

PHIL 301 ANCIENT PHILOSOPHY

UNIT 3: ARISTOTLE

PAMELA HOOD

CONTENTS

1. Categories	1
2. Hylomorphism	11
3. The Four Causes	16
4. Change	17
5. Potentiality and Actuality	19

In this, our last class Unit, we'll discuss five fundamentals of Aristotle's philosophy: (1) categories and substance-accident ontology, (2) hylomorphism, (3) change, (4) the four causes, and (5) potentiality and actuality.

In our prior unit we focused on Plato's metaphysics, ontology, and epistemology, with a bit of psychology thrown in for good measure. We pick up some of the same themes here. Aristotle wasn't a great admirer of Plato's theory of the Forms, but we won't directly address his arguments against the Forms in this Unit. Nevertheless, you'll soon appreciate how very different Aristotle's philosophical orientation is from that of his teacher, Plato.

1. CATEGORIES

1.1 *What are the categories?*

In the *Organon* (the six treatises that constitute Aristotle's treatment of logic and demonstrative science), Aristotle takes up the study of the elementary units of what exists, how they can be discussed in language, and how to engage in scientific and dialectical reasoning. In the first treatise, the *Categories*, Aristotle examines the beings (*onta* or *ὄντα*) that actually exist, the manners in which they exist, and the way in which these are knowable as conceptual units of thought in and through language as "saids" or "sayables" (*legomena* or *λεγόμενα*). At *Categories* 1b25-2a3 Aristotle lists these ten conceptual thought units, each signifying what have come to be called one of the ten *predicaments* or *categories* (*katēgoriai* or *κατηγορίαι*) of beings. The Greek, *katēgoria*, means

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"charge" or "accusation". A *category*, then, is a specific kind of being. Items within a category constitute a collection of things that may be *charged* with being that certain kind of being. In the *Categories* Aristotle describes the ways in which these ten beings exist. This treatment of the existence of "beings" is the study of *ontology* - the *logos* of *onta*.

The ten categories of *onta* are: substance (*ousia* or οὐσία) and the nine accidents (*sumbebēkoi*; the singular is *sumbebēkos* or συμβεβηκός).

substance (e.g., man or a horse)

quantity (e.g., six feet)

quality (e.g., the color turquoise)

relation (e.g., double or larger)

place (e.g., in Hollywood)

time (e.g., last year)

position (e.g., sitting)

having (e.g., has-shoes-on)

doing (e.g., burning)

affection (e.g., being-burned)

1.2 What does Aristotle mean by 'substance' in the *Categories*?

Substance (*ousia*) in the *Categories* includes both primary substances (*prote ousia*) and secondary substances (*deutera ousia*) such as genera and their species. In the *Categories*, primary substances are concrete, individual items such as you, me, and Socrates. Secondary substances are the species or genera of primary substances. Socrates' species is "man" and man's genus is "animal". The class man and animal are what Aristotle calls secondary substance.

All substances can be subjects, but not all subjects are substances (see below, REF).

1.3 What does Aristotle mean by "subject"?

To understand the passage at *Categories* 2 (1a20-b8) where Aristotle discusses the four types of *onta*, you need to grasp what he means by "subject" (*hupokeimenon* or ὑποκειμένον). *Hupokeimenon* comes from the Greek verb *hupokeimai* which means "to lie under or beneath." A *hupokeimenon* just means "that underlying thing" or "that thing which is being talked about." From your knowledge of grammar you know that the "subject" of a sentence identifies the thing being talked about and the "predicate" tells us something about the subject. The subject is the center of attention, as it were. Aristotle's use of 'subject' retains this sense of a thing, *x*, being the focus of attention in that sense of

'subject'. By 'subject' here Aristotle means whatever has anything said of *it* or has something inhering in *it* rather than the other way around. That is, the focus is on the *it - the subject*, not some aspect of the thing.

The subject may be a substance or a non-substance. For instance, Socrates (a substance) may be analyzed as a subject. Analytically, as a subject he's different from that which is *said of* him. "Man" is said of Socrates. Socrates is a human being. But "Man" and "Socrates" are two different things. After all, Socrates *isn't* "humankind," far from it.

Or take my blazer. Blue inheres in my blazer. "Blue" is the accident; "blazer" is the substance and subject. But there are times when a non-substance is the subject. When we say that "blue is a color" "blue" is the subject and "is a color" or just "color" is the predicate. "Blue" is a non-substance subject in this instance. Aristotle will also say that "Color is *said of* blue". Let's delve into this more. For Aristotle, blue can't exist on its own the way a Platonic Form can. "Blue" needs something to be in so that it can exist. That's why inherence indicates an ontological relationship of dependency. "Inherence" isn't a classificatory or definitional relationship. We'll address this below.

1.4 What does Aristotle mean by "predicate" or "to predicate"?

Once again, draw on your understanding of grammar as a starting point to understanding Aristotle's use of predication. The predicate in the above example is "color" or "is a color". The expression "color" says something about the subject "blue". Something is being said about "blue"; namely, that it is a *color*. What I've done is to predicate "color" of "blue". Remember, however, that Aristotle isn't just reviewing Greek grammar for his students. There is the grammatical sense of predicate, but there are more philosophical things going on, too. We're calling blue a color. We've just "categorized" it. We're saying that it belongs with the "quality onta" on aisle 8, i.e., it belongs in *Categories* 8 where Aristotle discusses *qualities*. In this sense of "to predicate," we're defining or classifying what blue is.

The locution for expressing this kind of classifying is "said of". When we *predicate* "Man" of Socrates we're stating that "Man is *said of* Socrates," which is the same thing as saying that Socrates *is* a man. For our purposes think of the locution "*said of* X" as being equivalent to "*defines* X" or "*defines the kind of thing* X is" or "*defines the essence of* X." So for Aristotle, when we say "Man is *said of* Socrates" we're actually saying "Man *defines the kind of thing* Socrates is."

Now you'll need to be careful not to think of the "*said of*" locution as what's being used when Aristotle simply wants to "*say something about some thing*." I realize this sounds as though I've just contradicted myself. You probably saying, "But wait, Prof. Pam. Saying

what kind of thing Socrates essentially is just is the same as "*saying something about*" Socrates!

Consider this. There are many things one might say about Socrates. He's short, he's got bulging eyes, he's bow-legged, he's an Athenian, he's married to Xantippe, he's a father of several children, he's balding, he's old, he hangs out in the agora, he has Nike tennis shoes on (NOT!), and on and on and on. But none of these describe who or what Socrates is in the most basic, fundamental sense of his existence. He's not essentially someone who is married to Xantippe or someone who is bald. It's true that he *is* married to Xantippe and that he *is* bald, but these features do not define what kind of entity (*onta*) he is. What defines him is "human." Note that even if we were to categorize Socrates as belonging to that group of things we call "extended solid objects," this would not tell us what Socrates most fundamentally is. Lots of things are extended solid objects that are not human. So that description still would miss the mark. Even "animal" won't work despite the fact that Socrates does belong to the animal kingdom. But lots of things are animals that aren't human. Once again this description misses the mark. None of these other aspects of Socrates are worthy of being used in the "*said of*" sense of predication because none of these other things *defines* what Socrates is. As we will see, Aristotle has other ways of addressing the non-essential or non-definitional features of a thing.

[Because of the potential for confusion, instead of saying "is predicated of," we'll use "said of" when we mean the defining or classifying kind of predicational relationship. Man is *said of* Gary. We won't say: "Blue is said of my blazer" even though my blazer really is blue.]

With Aristotle's system of categories (and a little help from his philosophy of language) we have a pretty clear sense of what he takes to be the fundamental ontology of what is. Analytically speaking, at a being's most elemental level, a being is going to be either a substance or an accident. When we consider a concrete something, e.g., the shirt you have on, we can analyze it with this substance-accident ontology in mind.

We have a similarly clear picture of how Aristotle approaches our cognitive encounter with an entity. We are able to analyze two logically distinct constituents: a subject and a predicate. This is what Aristotle means when he talks about saying things "in combination" (REF). Examples of categorical combinations are "man runs," "blazer blue," "49ers pathetic". These combo expressions can be analyzed into a subject and a predicate. We can do this subject-predicate analysis from a purely grammatical point of view as when we're diagramming sentences. We're distinguishing the subject from the predicate or the subject from "the something that's being said about the subject." The sense here is that no matter what you are saying or thinking, when it's in combination you are always saying or thinking some thing *about* some thing. "My blazer is blue," "The 49ers are pathetic," "Xao Ming is tall," "Oprah is in Chicago." Something (a predicate) is being expressed about something (a subject).

But note that the predicates above (blue, pathetic, tall, Chicago) do not define anything. That is, I'm not expressing the essence or definition of something when I say, "My blazer

is blue." (The example of the 49ers, I admit, is troublesome. Doesn't "pathetic" define them? No. Not really! It's just a *quality* they have right now, sad to say.)

Bottom line: In Aristotle's system, then, just as you can sort all that is (i.e., all the things in the ten categories) into two broad divisions of substances and accidents, you can analyze the concrete or conceptual product of the combinations of the ten categories into subjects and predicates.

1.5 *Conceptual divisions of substance-accident and subject-predicate*

Aristotle's worldview should be quite apparent now. We've got "beings" (*onta*). There is the substance-accident and the subject-predicate way of describing beings. Remember that in philosophy, the use of word "subject" is not limited to linguistic or grammatical considerations. But it is easy to see how language maps on to the ontological facts on the ground, as it were. Both methods of analysis may be used to describe the same object. For example, the color, "Gator purple" isn't a substance. It's something that's *in* my Gator T-shirt (or we can alternatively say that it is something my T-shirt *has*); the underlying subject in which the color "Gator purple" exists is both the subject and the substance.

All the following convey the same state of affairs: a Gator purple t-shirt. *Note: I've separated the verb "to be" from the predicate just to make things even clearer. I could have linked them together. We needn't here engage the larger philosophical question about the status of "existence" being a "predicate".*

Grammatical analysis

- (1) This t-shirt is purple.
subject predicate

Metaphysical-Ontological (or meta-ontological for short) analysis

- (2) This t-shirt is purple.
substance accident
- (3) This t-shirt has purple in it.
substance accident
- (4) Purple is in this t-shirt.
accident substance

With (2)-(4), the meta-ontological subject happens to be a substance. A non-substance may be the star of the show, however.

(5) White	is	a color
subject		predicate
accident		accident
non-substance		non-substance

(6) Color	is said of	white
an accident	is predicated of	subject

A key way Aristotle analyzes things, then, is by means of the substance-accident and subject-predicate distinctions. These distinctions form the foundation of his logic, and his logic is the foundation for building a science of knowledge (epistemology) and for developing a philosophy of language. These two conceptual views (subject-predicate and substance-accident) form the boundaries of this thinking about, well, just about everything. For Modern philosophers (e.g., Descartes, Kant) and many contemporary commentators the fact that Aristotle can only chunk things into this subject-predicate and substance-accident framework shows how limited his understanding of the world was. Most people think that Aristotle's concept of relation is a glaring example of how inadequate subject-predicate (logical) and substance-accident (meta-ontological) framework is. I, of course, disagree! I do admit that he's hampered by the framework. But I argue in my book, *Aristotle on the Category of Relation*, that he's still able to express a coherent view of relation in spite of it.

1.6 *Categories* Ch. 2: The Four Types of Onta

Categories 2 lays out how these predications of classification and dependency are done. According to *Categories* 2 (1a20–b8), there are four types of beings or *onta*. (You may call them either Type 1 or Type A, and so forth; it doesn't matter.)

Entities

No New Entities!

Caution: While it may appear that the number of beings in the Aristotelian metaphysical panoply are increasing, there are not now *fourteen* sorts of *onta*: ten categories and four types of *onta*. Aristotle simply identifies the same ten *onta* as falling into four types of *onta* based on how they are predicated (in the broad sense) of one another.

(Type-1/A) Some things are said of a subject (*hupokeimenon*) but do not inhere in a subject. For instance, man, i.e., the species *Homo sapiens*, is said of persons, but the species man does not inhere in anything.

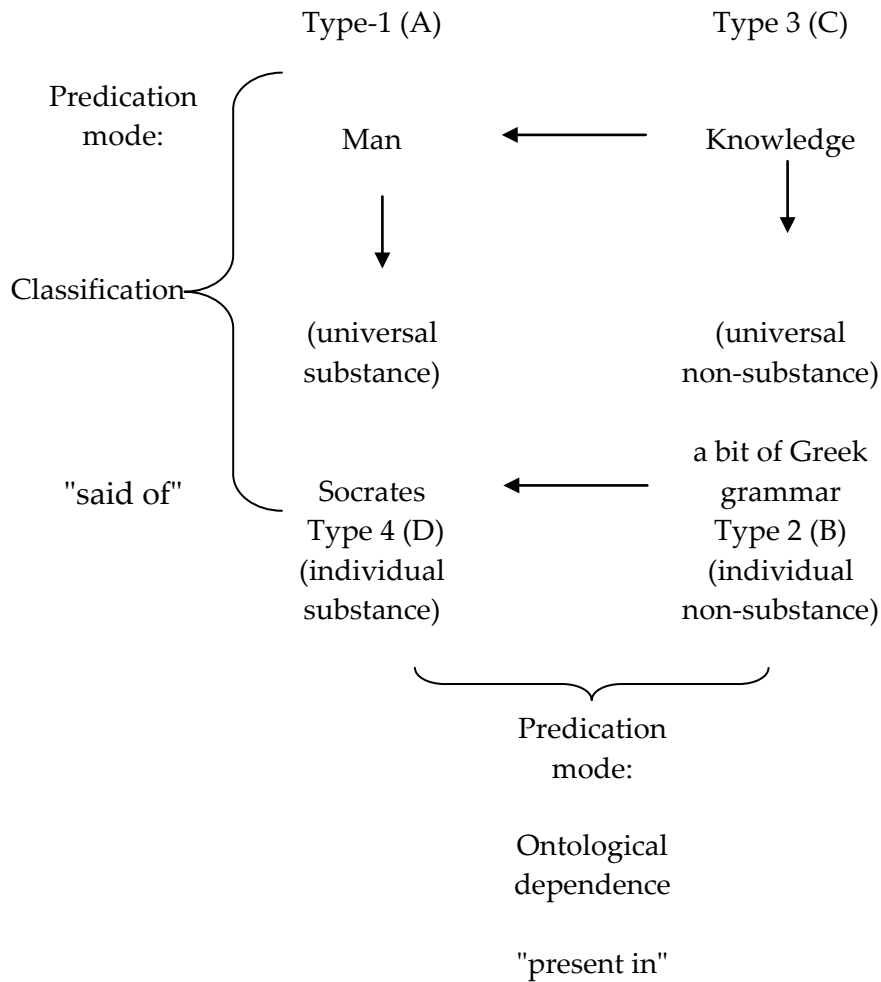
(Type-2/B) Some things inhere in a subject but are not said of a subject. According to *Categories* 1a23–25, a Type-2 item is an item that is in a subject but not in that subject as a part of the subject. Rather, the item is something that is in the subject and cannot exist separately from its subject. For instance, individual knowledge, e.g., a particular piece of grammatical knowledge, say, my knowledge that plural subjects take plural verbs, is in my soul (*psyche*), but individual knowledge is not said of any subject.

(Type-3/C) Some things are both said of and inhere in a subject. Color is said of white, since white is a color; but color also inheres in any white body.

(Type-4/D) Some things are neither said of nor inhere in a subject. An individual man, Nathan, for example, does not inhere in anything nor is he "said of" or defines the essence of anything.

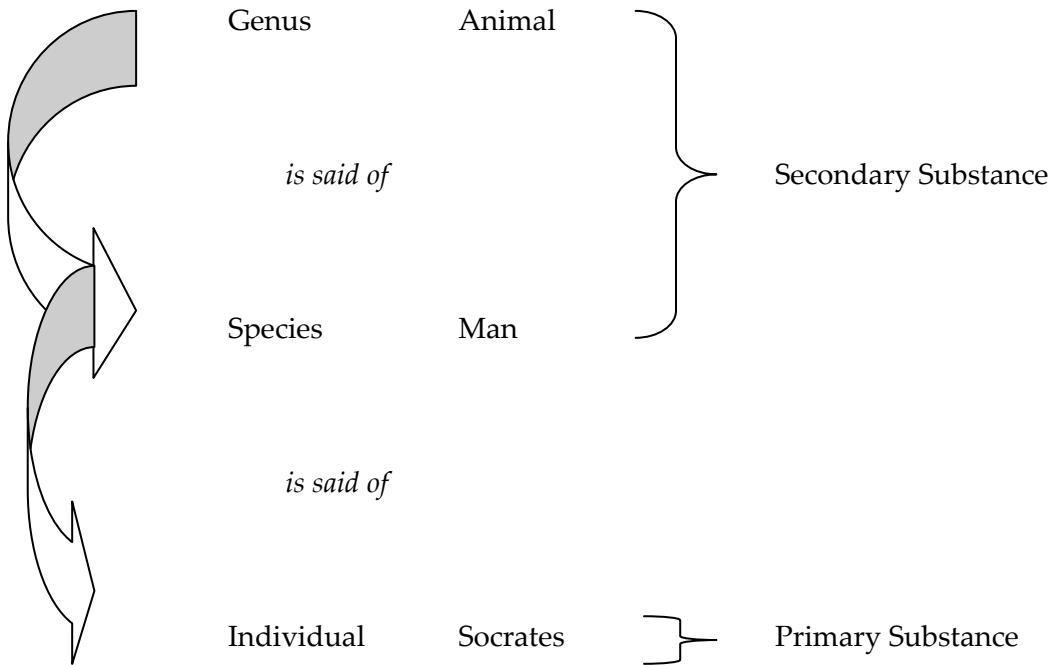
We can represent the four types of *onta* in what I'll call "Aristotle's Ontological Square". We'll also use this to illustrate the two kinds of predication: classification (said of) and dependence (has, is in, inheres).

Aristotle's Ontological Square at *Categories* 2:



"Man" gives us the definition of Socrates. It "classifies" him. "Knowledge" tells us what kind of thing Greek grammar is. It's a kind of knowledge. Having a particular "bit of Greek grammar" doesn't define or classify "Socrates". It is something he *has* or that is *in* his soul. Note that "knowledge" can both classify something and can be something that other things have or that is in something else. "Knowledge" is the type of thing that is *in* people and that also tells us what "Greek grammar" is. That's why Aristotle puts "knowledge" into the class of Type 3/C beings, i.e., things that can both classify something and that can also be in something or someone.

Note that classificatory predication is transitive: Whatever it is about animals that applies to humans, applies to Socrates.



1.7 Universals and particulars

At *De Interpretatione* 17a38–17b1 and *Metaphysics* 100a1 and 1038b10–12 Aristotle describes universals and particulars. Universals are things that can be predicated of lots of other things. For example, lots of things can be called "car". But, thank goodness, there's only one Prof. Pam. I'm a particular as are all of you. It is because there are lots of things that may be called "man" that the term "man" is a universal. Each of us is an instance of "man" (or "human"). We each are a particular instance of the universal "human". A key problem in metaphysics is explaining or account for universals and particulars: How are they related? How is each caused? Are the universals "real" (the Platonic view) or are they simply words we've agreed to use in order to represent certain things?

Things such as knowledge, color and particular instances of knowledge or colors have to be either Type 2 or Type 4 entities because they cannot exist separate from the "host" subject. It's obvious now that Aristotle's metaphysics is fundamentally non-Platonic. He doesn't have the color "white" existing apart from some *body* that it is in. We only have the universal property "white" because there are instances of white things, i.e., primary substances with white *in* them. Aristotle says that everything save primary substances

(i.e., secondary and non-substantial entities) are predicated of primary substances as subjects or are in them as subjects (*Categories* 2a34). According to *Categories* 2a36–2b1, if none of the things that are predicated of secondary substances, i.e., the genera and species of things, were not in fact predicated of individuals in those genera and species, no secondary substances could be predicated of anything at all! As Aristotle conceives of it, we can say that color is in body because color is in an individual body. If red were not in *some* body, e.g., if red were not in this ball or some other primary substance, then red would not be in a body at all (*Categories* 2b1–3). So if it were not for primary substance, none of the other *onta*—neither secondary substances, nor qualities, quantities, relatives, and so forth—would exist (*Categories* 2a35). Thus for Aristotle everything (except for primary substances) depends on primary substance.

Notice how Plato has a "top-down" metaphysical view. The Forms are first in metaphysical status because they are the most real. Aristotle has a "bottom-up" view. He's got his feet planted firmly on *terra firma*! The *Categories* view has Aristotle saying that what comes first is the things of *this* world: things we can taste, hear, see, and touch. *This* right here in front of us is the key, not something "otherworldly". No "woo-woo" Form-y stuff! In fact, he's saying that if we didn't have *x-like things* right here before us, we couldn't have the universals. Plato has it just the other way around. The Form of *X* is what leads to there being *x-like things*.

Here is a quick review.

The predication occurs in two different ways. For one way he describes a relationship of genuine ontological dependency where one thing is in ("inheres") the other thing. Another way of putting this is to say that the one thing has the other thing. My black sweater blazer has "white chalk" in it. My In-N-Out t-shirt has a double-double stain. That is, the stain *inheres* (or is *in*) the t-shirt. The black Sharpie ink (from the pen you forgot to cap) now is *in* your right rear pocket of your khaki Dockers. (How embarrassing!) Your pants *have* a stain; the stain is *in* (or *inheres*) in your pants.

The other way indicates a relationship of classification of species and genera. With this relationship Aristotle tries to show how one kind of being falls under a broader class of being. For example, Socrates is a human being and human beings are animals. So Socrates falls under the class of animal. Similarly, "knowledge of grammar" falls under the broader class of thing called "knowledge", and "blue" falls under the class of color. The beings in the categories listed at *Categories* 1b25 and the beings Aristotle divides into four types at 1a20, then, overlap. That is, the two lists of *onta* are co-extensive in that all the entities in the ten categories correspond to at least one of the four types of *onta*.

To sum up, the *Categories* represents Aristotle's initial effort at juggling three chores at once: examining the beings that actually exist, the manners in which they exist, and the way in which these beings are dealt with conceptually in and through language. Some commentators think Aristotle is just categorizing words or names (i.e., the word 'blue'). Some think he's only concerned with concrete entities, actual concrete instances of things (a blue sweater). Others think he's mostly treating abstract, metaphysical properties

(blueness). My view is that he's doing all three things and that all three tasks take on different degrees of importance to Aristotle throughout the *Categories* depending upon the point he's trying to make or stress at any particular time.

2. **Hylomorphism** . matter and form (*Metaphysics* Z.7-9 – Book 7, Chapters 7-9) [See text handout on iLearn.]

Just as Aristotle's analyzes beings in terms of substance-accident and subject-predicate, he uses the notions of "matter" and "form" to analyze things. OK. Don't get upset! I know I just said how different Aristotle was from Plato. And now the dreaded "F" word! Hold on. It's not what you think.

Aristotle's "form" is significantly different from Plato's Form. You'll help yourselves immensely by reserving the capital F for Plato's Form. The role of Aristotle's form is presented in *Metaphysics* Z.7-9. (We call the books of Aristotle's *Metaphysics* by their Greek letters. So instead of Book 7, we call it *Zeta* (the 7th letter of the Greek alphabet). We don't think that Books 7-9 were in the original; that's why it isn't in your Cohen text. But it was in subsequent texts and it provides important information about Aristotle's philosophy of substance.

Primary substances (you, me, a house, an animal) are compounds of matter and form. While this is not the most elegant way of putting it, I find that nearly every Gator will grasp this analogy. Think of cookie dough. You want to make heart-shaped cookies for Valentine's Day. There are two key things that explain the generation of the cookies, i.e., that explain how the "heart" cookies are made or come to be. You've got your dough? Check. You've got your cookie cutter? Check. Great. You've got the *matter* or *material* with the dough. And you've got the *shape* or *form* with the cookie cutter. Each individual cookie is a compound of matter (dough) and a form (the heart-shaped cookie cutter). Now this doesn't explain everything we need to know about the cookie's yummy existence, but it gets us started.

Aristotle's "forms" are not externally existing realities the way in which Plato's Forms are. Plato is on the extreme end of what we call a *metaphysical realism*. Plato think that the Forms *really do exist* in the invisible, intelligible realm of Being, whatever and wherever that is! Aristotle disagrees. He is a much more practical and down to Earth kind of guy. Remember my characterization of him as having a "bottom-up" metaphysic? Our starting point (not in the sense of an *archē*) in the *Categories* is the concrete thing. The form produces the heart-shaped cookie. The compound is analytically before our very eyes: matter and form.

Does Aristotle mean that the metal cookie cutter is *literally* in the cookie dough? Imagine eating the heart-shaped cookie that had the actual cookie cutter *baked into the cookie!* Gross.

Triple ouch! Nevertheless, there's no getting around the fact that the cookie has "*in*" it the form "heart-shaped cookie". So the cookie cutter form is *and* isn't in the cookie. You could be prepared to explain each answer. How is it that the form *is* in the cookie? In what sense is the form *not* in the cookie? The form "exists" as a conceptual entity, but one whose full expression is found in the cookie you're about to eat, not in the Realm of the Unchanging, Eternal Forms. We say that Aristotle is a *moderate realist*. He doesn't share Plato's two world metaphysical view. As conceptual beings Aristotelian forms do "exist", but they don't exist more than the tangible object you're sitting on or are about to eat. As you know, Plato is just the opposite. The Forms are the most real things.

The "matter" here is tricky, too. The word is *hyle* which sometimes is spelled *hule*. [Greek note: *hyle* (ὕλη) pronounced "hugh-lay" There's no "y" in Greek, but the "u" can make the "yuh" sound of the "y".]

Matter isn't something we "make" or produce. This is why the cookie dough example isn't the greatest one to use. Aristotle has a ranking of "matters": the lowest grade is prime matter, then matter, and last comes substance, specifically primary substance. (We'll leave off secondary substance for now. It'll come back to haunt us in a moment.) The ranking is in terms of how specified the material is. Prime matter is the most non-specific material there is. I always think of it as *primordial goop*.

Here's a thought experiment to get us started. Think back to your days of playing with Playdoh (the stuff not the person, Plato!). You took "matter" (the Playdoh) and applied some "form" to it. You shaped it into a ball or a snake or something, right? As in the case with the Valentine's Day cookies, analyzing the finished product involves the practice of "decoding" or "deconstructing" the object into its constituent "parts": its matter and its form. But the Playdoh was still a *something* before you started playing with it. It already was a much more specific kind of *stuff* than some eerie *primordial goop*.

What exactly prime matter "is" or is supposed to "look like" is a mystery. (Think back to Anaximander's "*apeiron*" - the "unlimited"! There are lots of views about what's going on with Aristotle's prime matter. All that concerns us here is that we know Aristotle makes this distinction.

Back to our compound. Aristotle believes that matter and the form are things that exist *prior* to the compound. (*Metaphysics* Z.9 – Book 7, Chapter 9, 1034b12) Once you put some "form" into matter a compound is produced. Aristotle describes this at *Metaphysics* Z.8 – Book 7, Chapter 8, 1033a30-b9). It is the "form" that fundamentally causes the compound to exist as the compound that it is. In other words, it is the heart-shaped cookie cutter that is responsible for the cookie's coming to be what it is—a heart-shaped cookie. It "causes" the heart-shaped cookie to exist.

With any sort of artistic production, Aristotle places the form into the soul of the artist. He says that "the art of building is the form of the house" (1034a24) and "the form is in the soul" (1032b23) of the artist. When an architect has a plan or design for a house or fashion designer has an idea for a dress, the form of the house or the dress is *in* her soul

(or mind). This probably is true for you, too. When you're making something, even the Playdoh toy, you had some notion or concept within you that you then brought to the lump of Playdoh you were playing with. The designer takes the "material" and *enforms* it—puts the form to work, as it were, in the matter. The other way of thinking about this is to say that the form becomes *enmattered*. It's one thing to go around thinking of a new design for a Corvette, but the car doesn't come into being until the design takes on "matter".

This same view holds for natural products. Instead of a "designer", the form is in the parent. You might think of this in terms of DNA, perhaps. The "coding" for you is in your parent. That's why Aristotle says "the begetter is the same in kind as the begotten, not one in number but one in form — for man begets man" (1033b30-2). More specifically, he thinks that the male sperm actually carries the form "human" and that the female egg is the "matter". But that is another course entirely! What matters—oops! Remember what I said about philosophers not being able to say anything! What is *important* for us is to understand Aristotle's way of thinking about the matter-form compound. You are not just some kind of collection of material stuff. What distinguishes you from a monkey or a sheep or a desk or a cookie is that you are a compound of a certain kind organic matter and some specific form, a "human" form.

But your form not only makes you a human being instead of a monkey, your form along with your particular "matter" makes you an *individual* person. Just as the cookie cutter makes "individual" cookies all of which are fundamentally the same, the material *you* are made of, along with your form, *individuates* you from everyone else in the class. You're all human, but you each are separate human entities.

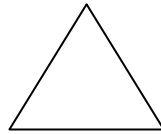
It should be clear now what we mean by the term "hylomorphism". The "*hilo*" part refers to the "matter" and the "*morph*" part refers to the "form". The Greek literally is *morphē* (pronounced "more-faye") or μορφή.

A last few points about hylomorphism. First, it's interesting to see the similarities and dissimilarities between the *Categories* and the *Metaphysics* on the topic of "substance". I believe the two works undermine each other. But some philosophers see some pretty disastrous clashes between the two works. Here is just one problem. Aristotle wants us to refer to the compound product by its form. This makes perfect sense. You're not blood, water, salt, and tissue. You are a human being. That's your form, right? Sure. By calling you a "human being" I'm not ignoring your matter, I'm just focusing on the most fundamental or essential aspect of you.

In the *Categories* we find this same focus for the essence of a thing albeit expressed in slightly different terms. Aristotle does use the Greek word for form twice in the *Categories*, at 10a12 and 10a16 in the chapter on Quality.

A fourth kind of quality is shape (*schema* or σχῆμα) and the external form of each thing, and in addition straightness and curvedness and anything like these. For in virtue of each of these a thing is said to be qualified somehow; because it is a triangle or square it is said to be qualified somehow, and because it is straight or curved. And in virtue of its form (*morphē* or μορφή) each thing is said to be qualified somehow.

The sense of *morphe* here is close to shape as though one were interested in *tracing* the outline of something. If you were to take your finger and trace this,



you'd be tracing a "triangle". This object is called a triangle because it has a triangular *shape*. Note the Greek word *schema*. It's where we get our "schematic". The schematic for something is the format or plan for that thing. Therefore, the form or schematic for something tells us what that thing is. What are you building? What are you designing? What are you making? What are you producing? A house, a car, a dress, a human child.

The focus in the *Categories*, though is on *substance*, especially primary substances. The view there is that what is a substance first and foremost is the individual, concrete thing: you, this pen in my hand, that flower over there, and so forth. Qualities are *accidents*, or loosely speaking, are *properties*, of the underlying substance (and subject). In the example of the triangle, the Playdoh dough would be the substance and subject for the *accident*; the triangle shape is the *accident*. That is, the object or body *has the property of being triangular*. We could start piling on the accidents. The Playdoh might be bright pink (color is in the category of "quality"); you could be cutting it with a knife (being cut is in the category of "affection"; your Playdoh could be in Sausalito (being in Sausalito is in the category of "place", and on and on. But Aristotle wants to keep his eye on the ball, so to speak, and not get sidetracked by the various non-essential features of the basic entity, the chunk of Playdoh, or the block of stone, or the pencil in your hand.

Let's switch back to the *Metaphysics*. We noted that a thing is fundamentally identified by its form. By form in the *Metaphysics* we don't mean simply the outline of the thing. Form here has the deeper sense of "that which makes the thing what it is." [I know. This sounds just like what Plato's Forms do, but trust me, it isn't.] We never describe what a thing essentially is by its *material* name. We don't call you "flesh". Yuck! We call you by your *form*: human. The bronze statue is not essentially bronze; it's a statue. So in terms of these hylomorphic objects, we describe them by their form. This does not mean that we

never focus on the material aspects. We do. But we still wouldn't regard flesh as something which you really and truly are.

Now here's where things get potentially confusing. So far we know that in this part of the *Metaphysics* when Aristotle says "form" he means the "essence of each thing". So far so good. But take a look at 1032b1:

by form I mean the essence of each thing, and its primary substance.

That's right! Our old friend "primary substance"! It gets better. A little later on at 1032b14 he writes:

by [1]substance (*ousia*) [2]without matter (*aneu hyle*) I mean the [3]essence (*to ti ēn einai*).

λέγω δὲ [1] οὐσίαν [2] ἀνευ ὕλης [3] τὸ τί ἦν εἶναι.

Don't say I didn't warn you! Now we have the essence of the thing being called it's "primary substance"! And substance now has nothing to do with matter, because substance is the essence of the thing! Arrrgh!

In all honesty, I don't think it is as crazy-making as it looks. To make a very long story short, from my view, the *Categories* presages the *Metaphysics*. Recall that in the *Categories* what is most important and that without which nothing else could exist is substance (*ousia*), especially *primary substance*. Remember: substance and accidents and the main ontological and analytical division in the *Categories*. But notice that the primary substance in the *Categories*, let's say, you, i.e., a human being, is the primary or most important thing when answering the question "What is this thing I have in my hands?" or "What is *x*?"

The answer in both cases gives us the *essence* or definition of the thing without regard to any particular accidental features of the thing. What are you essentially? If you were a tour guide for visiting Martians you wouldn't describe a classmate as essentially Indian, female, tall, 23 years old, with Jimmy Chew shoes on, living in Daly City, and so forth. You'd tell the Martian that the classmate was a human being.

Here's a slightly different way of looking at this. We use the word "substance" in everyday speech to signify the essence of something. For instance, "What was the substance of OJ Simpson's plea agreement?" What are we asking? We want to find out the essential points of his plea agreement. We want to find out the essence of it. We're not interested in what color tennis shoes the Nevada Department of Corrections is going to issue him. So using the word "substance" as a synonym for "essence" isn't at all unheard of.

This is exactly the same answer you'd give based on either texts. Whether its based on the *Categories*' sense of "primary substance" or the *Metaphysics*' sense of "primary substance", what's fundamental on *both* accounts is the essence of thing. The *substance* of the thing is its *form*.

Last word on hylomorphism. You should see now that in the *Metaphysics* "matter" and "substance" are not synonymous. The "matter" isn't the same as the "substance" of the object. An object is a compound of matter *and* some form, i.e., some substance. So really what we're looking at here is a compound of *matter* and *substance*!

See? Isn't Aristotle fun?

3. The Four Causes

Aristotle's "four causes" are: the material, efficient, formal and final cause (*aitia*). There are two key texts for understanding Aristotle's four causes, *Physics* II.3 and *Metaphysics* I.3. The latter Aristotle's presents an overview of pre-Socratic theories of explanation, many of which we've discussed. The main difficulty with the pre-Socratic approach is that it was transfixed, as it were, by the search for one explanation, one *arche*. Aristotle's shows that his theory actually provides a better account or analysis by offering four means of explanation.

Let's look at the *Physics* account. The first thing to note is that Aristotle's "four causes" are not so much causes as explanatory principles or tools that one may use to show why or how something is the case or comes to be.

Let's use the example of a house. Explain this house to me. How did the house come to be? The material cause is the material with which the house is made: nails, lumber, roofing tiles. The efficient cause entails the workers who hauled, lifted, nailed, cut, and painted the house. The house isn't going to "happen" by just dumping the materials for the house in the front yard. There must be some action involved to build the house. Likewise, just having a lot of Gators hanging out at the construction site isn't going to get the house built. You need materials to work with. The formal cause deals with the *eidos* (idea or form) of the house. Here we most often think of the blueprint or plan of the house. The final cause is the ultimate purpose or end (*telos*) for which the house was made.

With natural or organic objects, such as a human being, the formal and final causes, and even the efficient cause, often coincide. Take a human being. Explaining or accounting for a human being entails addressing the matter - or material cause. The efficient cause of our being human is the father's action of inseminating the mother. The formal cause is the "form" human being, something Aristotle thinks is found in the father's sperm. The final cause, to be a functioning human being, is also the same as the formal cause. What we may get at first (a baby, say) ultimately will be an adult human being. For Aristotle, as we shall see, the "identity" or essential description and the thing's ultimate end or *telos* are one and the same. The form of transmitted by the father is the same as the "finished product": a human being.

4. Change: Matter, privation, and form

Matter (*hyle*), privation (*steresis*), and form (*morphe*) constitute the three key principles of Aristotle's notion of change. In Aristotle's treatment of nature (*phusis*) he discusses the things that are able to change or are subject to change (*kinesis*). Let's consider Aristotle's account at *Physics* I. 7-8.

[Note that we translate both *morphe* and *eidos* as "form". As we noted above sometimes with *morphe* there's more of a sense of "shape", in the simplest sense of the word. Of course, with *eidos* we're dealing with the underlying reason why the item has the shape it has and the *definition* of that thing. Both *morphe* and *eidos* indicate "formal" (as in "form") principles.]

Change presupposes at least two, but more accurately, three things: (1) an underlying subject or sometimes called the substrate; (2) a form (*morphe*) of some kind; and (3) a privation. The underlying subject is the subject or item that is undergoing the change. The form (as with the formal cause) tells us what the thing is becoming (e.g., becoming a statue or an oak tree or musical). The privation is the form the thing *lacks*. On Aristotle's view in order one comes to be *x* from what is *not-x* where the *not-x* may be a contrary or may simply be something other than the target form.

Thus Aristotle likes to describe change as a thing not simply change to something else, but as a thing changing *from x* to *y*. Here's one way of thinking about it. The person who is musical at one point was unmusical. When she was unmusical she lacked musicality. Once she is musical, she lacks non-musicality.

(7) A person	who was unmusical	becomes	musical
<i>Subject</i>	<i>privation</i>		<i>form</i>
from x			to y

(8) The bronze that was shapeless becomes a statue

Subject privation form

from x to y

Sometimes Aristotle describes the principles as only being two: matter and form. He says at *Physics* 190b19 that "everything comes to be from both *subject and form*." Whatever comes to be comes from these two constituent elements. What's he doing here is simply bypassing the privative (or lacking) aspect and focusing on the "positive" form or the "outcome" form. He favors the three principle approach, though, of form, matter and privation (*Physics* 191a20).

You'll recall Parmenides and his view that there was no change. Aristotle's theory of change is meant to address this challenge. Parmenides thinks that nothing that is comes to be or passes out of existence (*Physics* 191a26). Aristotle agrees (191b12) that nothing (without qualification) can come to be from what is not.

The "qualification" here is crucial. It's the infamous "qua" I mentioned some time back. It's the philosopher's Swiss Army knife. A thing comes to be from what is not, Aristotle says, but only in a qualified sense of "what is not". In other words, Aristotle isn't claiming that something REALLY comes from nothing! Rather, he thinks that a "thing comes to be from the privation" (*Physics* 191b16). The musical man comes to be from the unmusical man. Non-musicality is the lack or absence of being musicality.

Aristotle gives some sense of the usefulness of the qua locution at 191b4. Suppose Dr. Ben Carson, the neurosurgeon, is (physically, let's say, and not just paying for it to be built) building a new house overlooking Malibu. Who is building the house? Dr. Carson as a neurosurgeon building the house? No. The doctor qua (as) a "housebuilder" is building the house. When he turns gray he turns gray not qua doctor, but by being dark-haired person, i.e., qua dark-haired. When he successfully operates on an infant's brain he does so qua doctor, not as a man or a son or as a father. (191b4-9). So, when Aristotle says that X comes to be Y from "not-being", he means "qua not-being". A surfer comes to be from not-being a surfer, "non-surferness", or what the dude initially lacked. But the surfer didn't come from literally nothing. Parmenides' problem, Aristotle says, was in not making this distinction (191b10).

5. Potentiality and actuality

De Anima provides a good place to understand the concepts of potentiality (*dynamis*) and actuality (*entelecheia*). The *Physics* also gives us a picture of the two.

The *De Anima* presents Aristotle's theory of psychology or the soul (*psyche*). Aristotle follows the traditional Greek view that the soul is the cause and principle of life. Not surprisingly, he defines the soul as the form of a body with the potentiality of life. The soul has many faculties, things which we would call our sensory faculties or organs (e.g., the faculty of smell, touch, taste, sight, hearing).

The more exacting version of this involves four degrees of potentiality and actuality: first and second potentialities and actualities. We'll get to that in a moment. Here's the easy version. The key distinction is between actually doing X and being able to do X. A car on a showroom floor has the potential of being driven on the freeway, but it isn't being driven now, is it? Once you take it on a test drive, it'll be actually driven. Consider a packet of seeds for beets or some other veggie. The seeds have the potential to sprout, but they are not actually sprouting while they're in the little packet.

That's the very straightforward distinction. But consider the activity of playing chess or doing geometry. Can you do these things while you sleep? (I don't mean in your dreams) Can a two day old baby do these things? Our immediate response would be to say, No. But Aristotle has a sophisticated way of addressing the question such that the answer is both "yes" and "no". At *De Anima* II.5 he draws our attention to the various ways in which one might say that Bob is a "knower". Aristotle uses these four notions (in order): first potentiality, first actualization, second potentiality, and second actuality.

First potentiality: Because the infant is a human baby, the baby, by definition, has the capacity or potentiality (*dynamis*) to play chess or do geometry. The infant is a rational animal and thus has this built in capacity. [Note: that isn't to say that tragic things don't happen such as certain birth defects or brain injuries. But realize that even in these cases, we call it a "defect" because, properly speaking, when we consider both the formal and final cause, human babies will grow up and someday learn to play chess or struggle through a geometry problem. The hard wiring for this is built in. We don't expect a banana slug to develop such that its able to do geometry. This is why Aristotle will consider the baby a geometer! But the baby is a geometer only in potentiality.

First actuality: Once the baby does grow up, enters school, and has learned geometry, she has reached a state of first actuality, that of being actually able to do geometry.

Second potentiality: The state of first actuality is also a state of second potentiality because one has the potential to exercise your ability to do geometry. The baby has the

potentiality (in the theoretical sense) to do geometry, but she doesn't yet have what it takes to exercise that ability. At the stage of second potentiality, the person has learned geometry and can really do geometry whenever she chooses to. Here is where we can consider the example of you being able to play chess whilst you're asleep. When you're asleep you don't lose your knowledge of geometry and have to start all over (gag!) and re-learn it. No. You are poised (upon awaking) to do set after set of geometric proofs.

Second actuality: The actual playing of chess or of doing geometry constitutes the stage of second actuality. The college student sound asleep is a geometer in second potentiality. Awake and doing some review problems for the GRE, you are a geometer in second actuality.

Bottom line: It all boils down to which sense of "can" one means. Have you ever asked someone for something or asked them to do something and received this kind of answer?

You: "Can you loan me \$5.00?"

Oprah: "Well, I *can*, but I'm not going to."

Oprah has the 5 bucks. She has over 100 million bucks! She's a billionaire after all. She has the *ability* to lend you the money. She's just not about to do it! She has the *potential*, but she's not *actually* going to give you the money.

Passive and Active

By the passive Aristotle means that which is being affected or is capable of being affected. The active is the thing that's engaged in the doing. The basic view of this is introduced in *Categories* 4 where Aristotle lists the ten categories of being. He follows up briefly in *Categories* 9. The thing that is being cut is the passive element, whereas the thing that's doing the cutting is the active element. Aristotle uses the concepts of the passive and the active for different uses. Some accounts deal with causation, others deal specifically with his view of the soul. Here's an excerpt from my book that addresses the causal account. Notice how the concepts of potentiality and actuality play a role here.

Take the example of that which is heating (*A*) and that which is being heated (*B*). What happens when *A*, the agent, causes *B*, the patient (Aristotle calls it), to become heated? Once *A* affects *B*, *B* changes from being a "heatable thing" to a "heated thing." *B* changes from what only had the *potential* to become heated, to something that *actually* is being heated. Now this change from potentiality to actuality results in an alteration in *B*, the patient. It is an actualization that occurs *in B*.

Here is another example, this time from the *Physics*. Aristotle says that:

Teaching is the activity of a person who can teach, yet the operation is performed *in* something—it is not cut off from a subject, but is the operation *of* one thing performed *in* another. (*Physics* 202b6–7; see also *Posterior Analytics* 93a1)

Both items are functioning, (teacher and student, the heating and the heated) but for Aristotle, it is in the patient, *B*, that the actual functioning of the agent, *A*, takes place (see also *De Anima* II.2 and *Physics* III.1–3). His view is that although the teacher is teaching and the student is learning, the actual functioning of the teacher—her teaching—takes place *in* the student. The actualization, therefore, occurs in only one item (the student) and is an attribute of that item.

Weinberg states that although Aristotle conceives of causal capacities as relatives or relational entities, Aristotle’s theory of causality is proof that his relational theory is not dyadic. Let us pause to examine Weinberg’s point.

Weinberg 1965, 70 notes that in the *Physics* and *De Anima*, Aristotle maintains that the realization of the agent is in the patient. What this implies is that causal relations appear to be treated as actualizations of the potency in the patient. Weinberg sees this as allowing the relation to be “absorbed, so to speak, into one of its terms.” Thus, Aristotle achieves certain “specious advantage” in Weinberg’s estimation by treating the definition of an “attribute so that it contains the nature of the cause of the attribute.” A case in point, Weinberg remarks, is Aristotle’s definition of an eclipse of the moon. The eclipse is an accident of the moon and, on Aristotle’s view, contains the cause of the deprivation of light the moon suffers.

I agree with Weinberg that Aristotle’s causal theory demands that the actualization, i.e., “the acting-and-being-acted-upon” (*De Anima* 426a9), is found in the patient. Nevertheless, Aristotle continually stresses that the actualization requires a fulfillment of two things (agent and patient), both of which must have different definitions. He says:

Thus there is a single actuality of both agent and patient alike, just as one to two and two to one are the same interval . . . these are one and the same, even though their definitions are not one. (*Physics* 202a18)

It is significant that Aristotle recognizes that agent and patient have two different definitions because this shows that he thinks of agent and patient as two fundamentally different things. So even though Aristotle posits the actuality of one thing within the other, his statements indicate that he does not conflate or confuse agent and patient, or ignore the fact that there is a relation between the two. Aristotle says:

To generalize, teaching is not the same as learning, or agency as patiency, in the complete sense, even though they belong to the same subject, i.e., the motion; for the actualization of this thing in that and the actualization of that thing through the action of this differ in definition. (*Physics* 202b19–22)

If Aristotle's causal theory fails adequately to describe causal relations as relations *between* two things, it is not because of a conceptual limitation inherent in his relational theory to consider agent and patient as two distinct entities. Thus far we see Aristotle firmly committed to the view that relation is, at the very least, dyadic in nature. So rather than give Aristotle a "specious advantage," I believe Aristotle's comments on causality reveal how his relational theory may, in a way, outstrip his causal theory by doing a better job of articulating the genuinely dyadic nature of the terms of relations than he does when it comes to explaining his causal theory.

[End of excerpt]

[If you're curious about Aristotle's view on relation versus the modern view, read another excerpt I've posted on iLearn. Most philosophers insist that Aristotle had a *pathetic* account of relations. I show that Aristotle actually had a pretty good account. In other words, every other commentator on Aristotle in the history of philosophy is wrong and I'm right! ☺ Yes, you go Gator!]

In Aristotle's treatment of the mind or intellect (*nous*), the concepts of the passive and the active are present, though here the sense of passive is that which is receptive.

Aristotle calls the mind "the part of the soul by which it knows and understands" (*De Anima* III.4, 429a9–10). This characterization of the mind is in keeping with Aristotle's tendency to view things in functional terms. (Remember the example of the amputated finger and the dead man. This is because, strictly speaking, what we see is neither a genuine finger nor a dead human being because fingers are fingers of a hand, a functional part of a living human being. Similarly, "a man" is a living (human) organism. It makes no sense to call the dead body over there a "dead living rational animal".)

His main description of the mind is in *De Anima* III, books 4 and 5. Aristotle explains thinking by drawing on the concepts of matter (*hyle*) and form (*morphe*), i.e., it is ahylomorphic analysis. As I noted above it is "receptive" in that the mind receives the form of the object. The model is similar to that of perception. Aristotle thinks that when we perceive, we our sensory faculty receives the sensory form. If I'm listening to a Tina Turner CD, then I'm *receiving* something, hearing something. I'm receiving the sensory "form" of the CD. I'm not receiving the *matter*! Quadruple ouch! In other words, the physical CD isn't *in* my ear; the form of the object, i.e., the audible music is. When I see a cow, my receptive faculty of seeing receives the cow's form. The cow's form *enforms* my sensory organ so that my organ "becomes" the form of cow. It surely isn't the cow that penetrates my eyes! I don't have a cow *in* me - physically. But on Aristotle's model, the

cow is in a part of me, my sensory organ, *formally*. Or to use Aristotle's example: "for it is not the stone which is in the soul, but its form" (*De Anima* III.8, 431b29–432a1).

In the same way thinking involves the reception of an intelligible form (*De Anima* III.4, 429a13-18). Aristotle's theory is that thinking happens when a mind becomes *enformed* by an object of thought. When we're actively thinking what's happening is that the intellect, which is in a state of being able to know, *becomes* the object of thought. It is affected by the object of thought such that it becomes or is made like that object.

So, when thinking occurs, three things happen: you have the capacity (the potentiality) for receiving an object's intelligible form, there is something acting on that capacity, and your intellectual capacity becomes one in form or the same as that form. It's in this sense that Aristotle sometimes says that when we think, we think in terms of universals, whereas we perceive individuals (*De Anima* II.5, 417b23)

On Aristotle's account, then, the mind "becomes" what it perceives. There has been much discussion, from Aristotle's time onward, about this next aspect of his philosophy of mind. At *De Anima* 430a10 and following, Aristotle makes the point that there are two causes present in within the soul: a material and an efficient cause. On Aristotle's general view, matter is for making things. Here, too, your mind is in a real sense just waiting to be made into something. That is, it is capable and ready to receive an intelligible form. The receptive mind is the passive intellect because something is being done to it. It "is what it is by virtue of becoming all things." The active intellect "is what it is by virtue of making all things" (430a14).