A Brief Overview of Aristotle’s Philosophy

I agree with those who believe that Aristotle's philosophy is influenced by his twenty years studying with Plato in the Academy. In particular, both of Aristotle's two main philosophical projects, first, the clarification of the nature, scope and results of logical reasoning, or, more simply, dialectic, and second, setting out a coherent science of the universe, including especially life on earth, can both be seen as resulting from being a student of Plato in the Academy. More particularly, the latter project was heavily influenced by Aristotle wanting to provide an answer to the Parmenidean strictures against the possibility of change, motion and plurality, as well as what he regarded as other Presocratic mistakes, misconceptions, and limitations in their accounts of nature and how it works. Aristotle’s account of nature and how it works leaned quite heavily, to put it mildly, on the concepts and principles he would have encountered studying at Plato’s knee.

Aristotle on the structure of the sciences

By my lights, one of the most important distinctions for understanding Aristotle’s philosophy is his tripartite division of the sciences. We do science, according to Aristotle, for one reason, knowledge. But what we wish to know takes 3 basic forms, viz., to know for its own sake, to know for the sake of conduct and to know how to make useful or beautiful objects. Thus, Aristotle divided the sciences accordingly into the theoretical, the practical and the productive. It is also important to appreciate that Aristotle inherited from Plato the idea that nature and our knowledge of it is a series of hierarchical arrangements and relations.

Theoretical Sciences: Nature, Mathematics and God

The theoretical sciences included physics, mathematics and theology (collectively, Aristotle took these sciences as the highest sciences, and thus the “first sciences”, and so the sciences that were part and parcel of metaphysics, or what he himself referred to as first philosophy, a study he characterized as the study of being qua being. By the way, logic is sometimes included among the theoretical sciences although Aristotle seems to have regarded it as a preparatory subject for studying any of the sciences at all. As one commentator puts it, Aristotle believed that logic teaches us to determine what sorts of propositions we should demand proof of, and what sorts of proof we should demand for particular propositions. As such, it doesn’t fit neatly into Aristotle’s three-fold division).

Physics, which is simply a transliteration of the Greek term for nature, studies objects that are changeable and separately existing (i.e., substances). Mathematics studies objects that do not change but that do not have separable existence. Theology deals with the most perfect objects of all, namely, objects that are unchanging and that have separable existence. (There are, for Aristotle, no objects that are changeable and do not have separable existence).

When it comes to considering a “single supreme (theoretical), Aristotle expresses some worries but convinces himself that such a science is possible (for all that is has a certain nature that is true of it simply by being) and that the knowledge of this science and its fundamental principles will allow us to deduce detailed knowledge of nature. (In this, he clearly follows Plato’s lead, in thinking that knowledge of nature admits of a sort of axiomatic
structure from which everything worth knowing about it can be known. Aristotle’s metaphysics resembles in many ways the ideas of his teacher).

Second in importance and worth to the theoretical sciences are the practical sciences, the sciences dealing with man’s actions in the world. The chief practical sciences, in order of importance and worth were politics and ethics.

The third tier of science was inhabited by the productive sciences, the sciences devoted to the production of useful or beautiful artifacts. Chief among the productive sciences were the various arts, painting, sculpture, as well as rhetoric, and farming, among others.

**Plato and Aristotle Connections**

1. The unity of the sciences. Like Plato, Aristotle believed that all human knowledge was a unity. Science, in order to be science, had to be systematically done. Whatever facts one gathers must be placed into a single, systematic whole, otherwise it couldn’t be regarded as knowledge. Aristotle was concerned to gather the information and evidence that would allow humans to create this systematic science.

2. Logic. Plato's pioneering work as a logician (classification and dialectic were key components of the curriculum of Plato's Academy) and his influence on Aristotle helped to make Aristotle the founder of logic, as it existed for 2000 years or so.

3. Plato had a deep and abiding interest in questions of ontology. Plato’s ontology centers on the Forms. Although Aristotle rejected the view that the Forms have an independent existence, he too posited Forms as key aspects of reality, albeit, the world as we encounter it in the sublunary world.

4. Plato regarded knowledge, scientific knowledge in particular, as a search for the causes or explanations of phenomena. Aristotle inherited this concern and saw scientific activity as consisting of the search for explanation, rather than that of merely compiling facts and observations.

**Aristotle on DIALECTIC**

Dialectic, as noted above, was a key notion for Plato. After all, he regards it as the "coping stone" study for his philosopher-rulers in the Republic. However, Plato does not go into much detail regarding the nature of dialectic. We know that it is the means for reasoning about the Forms, i.e., "intelligible objects" and that it seems to be tied to principles of classification. We can also say that dialectic is Plato’s way of extending Socratic elenchus. Both dialectic and elenchus serve to critically examine our thoughts and ideas concerning single concepts (the more abstract the better, it seems), that is, both techniques concern themselves with trying to provide adequate answers to "What is X?" questions.
For Aristotle, it was clear that the activities of elenchus and dialectic were intimately connected to the notion of definition, and so his logical works begin with an attempt to clarify the concept of definition.

**Synonymy and Homonymy**
For Aristotle, things are synonymous, not words: Two or more things are synonymous (with respect to a certain term) when a term can be applied to them in the same sense, or using the same definition. So, for example, men and chickens and fish, etc., are all synonymous since 'animal' can be applied to them all using the same definition.

In contrast, many things are homonymous, e.g., a school board and a board used in building a house are homonymous, i.e., the same name, 'board' is applied to both things but they cannot both be covered by single definition of 'board'. According to Aristotle, there are key philosophical terms that are applied to different things and in different ways but which resist being given a definition that can cover all their senses or uses. Speaking somewhat loosely, we can say that some key philosophical terms are, for Aristotle, "homonymous terms".

Notoriously, Aristotle thinks the verb "to be", to be such a term. Thus he tries to clarify the different senses of this important verb in several places of his philosophy, including his *Categories* and his *Metaphysics*.

**Substance**
For Aristotle, it is clear that the reason for the homonymy/ambiguity of the verb "to be" is due to the fact that things are/exist in different ways. The most important way for something to be or exist is that of substance (ousia, in the Greek, which is also translated as BEING, for all of you Parmenides fans; it can also be translated as ESSENCE). Aristotle distinguished between primary substances, by which he simply meant any individual object, e.g., Tabby the cat, Fido the dog, Socrates the man, and any other individual item in the universe (most of which we don't bother to name but we could if we wished to) and secondary substances, which are basically classes of primary substances. Aristotle called classes of substances genus or species, depending on the level of abstraction of each class. So, e.g., the secondary substance, human being, is a species of another secondary substance, animal, which is a genus of the class of humans. Most importantly, Aristotle held that only facts about secondary substances are "scientifically knowable". He believed that you couldn't know anything of scientific import about particular dogs, trees, humans, etc., but he did think we could know general facts about dogs, trees, humans, etc., and that such knowledge was above all the sort of thing sought by science/philosophy. Individuals are better known to us but species are better known in themselves, according to Aristotle.

Beyond substances, we have other predicates, or, classes of being, each of which, for Aristotle, serve as answers to various questions we can ask about things in the world. The answers to these questions give rise to Aristotle’s famous list of ten categories. (Contrary to popular belief, Aristotle was not wedded to the idea that his list was exhaustive or a limning of Reality).

We can ask different sorts of questions about some particular substance, say Socrates. We can ask, what are his qualities? And we can get a variety of answers. Socrates is ruddy, squat, intelligent, playful, etc. Of course, we use the term ‘quality’ in a very general sense
that basically makes it synonymous with ‘predicate’ but Aristotle wants to distinguish some qualities from others. Most importantly, Aristotle thought his predicates/categories could all be characterized individually. This is, in fact, what shows them to be genuine categories. Beyond the quality question, we can ask how big Socrates is, (quantity/size), ask about his relations to other things, where he is, when he was born, what he is doing, etc. Aristotle’s class of predicates purports to provide a predicate/category for any sort of question we could ask about beings in this world. Any legitimate question one could ask about beings would be asking about a characteristic that would fall into one of Aristotle’s categories. Or so he believed.

It is important to note, however, that Aristotle did believe that predicates that properly applied to things in the world must also exist. So since the predicate ‘human’ properly applied to Socrates and Plato and George Bush, there must be such a thing as human. Similarly, since ‘beautiful’ properly applies to things in the world, there must be such a thing as beauty. The predicate ‘beauty’ corresponds to some thing or other, and that thing falls under its own predicate (quality, e.g.). So to say, “The Mona Lisa is beautiful”, we get a predicate of quality and say that beauty is a quality. And to say, “Joe is at the golf course”, yields a predicate of place and so ‘golf course’ is a place. These things to which these terms applied were Aristotle’s forms, and forms were a sort of handy term for how objects that possessed that form behaved, or were experienced, etc.

**Aristotle’s Logic**

Aristotle’s logical writings, collectively labeled *Organon* (a Greek term meaning tool or instrument) consist of:

1. **Categories**; a study of the basic terms of language, especially those needed to give proper definitions. Definitions involve classification and so Aristotle classified things into categories or what he called, *summa genera*, Substance, Quantity, Quality, Relation, Place Date, Action, Passivity, etc. (This is where Kant got the idea for his list of categories that allegedly give rise to synthetic a priori knowledge). These categories were supposed to be able to tell us what kind of entity something ultimately is, and ditto for the attributes that applied to substances.

2. **De Interpretatione**; a study of the proposition, (i.e., a statement that says something true and false) itself;

3. **Prior Analytics**; contains Aristotle’s theory of the syllogism which can be justifiably counted as the first attempt to give a general account of the process of making inferences; Aristotle believed that the syllogism was the common pattern of all reasoning but it was especially useful in the sciences in conjunction with their axioms and first principles.

4. **Posterior Analytics**; Aristotle’s discussion of scientific reasoning, i.e., reasoning which is not aimed merely at consistency (or formally correct reasoning) but also at truth; the key here is a search for the first principles or axioms of particular sciences. Given these, one can deduce particular truths about the science in question. As Aristotle would have put it, such reasoning was demonstrative, that is, valid deductions from necessary truth, or nearly enough.
Demonstrative reasoning, for Aristotle, was to be distinguished from dialectical reasoning, or reasoning from common opinions or non-necessary truths.

5. Topics and Sophistic Elenchi, where Aristotle discusses syllogistically correct reasoning which fails to meet the requirements of scientific truth. In the Topics, this involves the use of premises that are not first principles but rather things commonly accepted as true, or hypotheses accepted as true for some particular purpose. Such reasoning is called dialectical reasoning to distinguish it from the demonstrative reasoning used in the sciences. In the Sophistic Elenchi, Aristotle examines fallacious reasoning and offers tips for spotting it and protecting oneself from being a victim of it.

Aristotelian Buzz Words

SUBSTANCE: Predicates that answer the question: "What is X?" fall into the category of (secondary) substance and the things which belong to the category are (primary) substances. All the other predicates and categories designate nonsubstances. Colors, shapes, sizes, places, etc. are not substances; they exist but they do so only as colors or shapes of some substance or other. For red to exist is for some red thing to exist. As Aristotle puts it, the red of a red thing is not separable, i.e., it exists only as a modification of some other thing, a substance. Very clearly a position that has no need of Platonic Forms, i.e., forms as separate existences. However, it is also clear that Aristotle is committed to forms qua not separable.

Q: What things are substances, i.e., what sorts of things have this primary status, what things are the primary existents? Aristotle gives a commonsense answer. Substances include most perceptible, middle-sized material objects, i.e., animals and plants, natural bodies, artifacts, etc. Sublunary substances are “perishable sensible substances; the heavenly bodies are “eternal sensible substances” and the remaining substances, which are the proper subject of metaphysics, namely, immovable substances.

Contrary to Plato, things are prior to their properties in the sense that round things are prior to roundness, since the existence of roundness is simply a matter of there being round things. We can extend that to say that for Aristotle, the chicken, the final cause of chickens, is prior to the egg, a mere efficient cause of chickens.

CHANGE: There are at least 4 types of change for Aristotle.
1. Change of substance (generation and destruction of one substance into another);
2. Change of quality (alteration);
3. Change of quantity (growth and diminution);
4. Change of place (motion).

Every type of change involves 3 things, viz., a state from which the change proceeds, the state to which the change proceeds and the object which persists through the change.

A problematic case is change of substance, which would involve both destruction and generation. (Recall that both were deemed to be impossible by Parmenides). Recall that for Aristotle, substances are middle-sized objects. Thus a particular statue is a substance. So, we can ask how a statue can be said to persist through its generation and its destruction?
Aristotle’s answer appeals to substratum, form and privation. Substratum is a kind of substance intermediate between the four basic substances, fire, air, earth and water. It neither comes into being nor passes away, just like Parmenidean Being. Substratum serves as the substance/thing that persists through change from not P to P. When cold becomes hot, the change involves a substratum and a privation of the form hot. The substratum persists through the change and the privation of hot, which will be replaced by its opposite, hot when the change is completed. Privation, or better, potentiality, is Aristotle’s key to explaining how change between opposites occurs. It is not, however, to be thought of as a third element of nature beyond form and matter. Rather, to have one form is to be deprived of its opposite form. It’s also important to appreciate that not all things admitted of any or all privations/potentiality. That is, Aristotle did not believe that anything could change into anything. An acorn is a potential oak tree but it is not a potential human being. Thus, a thing’s potential/privations were tied to the form/actuality it could in fact change into.

For Aristotle, substances contain both form and matter. When someone makes a statue, the persisting object/substance is the matter/material of the statue (clay or stone, presumably) and it goes form one form (shapeless or ball shaped or slab shaped) to another (i.e., the statue’s completed form). In the case of natural change, or changes in natural objects, say, acorns to oak trees or change from a baby to an adult, these are changes of typically of types 2, 3 or 4.

**CAUSATION:** For Aristotle, in order to be said to know some thing (or something), one must be able to know the cause(s) of it. For knowing some thing consists of giving an explanation for why that thing is as it is, and in order to give such an explanation, one must know the cause(s) of the thing. Ultimately, as one traces the string of causes of some thing, one comes to be acquainted with the essences of things and one cannot be said to Know without arriving at the nature of the essences of things. Such Knowledge is the end of science.

**Aristotle’s Four Causes/Explanations – (four types of questions about things)**
It is traditional to see Aristotle as having a doctrine of 4 kinds of causes, each corresponding to a very natural question which one could ask about things in the world. They are as follows:

1. What is X made of? Material cause;
2. What is X’s form/shape/formal properties? Formal cause;
3. How did X come to be, who or what made it? Efficient cause;
4. What is X for, what is X’s purpose, goal, end, why is it here? Final cause.

As many other philosophers insist, ‘cause’ is not the best term to translate Aristotle’s term (attia); another candidate for the translation would be ‘explanation’ or reason. The 4 causes can be seen also as 4 kinds of answers one can give to those seeking various explanations. For example, Why is the statue malleable? It’s made of bronze (material cause answer). Why is Bob a bachelor? He’s unmarried (formal cause answer). When did the Chicago fire
get started? Mrs. O'Leary's cow kicked over a lantern (efficient cause answer). Why are there houses? In order to preserve our health and belongings (final cause answer).

In each of the examples above, we could, of course, ask other kinds of questions about the subjects of each question. We might ask, how did the statue come to be (answer, a sculptor – efficient cause), what is the statue supposed to be (a human, formal cause), why was it made (to honor a great general – final cause).

According to Aristotle, in order to know any particular thing or process or activity, required knowing the answer to these 4 questions, required knowing the 4 causes for each thing.

**ACTUAL/POTENTIAL AND FORM/MATTER**

Key elements of Aristotle's concept of change and causation are actual (or actuality) and potential (potentiality) and relatedly, form and matter. Everything in the universe can be characterized as a combination of form and matter. The differences between kinds of objects in the world are due to differences in either form or matter. Roughly speaking, matter is the raw material of things while form is its structure. It is important to appreciate that for Aristotle, matter never exists bare, or independently of all forms. Matter always has enough form or definite character to be at least one of the four basic substances, fire, air, earth, water. No forms of physical things exist independently of matter. But Aristotle did countenance pure forms of God, the intelligences that move the spheres above the moon, and perhaps human reason before and after its being freed from the body.

Socrates is a particular combination of matter that has the form of man. An oak tree is a perhaps related combination of matter to that to be found in Socrates but the form is radically different. It has the form of tree. The key to understanding the form of a thing is to understand its telos, the goal or end toward which a thing strives. For each form there seems to a particular force whose purpose is to lead particular things to reach their appropriate ends or telos. The force is called its entelechy. Modern science has rejected the picture of entelechy and telos, the idea that each thing has a a particular end that it is striving to reach. Such notions are no longer thought to be particularly explanatory or scientific.

According to Aristotle, "change is the actuality of the potential qua such", or the actualization of what is potential. An acorn is a potential oak tree and it becomes an oak tree by changing from being an acorn to being a tree, a process of actualizing its potentiality. All change of substance is the process of exercising a capacity for change, i.e., making actual what is potential. Another important notion here is that of privation. A thing that was potentially hot but actually cold was said to have the privation of hot. To change from cold to hot required getting rid of the privation of hot and replacing it with the privation of cold. Or, to actualize the potential to be hot. Aristotle realized that not every thing had the potential to become anything whatsoever. So not everything could be said to be have as a privation any property that was not true of it at some particular time. Clearly, an acorn is not potentially a dog. Ditto for other pieces of matter. Their potentiality, and thus what can actually become, is limited by the actual characteristics they possess at any particular point. Such actual characteristics were tied to
the matter of the item in question, as well as its particular form. The form that makes a particular material thing an acorn had many potentialities, to be sure. But the form of acorn did not include the potential to become human. So it would be wrong to say that the acorn had the privation of human. It has the privation of oak tree but not the privation of human. Aristotle did believe, however, in "prime matter", a special sort of matter that had the potential to become anything whatsoever. But prime matter was not to be found any longer in a raw state in the sublunary world.

**Aristotle’s World View**

Perhaps the most important distinction Aristotle makes is that between the universe “below the moon” (sublunary) and the universe “above the moon”. The sublunary world is a world of Heraclitean flux whereas the world above the moon is a world of the indestructible, the stable, the perfectly orderly, the rational. This distinction shows that Aristotle too recognized the distinction that Plato and his predecessors had drawn between Being and Becoming. For Aristotle, the sublunary world contained four basic material constituents, fire, air, earth and water. Each element has a pair of the four primary powers of nature, wet, dry, cold, hot. Fire is dry and hot, air is cold and dry, water is wet and cold, while earth is dry and cold. (Sounds a bit like his logic, eh?). Each of the four elements has a “natural movement” and a “natural place”. Fire’s natural movement is up and its natural place is the highest part of the universe; earth has opposite movement, namely, down but Aristotle puts earth at the center of the universe. (Not sure what blocks it from reaching bottom? Air or water, perhaps). Air and water are between these two. These four elements can and do act upon and change into each other.

Aristotle’s view that the Earth is the center of the universe and that the heavenly bodies rotate around us is really not his own doing but is simply an echoing of respected astronomers of his day, including Eudoxus and Callippus. Aristotle also believed that the universe is spatially finite but temporally infinite, that is, without beginning and without end. (A bow to Parmenides?).

**Aristotle’s First Mover/Prime Mover – Some Considerations**

1. There always has been and always will be motion
2. There are things that are sometimes in motion, sometimes at rest.
3. Whatever is in motion is moved by something.
4. The first mover is not moved by anything other than itself.
5. The first mover is unmoved.
6. The first mover is eternal, one, has no parts or magnitude, and is at the circumference of the world.
7. Locomotion is the primary kind of movement.
8. No motion (or change) is continuous except locomotion.
9. Only circular movement can be continuous and infinite.
10. Circular motion is the primary kind of locomotion.
11. The first mover causes motion as an object of desire or love

**Aristotle's Ethics**
Aristotle, like almost all Greeks, can be classified as a eudaimonist. A eudaimonist holds that happiness is always our bottom line for doing what we do. We do what we do, ultimately, because we believe it will lead to our happiness (or will keep us from being unhappy). Eudaimonists also tend to believe that happiness is the only thing we value or desire for its own sake. Everything else that we desire, for example, leisure, money, skills, friends, knowledge, etc., we desire for the sake of happiness.

Aristotle argues that in order to be happy, or at least the surest route to being happy, we would do well to cultivate and practice moral virtues. However, Aristotle had enough respect for common opinion to appreciate something that other ethicists, Socrates and Plato in particular, did not appreciate, namely, that one’s happiness is not entirely a matter of one’s virtue. In short, Aristotle seemed to appreciate that virtue is neither necessary nor sufficient for happiness. For Aristotle, the loss of various external goods, goods which seem to be, in some sense, valuable in themselves, like family, friends, health, success, etc., can result in a loss of happiness.

Two Ways of Interpreting Aristotle on the relation between kinds of good and happiness --

1. The Peripatetic (traditional) interpretation, which regards external goods (money, friendship, family, etc.) as parts of happiness. To lack or be deprived of these external goods is to lack something of intrinsic worth – such goods are deemed by Aristotle to be parts of happiness, and not having them does detract from one’s happiness --

2. The proto-Stoic view: The virtuous person who suffers tragedies or loss of various external items can suffer a loss of happiness only because his prospects for future virtue are greatly diminished by the loss of such items, (death of children, close friends, money, good looks, status in the community) but not because such losses are intrinsically bad. [Q: How can the Stoics claim that tragedies give rise to diminished prospects for future virtue? If one’s virtue cannot be affected by the world or what happens in it, how could tragedies or blessings for that matter, diminish or add to my prospects for future virtue? It does not seem possible.].

Aristotle’s ethics is noteworthy in that he admits that statements about right and wrong do not admit of the sort of precision and certainty about their truth that we find in the case of mathematical statements. He warns us to appreciate that ethical claims are only “true for the most part, or in most cases, and so one will often be able to think of, or find, counterexamples, to almost any claims one may make about the good and the right. He also insists that his ethics is a branch of practical knowledge or science, a kind of science whose goal is not knowledge for its own sake for rather knowing for the sake of action. Aristotle insists that he wants students who listen to him to walk away with something more than a theory about the good. He wants them to learn how to be or become good, or so he says.