένη, for that argument turns on the premise that a genus cannot be said of its differentiae (*Metaphysics* B.3 998b21-27). The idea that being and unity are not genera, is central to Aristotle’s metaphysical enterprise, and to his reasons for asking the questions that lead him to the determinable-determination view of the genus-differentia relationship.

⁴¹ For an alternative view see Rorty 1974. For responses to it See Greene 1974 and Salmieri 2008 §2.3.1.

⁴² In *De Anima* III, he treats both affirmations and denials as combinations and uses “division” to describe the act of analyzing a whole (e.g. a hylomorphic compound) into two terms one of which can be predicated of the other. In *De Interpretatione* and the *Metaphysics* he usually speaks only of affirmations as combinations and treats denials as divisions of the subject from the predicate. On these different uses of the language of combination and division, see Salmieri 2008 §3.1.1. For the sake of simplicity, I will speak only of combination here.

⁴³ On this doctrine, see Salmieri 2008 §3.3.2.

⁴⁴ For further discussion of M.10 and some related passages, see Salmieri 2008 §2.5.

⁴⁵ On these passages, see Salmieri 2008, §4.3.

⁴⁶ On some difficulties concerning this and related passages, see Salmieri 2008 §2.2.2.

⁴⁷ For the beginnings of an account of the relation between following and causation, see Salmieri 2008 §3.3.3 and §4.3.3.

⁴⁸ *Epistēmē* is the type of knowledge for the sake of which we have inferences because it is the only theoretical virtue which essentially involves inference. Or rather it is the only such virtue in the theoretical sphere. *Technē* and *phronēsis* involve it as well, but they too involve seeing effects as following from their causes.

⁴⁹ There are other cases of following, but Aristotle thinks they all somehow reflect causal relations. For example A might be said to follow B if it causes B or both are caused by C.

⁵⁰ The view I sketch here is a version of that defended by Balme (1987c 298) and Lennox (1985 80-81 and 1987b 353-358; the extended example in the next paragraph is a variant on that Lennox uses in these pieces). For a fuller discussion, see Salmieri 2008 §2.4.2-5, §4.3.3.

⁵¹ Or, at least they’re not causally-related in the appropriate way. It may be that a given eagle has talons of a certain sharpness and wings of a certain length both as a result of his father’s having

had such parts. But, in the context of biology, where (for Aristotle) teleology is the dominant mode of causation, this may not be sufficient to ground a sub-kind, especially since the causal-connection will be of a quite different sort than the one that licensed the wider kind.

⁵² For development of some of these themes, see Salmieri §2.2-4, §3.3, §4.2-3.

⁵³ For discussion of the relation between Aristotle and Hume's paradigmatically nominalist view, see Salmieri 2008 §3.3.2.

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