

Notes on Reading 10.***Metaphysics*, 12****Chapter 1: The kinds of Substance**

The subject of the investigation is, once again, substance. That is to say what is ultimately real. Aristotle wants to locate what is ultimately real in the world and holds that we will have done this when we understand the principles and causes which govern the world.

Earlier philosophers had also looked for the ultimate principles, causes, and the basic elements of reality. They typically thought that what is ultimately real is a particular kind of stuff, what Aristotle calls a simple body, or element, fire, air, water, or earth, and argued, for example that everything is made of water.

By 'the thinkers of the present day', Aristotle means Plato and his followers. They held that the ultimate causes of everything are universals, which they called Forms, where a universal is something which is shared by many individuals. As we have seen, according to the Plato every human is, for example, human by sharing in the Form of humanness which exists outside of space and time. Aristotle thus characterises the Platonists as holding that the ultimate reality consists of 'separated universals', something which exists quite independently of individuals such as us in space-and time. Since Plato's Forms don't exist in space and time they don't change.

Aristotle's division of reality: There are various kinds of substances:

(A) **Sensible substances** which are studied by natural science. These are either:

- (i) **Eternal substances** - i.e. the planets & stars - which change their positions but do not change in any other way and in particular do not come into being or cease to exist - or
- (ii) **Perishable substances** - plants, animals etc. These come into being and cease to exist and change in the ways catalogued in Chapter 2.

(B) **Immutable¹ substances** which are studied by another science - i.e. by theology.

The issue is what kinds of things fall under (B). Plato and his followers think that they are the Forms. They distinguish Forms like Beauty and Good from arithmetical objects like the numbers two and three.

Chapter 2: The nature of change.

Aristotle summarises the theory of change which he have seen him developed in his *Physics*. Change consists in underlying MATTER taking on a succession of contrary FORMS. For example a change from being white to being black. Being white and being black are contrary since nothing can be both black and white at the same time. It is the underlying matter which changes, not the contraries - the matter changes its form.

The kinds of change:

(1) **'Change in being, or essence'** (Aristotle says that the 'what' or 'this-ness' changes). The 'change' which occurs when something comes into being (*generation*) or ceases to exist (*corruption*). This is also called substantial change. For example, as we

¹ 'immoveable' in the translation in the Reading.

saw in his discussion of sexual reproduction, according to Aristotle a human being is generated by the activity of male form imposing itself on female matter).

The other three kinds of changes occur to something which persists through the change as the same kind of substance. For example Socrates remains Socrates and a human being through each of these three kinds of change:

(2) Change in quality (*alteration*) (e.g.. Socrates changes from being pale to having a sun tan.)

(3) Change in quantity (*growth* and *diminution*) (e.g. young Socrates gets taller as he grows older.)

(4) Change in place (*locomotion*) (e.g. Socrates walks about in the Athens; the planets change their position in the heavens.)

According to Aristotle's theory of change, in each of these four cases there must be two contrary forms and an underlying matter which remains the same through the change.

The theory of change can always be cast in terms of the distinction between POTENTIALITY and ACTUALITY. Change is from the potential (that is matter lacking a particular form) to the actual (matter with that form). So, for example, Socrates at one time lacks the form of blackness in his skin - he has the form whiteness. After spending some time in the sun his skin takes on the form of blackness. At the earlier time he is potentially black and at the later time actually black.

All things that change in some way consist of a matter appropriate for that kind of change. Things which are immutable in that they do not change in senses (1), (2) or (3) still undergo locomotion - they change their place. They must thus consist of a kind of matter which can support only being located at different (i.e. contrary) places at different times.

Aristotle restates the most general form of his account of change. There are three PRINCIPLES and CAUSES since fully analysed all change involves: (1) two contraries, i.e. (1a) privation (= lack) and (1b) form, and (2) matter.

Chapter 3: A more detailed discussion of change and in particular of generation.

Neither the matter (i.e. proximate matter, the stuff, bronze, of which a sphere, for example, is most immediately made, rather than what it is ultimately made of, earth perhaps) nor the form is generated. Rather in the case the bronze sphere what comes to be, or is generated, is just that, the bronze sphere. Neither the proximate matter, i.e. the bronze, nor the form, that is the sphericalness of the sphere, comes to be, or is generated, in the coming to be of the bronze sphere, but only the composite of form and matter. What causes the bronze sphere to come into being by causing the bronze to take on the form of the sphere is the IMMEDIATE MOVER (or immediate moving cause).

Every thing of a certain natural kind comes to be out of something of the same kind - e.g Socrates (of the kind human) comes to be from his parents (of the kind human).

Kinds of Generation:

(1) By art, or skill. Things are produced by the activity of someone skilled in making them. For example a house is made by a builder. Note that here that from which the thing comes be is different in kind from the thing which comes to be.

(2) By nature (the most important case, a natural process). When a thing of a certain kind reproduces itself it reproduces its nature to generate another thing of the same kind. For example a human male generates another human.

(3) By luck, or good fortune. When a human agent produces something that he or she wants but not through the application of art. For example by simply throwing food into a cooking pot someone with no culinary skills at all manages by good fortune to produce a wonderful meal.

(4) By spontaneity, or chance. When something which usually results from a natural process is produced without that natural process occurring, but by the chance interaction of other natural processes. For example the irrigation of field is usually guaranteed by regular rainfall but the same result can be obtained by stream being blocked by chance by a fallen tree.

Once again Aristotle argues that there candidates for the title of substance' (= ultimate reality) in the case of individuals of some natural kind.

(1) MATTER = e.g. physical components of living man, flesh, bones, blood.

(2) NATURE (= FORM) = e.g.. what makes matter into living human.

Note that here Aristotle calls both the matter and the nature a 'this'. Perhaps the point is that matter here is proximate matter rather than the ultimate matter, it is matter with a form, for example bronze, or the flesh and bones of a human body, and so at least an individual body. The nature on the other hand is an individual form.

(3) COMPOSITE of matter and nature = e.g. an individual living human, Socrates.

This discussion suggests that it is the nature, or form, that makes a thing the kind of thing that it is, i.e. human, and the matter that makes it the individual which it is, i.e. Socrates, and this view will be very commonly held in the middle ages.

Aristotle suggests that if the form can exist apart from the matter this is so only in the case of natural things. In the case of artefacts the form exists apart from the matter only in that the art, or skill, and plan exist in the mind of the artificer. What is behind this complex and obscure discussion is Aristotle's idea that in living things the form is the soul and in humans there is a question of whether the soul can exist apart from the body. Aristotle claims that there is no need to appeal to Platonic Forms to account for the generation of natural things. They are naturally produced by things of the same (natural) kind.

Chapters 4 & 5: On the causes of things being what they are.

Chapter 4.

This chapter and especially the first paragraph is hard to understand. The point seems to be that in one sense all things cannot be explained by appeal to the same causes. You cannot explain why a substance is the kind of thing that it is by appealing to the same cause that you do in explaining why a relation holds between it and some other substance. For example cause of Socrates being a human being is quite different from the cause of his being shorter than Plato.

But in a sense all sensible bodies have the same cause because any explanation of why they are as they are must appeal to the same three elements; matter, privation, and form. Aristotle gives a rough example which we have seen before. Privation = cold, form = hot matter = prime matter ? (= matter without form), result = the composite unity of form and matter (e.g. fire = prime matter + hot and dry).

Note that privation, form and matter are general terms applied analogically in particular cases://

Example:	1	2	3
Matter:	surface	air	bronze
Privation:	black	dark	irregular shape
Form:	white	light	shape of Achilles

To account for change we have to appeal also to the ‘external’ moving cause://

Example:	1	2	3
Matter:	body	bricks	menstrual blood
Privation:	disease	disorder	in-animation
Moving Cause:	medical art	building art	male (semen)
Form:	health	house	living human (semen)

At the very end of chapter 4 Aristotle notes in passing that there is ‘that which as the first of all things moves all things’.

Chapter 5.

The basic conditions for being a substance is separability. This is we might call the criterion of ontological independence:

For x to be a substance it is necessary that there is no y such that x is not y and y is not a part of x , and x exists if and only if y exists.

Aristotle goes on to mention a corollary of this principle - all other things depend on substances in some way - the position that he developed in the *Categories*.

So the causes of substances, that is the explanations of substances, are the explanations of everything since everything else depends on substances.

Looking at things in a different way we can say that actuality and potentiality are the ultimate principles of reality.

Aristotle then notes that we use ‘potentiality’ and ‘actuality’ in different ways. Sometimes we speak generally of the same thing existing potentially and existing actually, for example, flesh exists potentially in the materials from which it is made and exists actually when those materials have been given the appropriate form. We also speak in a more extended way of potentiality and actuality when the matter of the cause and effect are different. So the offspring is potentially present in the parent but the parent isn’t potentially the offspring. The generation of the offspring also involves the sun and its motion as its ultimate cause.

So in the case of a human being we may distinguish (1) effect = matter (fire, earth etc.) + substantial and accidental forms, (2) immediate moving cause = the father (3) ultimate moving cause = the sun and its motion.

All causes are individual (again contrary to Plato’s theory) - even though we can make a true general claim - a human is the cause of a human - what this amounts to is that Peleus is the cause of Achilles.

Chapter 6 : The existence of the unmoved mover.

There must be a **PRIME MOVER**, that is an **UNMOVED MOVER**, an **ETERNAL, IMMUTABLE, SUBSTANCE**.

Aristotle's argument involves these claims:

If all substances are destructible, all things are destructible.

But it is impossible that movement should come to be or cease to be, for it must always have existed.

Time cannot come to be or cease to be since there could not be a before or after if time did not exist.

Time is either the same thing as movement or an attribute of movement.*

There is no continuous movement except circular change of place

The argument is apparently supposed to go as follows:

- (1) Suppose all things come into being and are destructible
- (2) It follows that at some time nothing existed and nothing will exist
- (3) It follows that there was and will be no motion
- (4) It follows that there was and will be no time.
- (5) This is impossible.
- (6) Thus there must be eternal circular motion and so substances which move eternally with circular motion but which cannot change in any other way.

[* The argument is given in more detail by Aristotle in Physics, Book 8, Chapter 1:

“Further, how can there be any before and after without the existence of time? Or how can there be any time without the existence of motion? If, then, time is the measure of motion or itself a kind of motion, it follows that, if there is always time, then motion must also be eternal. . . . Now since time cannot exist and is unthinkable apart from the existence of now, and the now is a kind of middle-point, uniting as it does in itself both a beginning and an end, a beginning of future time and an end of past time, it follows that there must always be time, for the extremity of the last period of time that we take must be found in some now, since in time we can take nothing but nows. Therefore, since the now is both a beginning and an end, there must always be time on both sides of it But if this is true of time, it is evident that it must also be true of motion, time being a kind of affection of motion.”

That is there cannot be a first or last instant of time because every instant of time is at that time the now of that time, but for every now there is a time before it and a time after it, so hypothetical first instant of time cannot exist since it cannot be time if there is no time before it.]

Suppose, now, that these immutable substances were capable of moving things but did not move them. Then there need not be any motion. So the Platonic Forms alone will not do of moving things eternally. We need in addition an ultimate cause of actual motion.

What we need is a substance which actually causes movement eternally

Such a being, according to Aristotle, has no potentiality to not cause movement. According to him if an eternal being has potentiality, that potentiality will be actualised at some time.

But wherever there is matter there is potentiality so:

‘There must, then, be a principle, whose very substance is actuality. Further, then, these substances must be without matter; for they must be eternal ... Therefore they must be actual.’

The regularity of the changes which take place in the universe is accounted for by a the regularity of the circular motion of that which always acts and something else.

Chapter 7: The nature and operation of the unmoved mover.

Aristotle has proved that there must be eternal circular motion and he claims that this is clear too by observation.

The prime mover:

‘There is, then, something which is always moved with an unceasing motion, which is motion in a circle; and this is plain not in theory only but also in fact. Therefore the first heavens must be eternal. There is therefore also something which moves them. And since that which is moved is intermediate, **there is a mover which moves without being moved, being eternal, substance, and actuality.** And the object of desire and the object of thought move in this way; they move without being moved.’

That for-the-sake-of-which everything else moves, the final cause of motion and ultimately of all change, is that which ultimately moves the heavens, it is immutable and produces motion in the way that a lover moves the beloved by desire.

The prime mover produces the motions of the heavens.

‘The prime mover thus exists of necessity; and in so far as it is necessary it is GOOD.’

There follows a very famous description of God as an eternal, living being whose life is eternally as ours is at its best. That is the actuality of God is the actuality of thought thinking its best object - thought thinking on thinking. In thinking on thought thinking and thought become one.

The prime mover is an eternal and immutable substance, separate from sensible things and simple. It produces motion eternally.

Chapter 8

This chapter is omitted from the reading. Aristotle argues that there must be a hierarchy of unmoved movers to explain the various motions of the planets. He calculates that there must be 55 or 47 unmoved movers.

Chapter 9: The nature of divine reason.

Aristotle ask what it is that divine thought think about. He concludes that the highest form of thought is that which contemplates the highest form of being. So the highest form of thought eternally thinks about itself.

‘Therefore it must be itself that thought thinks (since it is the most excellent of things), and its thinking is a thinking on thinking.’

This is possible because the object of thought, the prime mover, is a form without matter.

Chapter 10: Goodness in the universe.

Aristotle asks whether the ultimate good is something distinct from the universe or is it present in the ordering of the order found in the universe?

His answer is that it probably present in both ways, just as in an army the good lies both in the leader and in the army but more so in the leader.

‘And all things are ordered together somehow, but not alike, all fishes and fowls and plants. And the world is not such that one thing has nothing to do with another, but they are connected. For all are ordered together to one end.’

Aristotle concludes by rejecting the accounts of the world offered by a number of earlier thinkers.