

Part IV
Aristotle's metaphysics

Chapter 15

Aristotle's philosophy: introduction

15.1 Readings and Homework

- Readings: Aristotle, *Metaphysics* Book I, chap. 1-4, 6, and excerpts of 9, pp 758-771 in RAPG
- Study questions:
 1. What are the steps from sensations to knowledge according to Aristotle?
 2. Explain why philosophy is the least necessary and the most excellent science according to Aristotle?
 3. What is unsatisfying about the accounts of the world by the Presocratics? What dialogue by Plato does this idea remind you of?
 4. What is unsatisfying about the accounts of motion and change by the Presocratics?
 5. What is Aristotle's view on Plato's forms? What are his arguments?
- Further Readings: On Aristotle, you can trust
 - *Cambridge Companion to Aristotle* edited by Jonathan Barnes
 - the Stanford Encyclopedia of Philosophy articles on Aristotle (use the search engine for various articles).

15.2 Aristotle's life and work

15.2.1 Life

- Dates: 384-322 B.C.E.
- Born in Macedonia, which was later to overcome Athens in power with Alexander the Great in 336
- Has studied and taught in Plato's Academy for twenty years (367-347) until Plato's death
- Goes to Assos: gets married continues to work
- Then back to Macedonia: Alexander's tutor
- Return to Athens (Alexander is now "the Great"), and founds the Lyceum his school, just outside the walls of the city. Stayed there for 30 years.
- Leaves Athens when Athenians hear about Alexander's death (323), dies one year later

15.2.2 Work

- Aristotle had interest and significantly contributed almost in all domains of knowledge! From the digestive system of bugs to the explanation of the origin of the universe... He is particularly well known for :
 - his physics and biology were extremely influential
 - he contributed on important topics in hard core philosophy (notion of substance, change, identity etc.)
 - he is arguably the founding father of logic
 - he was also the first "historian of philosophy": on any topic, he starts with summing up the views of his predecessors. This is of great value for us of course, since we don't have any source on many philosophers but what Aristotle tells us about them.

- That said, what survived as Aristotle's work are:
 - his notes for class with modification due to discussion – not systematic treatises
 - courses for advanced students – there seem to have been more accessible writings in the forms of dialogues
 - these notes were collected, organized in tomes, books and chapters, and edited NOT by Aristotle himself (traditionally: Andronicus of Rhodes in the mid-first century)

For all these reasons, reading Aristotle is very challenging.

- Here is how it has been organized by the publishers:
 1. *Organon* (“instrument”): 6 works on logics – again, Aristotle is one of the fathers of systematic logic
 2. *Physics*: 21 works on nature, natural philosophy, and studies of animals and plants

This includes the *Physics* we will be reading in part
 3. *Metaphysics* (AFTER, and beyond or anything like that, the physics): 14 books of which the editors did not know how to classify
 4. *Ethics*: 3 ethical treatises, including *Nicomachean Ethics* we will be reading in part,
 5. *Others*: plus works on *politics*, “*economics*” (literally household and estate management), *rhetoric* and *poetics* – that is, literature theory, for which he gave important definition of literary genres, of tragedy in particular.

All scholars and editors use Bekker edition from 1831 for quoting: work, chapter, book, page, column, line.

15.2.3 Influence of his philosophy

- Unlike Plato, Aristotle's philosophy seems to have been of little influence after his death:
 - his works did not circulate as Plato's did

- his successors in the Lyceum (Theophrastus etc.) continued to produce original works, within the framework of Aristotle's philosophy, rather than transmission of the master's word.
- very little influence on the Stoic and Epicurean schools
- After Theophrastus, Peripatetics are a minor trend of hellenistic philosophy.
- During the 2nd century B.C.E appear the first commentaries on Aristotle – major figure: Posidonius – Plato and Aristotle are then turned into “authorities”, that is, divinely inspired thinkers
 - **the activity of reading, commenting and explaining the works of Aristotle (and Plato) becomes an integral part of a philosophical education, training and carrier.**

Most impressive: Alexander of Aphrodisias, end of 2nd century A.C.E.

- The idea is that understanding Aristotle properly should be enough for you to be able to answer any questions of philosophy, whether it was explicitly tackled by Aristotle (“The philosopher”) or not.
- During the end of the 2nd and the third century A.C.E., Plato became the main authoritative thinker. Aristotle was abandoned. Almost all philosophers became “platonists”.
 - major figure: Plotinus
 - now it is on the base of the works of Plato that philosophers try to solve all the problems of philosophy.
- Some, though, continue to comment on Aristotle, and try to reconcile the two thinkers' philosophies (Porphyry, Plotinus' pupils)(!!!).

They take in particular Aristotle's physics to be the accurate account of the sensible world and of our life in this sensible world, an account which Plato consistently does not believe is possible.

15.2.4 Physics

We won't discuss the physics of Aristotle, but it is important enough to give you an overview of it (See: *On the Heavens*, *On Generation and Corruption*):

- Finite, eternal and geocentric universe
 - Earth stationary in the center of the universe
 - Concentric spheres carrying the sun, moon and all the other planets and stars.
- The sphere carrying the moon is the frontier between two worlds.
 - Below the sphere of the moon, objects are changing, and mortal. Sublunar objects are constituted of the four fundamental elements, each characterized by a pair of the contrary properties: hot, cold, wet, and dry.
 - Above the sphere of the moon, bodies are constituted of a fifth elements (quintessence).
- Each sublunar element has a *natural movement*.
 - Sublunar elements tends to move in straight line, to the center of the Earth for earth, opposite to the center of the Earth for fire, in the middle for the other two.
 - The heavenly element has a eternal, perfect circular movement.
- A crucial distinction is between *natural* movements and *forced* movement.
 - A body always moves according to his nature, unless it is forced to do otherwise: stones falls, unless they are thrown in the air – and they finally fall anyway, as soon as the cause of the forced movement disappears. In the same line, sublunar bodies remain at rest once they have reached their “natural location”, unless they are forced to do otherwise by an external cause.
 - Contrast this with modern physics’ inertia! – i.e. the idea that a solid will continue indefinitely his course in straight line and unchanged speed if not acted upon by an external force. An Aristotelian physicist cannot accept the principle of inertia: what causes such an endless movement??
- A last point: the movement of the whole universe is ultimately explained by an external “unmoved mover” (*On the Heavens* I-III, *On*

Generation and Corruption II.4, *Physics* VIII.6, *Metaphysics* XII.6-10). This unmoved mover is the first cause of the movement of the universe, it is God. God is the foundation and the model of all beings. That is, all beings ultimately depends on His existence. God or the unmover mover is non-material and extra-mundane (outside the world).

15.3 Aristotle's metaphysics and epistemology: an answer to Plato

15.3.1 Introduction to Aristotle's *Metaphysics*

- The word “metaphysics” is not from Aristotle, but presumably from the editors of Aristotle's works. The Greek phrase means: “what comes after the physics”. It is a matter of dispute whether the editors had a mere classificatory meaning in mind or more.
- The text *Metaphysics* is not a treatise, with introduction, program of study, and systematic answers: rather, there is no clear unity, and many cross-references between the books.

That said, in the fourteen books we have now as the *Metaphysics*, Aristotle:

- tries to define a science which he calls “(primary)philosophy”, “wisdom”, “theology” etc.

- provides important work on what we now call metaphysics

- The Books:
 - I: Alpha – introduction – science of principles and causes and history of the subject
 - II: little alpha – methodological introduction
 - III: Beta – problems or *aporiai*
 - IV: Gamma – the “science of being *qua* being” and principle of contradiction
 - V: Delta – lexicon

15.3. ARISTOTLE'S METAPHYSICS AND EPISTEMOLOGY: AN ANSWER TO PLATO 199

VI: Epsilon – back to the “science of being *qua* being”, notes on truth

Aristotle's hard core: the books about substance: VII: Zeta;
VIII: Eta; IX: Theta;

X: Iota – unity and identity

XI: Kappa – summing up of other books – not clear whether it is Aristotle's.

XII: Lambda – theology (unmoved mover)

XIII: Mu and XIV: Nu – philosophy of mathematics (in particular: ontological status of numbers)

- As a consequence, the question arises whether we can study the *Metaphysics* as providing a good account of Aristotle's most definite views on metaphysics. This question itself divides in the following questions:
 1. Are the views defended here the “last” words of Aristotle on the subject, and if yes, do these constitute definite answers to the problems tackled?
 2. Can we find a set systematic and coherent metaphysical view in there?
 3. Is there anything like a unique science or discipline that we want to call metaphysics in there?

15.3.2 The road to knowledge and wisdom

Chapters 1-2

From Plato to Aristotle: introduction

- Plato has postulated the existence of separated entities, the Forms. We have seen that Plato did so for several reasons:
 1. in order to save the possibility of knowledge against Heraclitus' argument that no true, i.e. stable, knowledge is possible since the world changes all the time. Plato agreed to the idea that there is no true knowledge of the sensible things, but added that there exists more than the sensibles things: the forms exist, of which true knowledge is possible.

2. in order to save the possibility of morals: the domain in which it is most important that knowledge be possible is the ethical realm. For Plato, there must be something that makes ethical statements like "Socrates is just" true or false, beyond the contingency of human laws and habits.

- Aristotle takes the double challenge to the possibility of true knowledge and to the objectivity of ethics quite seriously. That said, he is not convinced by Plato's theory of the forms. He cannot accept that no knowledge of the sensible things, these very things that we see and feel, is possible.

Aristotle aims at answering the challenge to the possibility of knowledge and ethics without the postulation of the existence of separated forms.

A continuous hierarchy from the senses to wisdom

The first book of the *Metaphysics* gives an account of knowledge in total contrast with Plato's: there is knowledge of the sensible things, and knowledge finds its origin in experience!!! Let us see how this works.

- The first sentence of this book is one of the most famous by Aristotle:

All human being by nature desire to know.(980a21)

What follows, though, can be surprising to the students of Plato that you have just learned to become. Aristotle without transition gives us an account of the pleasure of sense perceptions. A full scale of means to "know", from senses to pure mathematics follows.

What is striking is the **continuity** within this hierarchy. This illustrates Aristotle's **empiricism**:

[...]human beings attain science and craft through experience.(981a2-3)

- Here is the scale:

15.3. ARISTOTLE'S METAPHYSICS AND EPISTEMOLOGY: AN ANSWER TO PLATO 201

All animals	Senses
Some animals	Memory
Human beings	Experience
Knowledge:	Craft Science Wisdom

- Within the hierarchy:
 - many memories of the *same* thing can result in an experience.
 - many experiences can result in an *universal judgment* about *similar* things, which constitutes a craft.

[...] experience is cognition of the particulars, whereas craft is the cognition of universals

- science is the investigation of causes
- wisdom is the study of the first principles and cause

The issue of valuable knowledge

- On the one hand, Aristotle clearly states that, regarding practical matters, **craft, or science, is not better, maybe worse than experience**. The argument is the following:
 - application of knowledge is application to particulars (individuals or situation)
 - only experience is cognition of the particulars
 - so experience is just about the best you can have.

The idea is that: if you find yourself in exactly the same situation as you already had been before, you are in the best situation to act properly.

SO:

- The range of application of experience is much more restricted than the one of craft or knowledge.
- However, the security of the application of experience is much higher.

Paradigmatic example: MEDICINE is a very good example to see the difficulties of applying craft and science – notice that physician still have a lot of practice as a requisite for their formation...

The same argument can be made in favor of sense-perceptions as “the most authoritative ways of recognizing particulars” (981b12).

- On the other hand, Aristotle says that **we value non-applied knowledge more** than applied knowledge:
 - We value knowledge because knowledge can imply wisdom (and we value wisdom...because? not very compelling...)
 - Knowledge for its own sake: who do you value more: theoretical or applied mathematics? Mathematics or engineering?
 - But this is only the case when the form of knowledge considered includes: **knowledge of the cause**
 - One way to understand the idea that knowledge of the cause is sought for itself:

To know the effect is sufficient for all practical matters: there is no need to know the cause. That said, to know the cause is necessary to attain a full understanding of a craft.

Example: there is no need to study the fundamental causes in order to be a shoe maker, but it is necessary in order to gain a full understanding of shoe making

Since it is unnecessary in practical matter, knowledge of the causes is sought not for its application, but for itself.
 - a **criterion** for true (cause-) knowledge: **the ability to teach**
 - THUS: “wisdom is knowledge of certain sorts of principles and causes”
 - Note that **the distinction crosses the whole hierarchy**: wisdom of course, but also sight right from the beginning.

This means that even the lowest degrees of knowledge can be searched for themselves.
- It is important to emphasize that idea that, according to Aristotle, **the reason why we search knowledge is its intrinsic value**:
 - utility is NOT necessary to search for knowledge

15.3. ARISTOTLE'S METAPHYSICS AND EPISTEMOLOGY: AN ANSWER TO PLATO203

- an aim (utility or pleasure) diminishes the value of the knowledge

- **The search for knowledge is natural: it comes from a desire, and results in pleasure:**

- knowledge satisfies a DESIRE (first sentence, wonder and last paragraph of chapter 2)

- pure knowledge is an activity for leisure time.

- **pure knowledge, and in particular philosophy, find its origin in wonder**

Compare with the *Symposium*:

- a necessary step toward philosophy is to recognize that you are ignorant. If you are not puzzled by issues like “what can I know?”, “what is it that exists?”, “Why something rather than nothing?” and the like, then...

- Wisdom is a divine science, **science of divine things in two ways:**

- wisdom is a science that belongs to gods

- wisdom is a science of the first causes, among which are the gods

At least, we have the science of the first principles and cause and the divine science coherently identifiable to each other....

That is to say, books Alpha and Epsilon are in agreement.

Conclusion

- **Knowledge for itself comes from a desire which is natural but independent of our immediate needs.** Knowledge could well be useful for meeting our ordinary needs, but there is more to it. The desire to know, which is originating in wonder, remains when all our basic needs are satisfied. This is part of our nature as animals. Note that this implies that even animals' behavior are not fully characterized by biological needs: they also desire to gain knowledge for itself...

- **There is a gradual scale in knowledge:** from the basic knowledge based on the senses (for example, something you share with animals the “knowledge” of what it is to be hungry) to the most abstract matters. We proceed by generalization from particular experience.

This means that, according to Aristotle:

- knowledge of the sensible things is possible
- physics is possible
- and even our mathematical knowledge is founded in experience!!!
- **To gain knowledge is not only possible, but also pleasurable:** it satisfies a natural desire.

15.3.3 Unsatisfactory accounts by the Presocratics

Chapters 3-4

- Aristotle reminds his theory of the four causes: we will discuss this later in the course
- Notion of material substance

Consider the following example: Take a piece of marble and change it into a statue. Clearly, the piece of marble had undergone a change. That said, whatever the form you give to it, it seems that the marble remains.

Apply this idea for all changes and you get the Presocratics's idea that a material substance remains unchanged through accidental changes. There is always matter remaining there, whatever happens to it.

"sub-stance" literally means: what stays under

Materialism: To claim that the ultimate constituent of the world is matter is to be a materialist. Now, there is a question about what exactly this ultimate matter consists in.
- Various views on the material substance:
 - Thales: water – with reference to older myths
 - Anaximenes and Diogenes: air
 - Heraclitus: fire
 - Empedocles: four elements
 - Anaxoras: each of the elements in the universe existing for infinity of time

- Objection to the Materialists: the problem of the account of change

The main objection that Aristotle raises against the materialists accounts of the world is similar to Socrates' in the *Phaedo*: accounts in terms of the underlying matter fail to explain the cause of motion and hence, of change.

Reminder: why does Socrates sit here? Or... why is Professor Schmidt next to the girls' dorms just before midnight?

Material explanation: in terms of fundamental constituents and laws of motion

Is that a satisfactory explanation? Most often not.

In short then: the materialist cannot give an account of the order of the world. They explain *how* things came to be what they are, they never explain *why* things came to be what they are.

Discussion question: What does modern science do? Does it explain the "why" of things?

- Early Attempts to account for changes:
 - Hesiod: the notion of desire is fundamental
 - Anaxagoras: Like Socrates, Aristotle analyzes Anaxagoras's account in terms of the "mind" as a failed attempt to answer to question above.
 - Empedocles: love and strife: two principles are needed in order to give an account of the existence of evil – the world is the result of the battle between good and bad.
 - Democritus and Leucippus: Atomism – nice try but no account of the origin of motion !
- All these are "mumbling philosophies"!!!

15.3.4 Aristotle on Plato's forms

Chapters 6 and 9

- **Aristotle's interpretation of Plato's forms** – chap.6:
 - Intellectual biography:
 - Cratyle and Heraclitus: flow of sensibles
 - Socrates: ethics and definitions

- RESULT: Plato:

Separation of the forms, doctrine of participation, mathematical objects in between

There are here (987b15-25) some considerations about the *elements of the forms*. We left that aside in our study of Plato. Let's pass..

- Aristotle's understanding of the forms:

The forms are really a type of cause – the “what it is” – what does it mean??

Aristotle interprets Plato's introduction of the forms as the introduction of a new kind of cause, that is, the cause which is the answer to the question: “what is this?”

Example: what is this? answer : “a guitar” – not “pieces of wood put together”

- That said, Aristotle is still unsatisfied because Plato did not give an account of motion and change!

- To sum up:

- Most Presocratics considered only the material cause
- Some of them had a proto-philosophy for the cause of motion
- Plato introduced the formal cause

Aristotle will hope to give an exhaustive list of all the types of causes needed in order to give a satisfactory account of the way the world is. This is the famous theory of the four causes. We will come back to it later in the class.

Other objections against the theory of the forms are then developed

- **Aristotle's criticisms against Plato's views on the forms** – chap.9:

- **Objection 1:** Plato's inflation of our ontology is not likely to help – 990a34

Aristotle says that Plato introduced the forms as the causes of properties (equal, just, beautiful) of things. He claims, however, that merely postulating these causes as separate beings under the name of forms is not sufficient to explain the properties of things.

Now, we find ourselves with an inflated ontology, that is, we find ourselves accepting an enormous amount of beings in our inventory of the world. Now, the problem is that it is not clear that we will be able to do a better job for explaining the world with these beings in hand!

- **Objection 2:** Arguments for the existence of the forms are either unconvincing, or they lead us to accept too many forms – 990a9
According to Aristotle, we cannot accept that there be forms of everything, but only forms of substances (we will see what he means by this in the next chapter). Whatever substances are, the point is that too many things have forms: any object of science (from the argument from knowledge), any perceptible quality (the one over the many argument), etc.

- **Objection 3:** “the arguments for the Forms undermine the existence of things that matter more to us than the existence of the Forms.

The idea is here it is unacceptable that we should deny the existence of what we observe around us. This is important, because:

1. The way in which the objection is formulated misses its target. As a prisoner in the cave, you may think that the shadows on the wall are “what matters”, but then you are mistaken about this. What matters to you is not what is important: what is important is what is true and real (would say Plato). In short: this objection should not bother the Platonist.

2. That said, it is paradigmatic of Aristotle's main philosophical intuition: what we see and touch is real. This tree that I can feel through all my sensation is real. Aristotle cannot accept that we deny the existence of what is obviously existing: the things in the sensible world at which we can point.

- **Objection 4:** Too many forms again
- **Objection 5:** The relationship between the forms and the sensible things remains unexplained – 991a9

This is the core of the criticism that Aristotle levels against Plato's forms. The point is that the way in which the forms contribute to the being as well as to our knowledge of the sensible things remains unexplained in the theory of the forms. The main reason

for this, according to Aristotle, is that the forms are *separated*. Something which is separated from a being X cannot explain the being of X , something which is separate of X cannot explain our knowledge of X .

Take the tree outside again. Aristotle tells you that to postulate the existence of an “intelligible immaterial tree” does not help to explain how *this* tree, this sensible tree, exists. It does not help to explain how we get to know something about this sensible tree either. Even if we were to accept that there is an intelligible immaterial tree, how would that help?

- Being immaterial, it is not clear how it explains the existence of the material tree
- Being merely intelligible, it is not clear how it explains our knowledge of the sensible tree

In short then, Aristotle's arguments goes like this : *even if we accepted the existence of the Forms, we would not be in any better position to explain the way the external world is or how we know it!*

– **Summing up**

- Plato's theory of the forms is ill supported
- Plato's theory of the forms is unsuccessful to explain either the way the world around us came to be the way it is or the way we come to know it.

These are the two definitive ways in which to criticize a theory (support, success).

– Conclusion chap. 9: there is no science of the elements

Aristotle here introduces the idea that we must distinguish between different ways of being. According to him, there are different ways in which something can exist, and these different ways should be given different accounts. This means that any theory which gives an account of the way the world is in terms of one single kind of element is hopeless.

You can foresee what's coming from what we have seen :

- Aristotle accepts the idea (from Plato) that any satisfactory account of the world must account for the possibility of different

things to share one property (the lake is beautiful, Paris is beautiful, Glacier National Park is beautiful...)

- However, Aristotle rejects the idea that the forms exist outside of this world, which would be illusory and unreal

- So: Aristotle wants to re-integrate the forms in the sensible world. The problem of course is then to explain what kind of beings these "forms" have in our world. Presumably, the forms won't exist in the same way that things exist: the "beautiful" is shared by many things, it is at many places at once, while this is not the case for the lake, Paris, or Glacier National Park. So, the "beautiful", and properties in general must have a specific way of existing.

Now you can see why Aristotle warn us that no satisfactory account of the way the world is will be possible unless we distinguish between ways of being and give adequate accounts of these various ways of being.

15.3.5 Conclusion

- Knowledge is the result of a natural, gradual process originating the sensations
- Knowledge has value in itself, produces pleasure: to gain knowledge amounts to satisfy a natural desire which is independent of basic needs
- The desire to know is born with the sense of wonder
- Aristotle rejects the reductionism of the materialist: more has to be said in order to explain the world's order (*kosmos*)
- That said, he rejects as well the idea that knowledge is only knowledge of the forms: knowledge of matter is indispensable
- Aristotle does not reject the theory of the forms in its entirety: what he strongly objects to is the *separation* of the Forms
- In short then, Aristotle wants to:
 - save the possibility of knowledge of the sensible world;

- give a satisfactory account of the sensible world's order;
- without postulating separated forms.
- Note that he will give an account of Ethics too !!