

Summary of Chapter Three of Aristotle's First Book on Physics

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In Chapter 1, Aristotle asked what the nature is made of and thus demands to search for the first element. In Chapter 2, he shows that there are necessarily (ἀνάγκη) two options, there is either one principle as first cause, or there are many ($A \vee B$, or as there is tertium non datur: $A \vee \neg A$ – one principle or not-one principle = one or many, but C is not possible). If there was one principle, then it is either with processes or without processes ($a \vee \neg a$), and if it is a many principles, then it is either a limited or unlimited amount ($b \vee \neg b$). So as result: $(a \vee \neg a) \vee (b \vee \neg b) = A \vee B$ – or one can give any option a letter, then it is $(a \vee b) \vee (c \vee d)$, however, $(a \vee \neg a) \vee (b \vee \neg b)$ is better to show that another option is not possible. Please note that we start all thoughts in this article from the beginning again, so the letters chosen in this article might vary with the letters chosen in the previous articles, since we do all the thoughts again. So Aristotle always took one option and the opposite of the option as other choice – one or non-one. This is called the **dihairetic method**, as it rules out any further options, and one can always go deeper, for instance if one is the case then it has processes or non-processes, so that another option is ruled out and just one of the options might be right. Aristotle showed that the possibility of one principle whether it has processes or not is ruled out, through the first three categories, that there is always a substance, a quantity and a quality – at least one of the two latter, and thus always two. Therefore A is wrong!

In Chapter 3, Aristotle at first points out that the ideas of Melissos and Parmenides, who propose a oneness are wrong, as there is always at least a twoness – remember that substance comes never without quality or quantity- and that their idea of a oneness thus must be an ersitic thesis (a thesis which can't be taken seriously, but is just formulated for provocation). Therefore, formalising their thoughts is asyllogistic (asyllogoi) – or in other words: illogical. As a result one receives a fallacy! Melissos' fallacy is that if every product of becoming has a beginning in time (του χρόνου), then everything which is not product of becoming has no beginning. 'Becoming' has a timely meaning here, it means if everything can become something, there must be a beginning from where it becomes something, so it needs time – it has a beginning caused by time. Therefore, everything which does not become what it is

through time cannot become anything. Melissos further thinks that everything (τα πάντα) must have a beginning. If everything has a beginning then it means that everything must be in a stage of becoming and thus is within time, and thus substance already has quantity. Even further, everything without beginning is no product of becoming. In a logical point, it is a false conversion. Melissos taught the eternal space, therefore nothing can have a beginning, and as nothing can have a beginning, nothing is product of becoming, and if nothing can become anything, it cannot have any processes. This is Melissos' logical argument! As a result, nothing could ever had a process, nor something can ever have a process, therefore for Melissos it must be one principle without processes. The problem we have here is that the beginning does not really evolve time here, but rather space (einai archén tou pragmatos kai me chronou) so something must start its existence (geneseós) even if it changes its quality (alloiosis – qualitative change but no movement). An alloiosis is a change of content within time, so that a quality is succesively exchanged by other qualities of the same thing. This means a certain structure just changes its characteristics (Eisler, Rudolf: Wörterbuch der philosophischen Begriffe, Band 2. Berlin 1904, S. 616 f.). Eisler (1904) points also out that for Anaximenes, this meant that a certain element concentrates itself or cuts back.

The thesis of the one without processes thus says that all things arise through the thickening and thinning of the elements, and therefore things change their quality, without changing in time and space. Such as water can become thicker or thinner depending on its state, 'the whole' can become thicker and thinner. But water gets thicker or thinner through moving (metabolis – a change by moving) and thus 'the whole' can only change if it moves, that's Aristotle's argument against Melissos' static oneness. **Therefore, it is not just a qualitative change, but also a change in space through moving, and if it moves, it has processes!**

Aristotle tries to prove the same for Parmenides. He tries to show that Parmenides is wrong as he defined the term 'that-which is-being' as definitely, without noticing that it has many meanings. Even though the term 'white' seems to be definite, if we talk about 'white things' (to leukon – that what is white), we have a many, since the things who are white keep their own characteristics despite being white (einai leukon – being white). Therefore, the things keep differently and do not become one thing, just because they are white. Thus, neither all white things come together in a unity as a continuity nor they become a unity according to their kind; thus, one thing is the *einai leukon*, another is the *dedegmenó* (that what a thing has = the quality that a thing receives). Or in other words, being white, and the being that is being white is not the same. The colour white and the thing which is white can be seen separated,

thus being white is nothing specific of that thing and does not belong to that thing to be the thing. Therefore, **the quality and the nature-being of the thing cannot be mixed up!**

Parmenides however did not see this thing, and therefore the predicate 'that-which-is-being' became both *to hoper on* and *to hoper en*, which means that he already saw that thing as the thing itself, so to say the real thing, and therefore the attributes of the thing and the thing became an unseparable unity to Parmenides. The word ὅπερ for Aristotle means 'just what it is in itself'. In Greek, τό ὄν means 'the being', and therefore, by adding ὅπερ to it, it becomes 'just what the being is'.

As a result, the problem would be that in case that the colour is not just attributed to the thing, but part of the thing itself, then the real thing itself would not exist, since it is not the thing anymore without that particular colour. Then we would have the existence of a 'nothing-which-is-being' which 'is'! As a result, the only way to get out of the dilemma is to accept the existence of a many, so that there is a many of it, but this is against Parmenides' thesis that it is just one!

Even further, if this *to hoper on* is just a thing for itself, then how can it be part of a further thing, but only might have several attributes adjoined to itself, then why shall the *to hoper on* be the that-which-is-being and not the not-that-which-is-being? Or in other words, if the *hoper on* is one, then why can't it be nothing at the same, but if it is nothing at the same then there must be something in it, which shows that it is not one anymore. Or even further if something is white but it does not equal 'being white' in general, then it cannot be the same *hoper on*, and thus it cannot be the same that-which-is-being.

All in all, we can say, that Parmenides is rejected by pointing out that if a certain thing is white and everything is one, then everything which is white must be the same thing, since when a thing is one, then it cannot be further divided and the thing as we perceive it is real, and equals in its existence as we see it, thus the thing is the thing itself. However, if we are able to separate white out of it, then the thing is no-thing anymore, since white is a necessary attribute to be that thing. If it is still a thing without being white, then white is an attribute to that thing, and it is not one thing anymore, but already consists of two.

Aristotle however has to face another question as well. Democritus and other Atomists have stated that everything is in an unlimited space, and therefore a unity. So while Aristotle showed that the unity of continuity and the unity of identity is wrong, he has to show that there is no unity in indivisibility. If something is divisible then it can be divided in as much entities as one wants and therefore the idea of a unity is broken. To avoid that, the atomists stated that there must be a limit, so to say there must be an atom that is not further dividable

which keeps everything as a unity. In this way, they rejected the many as possibility. However, if there is the unity of at least one undividable atom, then there is no way that non-existence exists. So the opposite of existence – non-existence – must not be existent! However, the existence as such in a many is only possible if one can find “another”. **If there is the “one” and “another”, then there is no more “one”.** However, Aristotle wants to show that one does not need “another”, as “the one” can only exist next to other “ones” to be realised as the “one” and therefore there must be a “many”. Aristotle speaks of a τό ὅπερ ὄν τι, where ‘ti’ shows a specification to the ‘to hoper on’ which is a thing in itself, so the ‘to hoper on ti’ is a specific thing in itself.

To put it in a nutshell: Aristotle shows that the oneness is impossible because everything can be separated in smaller entities. If one could not separate the things into smaller entities, then the thing would be a not-existent thing if an attribute is taken away. However since that non-existent thing still exists, there must be a two, at least. Therefore, Parmenides is smashed.

However, if something can be differentiated, then only because it has a specific character that makes it different from another thing, so that one is different than another means that it needs a two, and thus Democritus is smashed. If something shall change without processes then it cannot move. Mellisos argument that things evolve through thickening or thinning means that not only the quality of the thing changes, but the thing changes itself through movement, and thus Mellisos is smashed!

In the beginning we showed that we have four options $(a \vee b) \vee (c \vee d)$. However, we quickly saw that in fact there are only two options, since the other two options are just the negations of the two positive options and therefore we changed the paradigm into $(a \vee \neg a) \vee (b \vee \neg b)$ to show that tertium non datur, however the b in the second formula does not equal the b in the first formula. We then showed that the formula can be summarized as $A \vee B$. In this article we ruled out again that $(a \vee \neg a)$ is wrong, and thus A is wrong, so we have to analyze B as next. B stood for ‘a many’. A many can either be limited (b) or unlimited ($\neg b$).

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