

# Aristotle's Theory of Language in the Light of *Phys.* I.1

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## ABSTRACT

The main aim of my paper is to analyse Aristotle's theory of language in the context of his *Physics* I.1 and via an analysis and an interpretation of this part of his *Physics* I try to show that (i) the study of human language (*logos*) significantly falls within the competence of Aristotle's physics (i.e., natural philosophy), (ii) we can find the results of such (physical) inquiry in Aristotle's zoological writings, stated in the forms of the first principles, causes and elements of the human speech (*logos*) and (iii) the analogies (*Phys.* 184b13-14) made by Aristotle at the very end of the first chapter make better sense if we consider them in the broader context in which Aristotle recognizes language as a complex natural phenomenon we are born into and which has to be not only biologically, but also socially developed through our lives. Hence, I aim towards a more naturalistic reading of Aristotle's views on language.

## I. INTRODUCTION

The general objective of my paper is to contribute to the discussion of how we can reconstruct Aristotle's theory of language.<sup>1</sup> I openly aim towards a more naturalistic and more pragmatic reading of Aristotle's views on language and I will try to justify my approach to this issue *via* a textual<sup>2</sup> analysis and interpretation

of the first chapter of the first book of Aristotle's *Physics*.<sup>3</sup>

Before I start, I would like to make a short illustration of my approach to Aristotle's theory of language. I reckon if Aristotle had been pushed to answer the following question "What kind of entity is a phoneme?" he would answered it something like this: a phoneme is a physiological entity, it is a psychological entity, it is an acoustic entity and it is also an abstract entity. So, all these

- 1 The issue of Aristotle's theory of language and the topics related to this subject (Aristotle's theory of meaning, Aristotle's theory of signification), has been of systematic concern to such scholars as Kretzman 1974, Irwin 1982, Manetti 1993, Charles 1994 & 2000, Whitaker 1996, Bäck 2000, Modrak 2001, De Rijk 2002, Walz 2006, Castagnoli & Di Lascio 2012 and Joseph 2017.
- 2 In this paper, I follow C. D. C. Reeve's translation of Aristotle's *Physics* published in 2018.

- 3 Those interested in historical commentaries on the first book of Aristotle's *Physics* would be satisfied by a detailed overview they can find in McMahon 1957. There have been several modern English translations of important historical commentaries to the first of book of Aristotle's *Physics* published recently, see e.g., Themistius 2012 or John Philoponus 2006.

answers are correct. But at the same time, he would add that no individual answer or combination of answers is absolutely correct by itself.

Why do I think so? Because in his writings Aristotle clearly and rigorously distinguishes several ways of methodological examination of the same phenomenon. He is aware of the fact that we can examine every phenomenon from various perspectives and that different goals lead us towards different answers. With respect to this, we should not forget also the frequency with which Aristotle uses the *πολλαχῶς λέγεται* phrase in his writings. The phrase clearly indicates that Aristotle always distinguishes different perspective from which one analyses subject matter.

In any case, in his zoological writings (*HA*, *PA*, *GA*) Aristotle examines human language as a natural phenomenon related to its bearers (i.e., to living beings of the human natural kind).<sup>4</sup> For this very reason, I decided to take a closer look at the opening chapter of Aristotle's first book of his *Physics* where he sets up the basics for scientific inquiry concerning nature and its objects.<sup>5</sup>

The specific aim of my paper is to analyse Aristotle's theory of language in the context of his *Physics* I.1 and via

4 [More naturalistic approach to the study of Aristotle's views on human language can be found in Zirin 1974, Zirin 1980, Laspia 2018.](#)

5 [For precise analysis of a method proposed by Aristotle in his first book of \*Physics\* see Bolton 1991. For complex interpretation of a method used in the whole area of scientific inquiry about nature and its objects see e.g., Lennox 2010.](#)

analysis and interpretation of this part of his *Physics* I try to show that (i) the study of human language (*logos*) significantly falls within the competence of Aristotle's physics (i.e., natural philosophy), (ii) we can find the results of such (physical) inquiry in Aristotle's zoological writings, stated in the forms of principles, causes and elements of human speech (*logos*) and (iii) the analogies (184b13-14) that Aristotle presents at the very end of the first chapter make better sense if we consider them in the broader context in which Aristotle recognizes language as a complex phenomenon we are born into and which has to be not only biologically, but also socially developed.

## II. WHAT DOES IT TAKE TO DO SCIENCE? WHAT DOES IT TAKE TO POSSESS A SCIENTIFIC UNDERSTANDING?

Let's start with the first paragraph. "Since in all methodical inquiries in which there is knowledge—that is, scientific knowledge—of things that have starting-points, causes, or elements, it comes from knowledge of these (for we think that we know each thing when we know its primary causes and primary starting-points, all the way to its elements), it is clear that in the scientific knowledge of nature our first task must be to try to determine the starting-points." (*Phys.* 184a10-a16).

The first paragraph indicates that we know something insofar as we know its primary causes and primary starting-points, all the way to its elements. To see the proper message of

this paragraph one needs to know the broader context of Aristotle's thinking about methodological inquiry which could provide us with understanding of some phenomena. In the *Posterior Analytics* Aristotle claims that to know something is not only to know *hoti* (that something is the case), but also to know *dioti* (why something is the case).<sup>6</sup> It is also well known that for Aristotle *epistémé* (scientific knowledge or understanding) is a state of the soul that enables its possessor to give demonstrative explanations in the form of *apodeixis* (demonstration) which is a special sort of *sylogismos* (deduction) which starts from scientific starting-points (*archai*).<sup>7</sup> What are those starting points?

### III. WHAT IS NECESSARY FOR SCIENTIFIC EXPLANATION? STARTING-POINTS, CAUSES AND ELEMENTS

According to *APo* I.10, 76a37-b22, specifically scientific starting-points are of just three types. But those special to demonstrative science are definitions of the real essences of the beings studied by particular science.<sup>8</sup> Real definitions analyse the real essence of the natural objects into its “elements and starting-points” (*Phys.* I.1, 184a23). The real essences of those objects are definable, though indemonstrable within the (natural) science. The real definition makes intrinsically clear what the nominal

definition made clear only by enabling us to recognize instances of named phenomenon in a fairly, but imperfectly, reliable way. People who know *hoti* but do not know *dioti* are not able to offer a real definition, which must state the cause.<sup>9</sup> E.g., “Thunder is a noise in the cloud” is only a nominal definition which declares the usage of the word “thunder” as the correct wording for noise in the cloud. But to offer a real definition of thunder to someone who wants to understand the phenomenon of thundering, it is necessary to include the cause in the definition. We are ready to explain thundering when knowing the efficient cause of that natural phenomenon. Why does it thunder? Due to the extinguishing of fire in the clouds. Therefore, thunder is a noise in a cloud caused by an extinction of fire.<sup>10</sup> But before we are ready to offer an explanation of something *via* stating the starting-points, causes and elements we have to know how they are obtained.

### IV. WHAT KIND OF KNOWLEDGE IS NEEDED BEFORE ONE CAN START DOING SCIENCE?

What is the natural route to knowing something? Let's consider the second paragraph: “And the natural route is from things that are knowable and more perspicuous to us to things that are more perspicuous and more knowable by nature, since the same things are not knowable to us as are knowable unconditionally. That is why we must

6 See *APo* II.1, 89b23-35.

7 For an extended analysis of *archai* (first principles) and its role in human knowledge see Irwin 1988.

8 Reeve 2018, p. 179.

9 See also *Met.* I.1, 981a28-30.

10 See *APo* II.10, 94a1-10.

in this way advance from things that are less perspicuous by nature but more perspicuous to us to the things that are more perspicuous by nature and more knowable.” (*Phys.* 184a17-a21).

The second paragraph indicates that we do not build our scientific knowledge and our ability to demonstrate it out of nothing. Based on *APo* I and II, it is clear that Aristotle presupposes that we possess some kind of pre-existing knowledge of a non-demonstrative nature. So, Aristotle tells us that it is very natural that when we start to make a methodological inquiry, we already do possess some kind of non-demonstrative and pre-existing knowledge. We ‘know’ things that are more perspicuous to us in a weaker sense, and we advance to things that are more perspicuous by nature. But what is the nature of objects that are more perspicuous to us? An answer to this question can be found in the next sentence of Aristotle’s text.

#### — V. HOW TO PROCEED FROM THAT WHICH IS CONFUSED TO THAT WHICH IS DIFFERENTIATED?

Let’s continue with the first half of the last paragraph: “The things that are in the first instance clear and perspicuous to us are rather confused. It is only later, through a division of these, that we come to know their elements and starting-points. That is, why we must proceed from the universals to the particulars. For it is the whole that is more knowable by perception, and the universal is a sort of whole. For the universal embraces many things as parts.” (*Phys.* 184a22-b10).

To return to the previous question, (what is the nature of objects that are more perspicuous to us), we can now see that those objects are universals and they are rather confused. This means that such objects cannot satisfy our requirement to lay down the basic principles of science. Therefore, I suggest following Reeves<sup>11</sup> in distinguishing (i) confusing and raw starting-points or principles which we possess naturally *via* our perceptual habits and also *via* our ordinary linguistic practise from (ii) explanatory relevant starting-points which we derived from the previous ones through the process of division (*diairesis*).<sup>12</sup>

The role and importance that Aristotle ascribes to the process of division (*diairesis*) and its results can be found in *APo* II.13 and II.14. By *diairesis* we conceptually pick up those items (relevant attributes, causes or elements) which we need as the parts of the broader items – definitions and demonstrations. To divide means to pick up something from previously posited item or previously presupposed whole.

#### — VI. HOW TO PROCEED FROM THE UNIVERSALS TO THE PARTICULARS?

In the process of division, we divide something broader (which has been previously somehow grasped or postulated by the operation of abstraction) into more (at least into two) narrower parts.

11 See Reeve 2018, pp. xiv-xlv.

12 A complex assessment of the role prescribed to the procedure of division by Aristotle can be found in Falcon 1997.

However, we recognize those parts as parts of the whole only conceptually. So, our natural route is to start with something which is broader, more universal and acquired (collected) through our sense-perception (and therefore not clearly distinguished) and to proceed downwards until we reach particulars.

There is a huge discussion about the meaning of the phrase καθ' ἕκαστα in this chapter of Aristotle's *Physics*.<sup>13</sup> However, to allow space for my main point, I just confess that I follow the interpretation that understands particulars as the lowest level kind of species (ideally, the *infimae species*). The reason why I do that is that only such interpreted ultimate particulars fulfil the requirement to be results of the *diairesis* procedure and only such comprehended particulars can take part in definitions which we need to establish the demonstrative science in the form of *apodeixis*. To clarify his message, Aristotle attaches three analogical examples which should help us to comprehend what he has in mind.

### **VII. ANALOGY TO THE ROUTE OF GRASPING THE FIRST PRINCIPLES, STATING THE CAUSES AND REACHING THE ELEMENTS**

Let's start with the last part of Aristotle's text. "The same thing happens in a way with names in relation to their account. For a name like "circle" signifies a sort of whole in an undivided way, whereas the definition divides it into its particular [elements]. And children at first suppose all men to be their fathers and all women

their mothers, only later coming to divide up each of them." (*Phys.* 184a22-b10). Aristotle wants to be understood well, hence he attached analogies. He tries to indicate that the route from the universal and rather confused to the particular and precise (differentiated) is somehow similar to (a) the name – account relation. But this is a very general analogy which is illustrated in its turn by two specific examples – by (b) the definition of a circle and by (c) the language acquisition analogy.

I think it could be helpful to ask what these examples have in common. Beyond a doubt, all of them are about names, more precisely about the noun-kind of names ("circle", "fathers" "men" etc.). All of them are about named objects, i.e., sense-perceptible entities (like a particular circle I drew on a sheet of paper or concrete individuals like my father or the man over there). All of them include a procedure of division (dividing some pre-existing and confused objects into their parts) and finally, all of these examples are about a process of transformation of something which is indeterminate into something which is definite and somehow basic or fundamental.

Let's look at Aristotle's *Rhetoric*. Here we can find the definition of circle. A circle is "a plane figure that extends equally from the centre".<sup>14</sup> I think what Aristotle wants us to realize is the following. A name like "circle" or "father" signifies a sort of whole in an undivided way, whereas *via* a process of division we arrive at definitions which divide

<sup>13</sup> See e.g., Ross 1936 (pp. 456-458) and Owens 1981.

<sup>14</sup> *Rhet.* III.6, 1407b26-27.

something formerly undifferentiated into its particulars. Hence definition reveals the *differentia specifica* and this makes the essential features of the object we want to scientifically understand precisely comprehensible.

Now we can turn our heads towards the language acquisition analogy once again. “And children at first suppose all men to be their fathers and all women their mothers, only later coming to divide up each of them.” (*Phys.* 184b12-14). It seems to me that this analogy makes better sense if it is read in the context of *APo.* II.14, where Aristotle warns scientists not to confine themselves to traditional class-names (*koina onomata*). Such a behaviour could be harmful to science. If scientists limit themselves to attributes expressible only by common terms, they miss a chance to identify explanatory, relevant distinctive features of the natural objects they want to study and understand.<sup>15</sup> I think that ordinary words (*koina onomata*) signify the muddle of elements and principles given us through our experience (sense-perception, memory) and through the process of *epagógé*. Hence, I think that for Aristotle, the first task of the scientific approach is to analyse perceived phenomena and ordinary concepts. If we do so, we will be able to distinguish the parts of these sensory and linguistic muddles and we will arrive at the particular things underlying them. Only then we can securely set up the demonstrative science. Therefore, I suggest rejecting the notion that Aristotle is some

kind of naïve epistemological realist who advocates a direct correspondence between our thinking and the world. Neither is he some kind of innatist who presupposes that we somehow directly grasp the right forms of the natural objects we observe. I think that the last analogy vividly indicates that Aristotle sees the acquisition of language as a social process in which we stabilize our “wordings”. We first learn to hear and to pronounce “wordings” in the right situations (referring to the objects successfully) and only through this process, with the help of new “wordings”, do we develop our ability to analyse (to differentiate) our formerly muddled concepts arrived at as the results of our direct observations, memories or experiences.

### — VIII. CONCLUSION

What can we gain from Aristotle’s *Phys.* I.1 for a reconstruction of his theory of language? To scientifically understand nature and its objects, we need to grasp objects of a different character, not the objects of our ordinary experience. We are looking for objects which could help us explain why some natural phenomena occur regularly because, for Aristotle, science is all about explaining what happens always or at least for the most part. We can ask e.g., Why is it so that human beings manifest themselves *via* language? To answer this question, we need to start with the identification of those objects which can help us to understand language, namely principles, elements and causes. Before we start our scientific inquiry, we have to realize that the objects of our everyday

<sup>15</sup> Cf. *APo* II.14, 98a13-19.

experience, collected *via* our memory and described by our ordinary language offer us only confused concepts (such as writing, speech, sound, sentences, meaning and so on). Without further analysis (*diairesis*) of our confused concepts about language we are not ready to obtain precise and theoretically-sensitive concepts that could help us to understand and explain human language.

To legitimize my interpretation, I should be ready to show whether there is such a procedure in Aristotle's corpus. Whether Aristotle was looking for the principles, i.e., real definitions of natural objects and their attributes when studying human language. Did he analyse natural phenomena, and did he identify the basic building blocks (elements = material causes) of which our speech is made, our language consists of? And finally, did Aristotle explain a state of affairs *via* specifying some features or some objects which are responsible for it? My answer is yes. Aristotle did exactly so. He identified theoretically-sensitive objects (air, soul, reason/nous, differentiation, phonemes, syllables, logical conjunctions etc.) which help us to understand and explain natural phenomenon of human language.

In Aristotle's *History of animals* and *De anima* we can find a note on the material cause of human language. Aristotle identifies the material cause of human language with air. He claims human speech is made of air, which we produce in our lungs, exhale by our midriff and modulate *via* our 'vocal cords'. But instead of vocal cords, Aristotle enlisted the whole complex of bodily organs such

as lungs, windpipe, trachea, larynx, pharynx, tongue, lips etc.<sup>16</sup>

In his *De Anima* Aristotle enounces the efficient (or moving) cause of human language. The efficient cause of our language is our soul. Human language is caused by a human soul possessing the faculty of reason (at least in the stage of *dynamis*, which could be developed and manifested later on).

If we look at Aristotle's political writings, namely at his *Politics*, we can find another perspective on the final cause of human language. Aristotle proclaims that "the function of language is to indicate the advantageous and the harmful, and so also the just and unjust, for it is peculiar to man in comparison with other animals that he alone has the perception of good and bad, just and unjust and other such things."<sup>17</sup> One can ask whether assignment of such a purpose is not an idealistic one and whether it is accessible to all of us. My opinion on this is as follows, even though the telos of human language is achieved in the society spontaneously, it is not achieved by all of us. One needs to use the language for noble purposes.

Working on the basis of the foregoing I conclude that the phenomenon of language could be understood only when analysed from a variety of perspectives, *via* categories of principles, cause and elements. In Aristotle's writings, our human language is part of our human organism, so its study certainly falls

16 See *DA* II.8, 420b5-421a6 and *HA* IV.9, 535a29-535b2.

17 *Pol.* 1253a13-17 (Here I use the translation by Zirin 1980).



within the competence of natural philosophy, i.e., physics.

But at the same time our language also exceeds our bodies, makes itself semi-independent (or let's say it has an objective existence in the world) and therefore it is accessible to others. For that very reason, we are able to study the language *per se*, language as a system. It is this perspective that Aristotle applies when studying the parts of our language (in his *Poetics*), the effects of our speech acts (in his *Rhetoric*) and the rules of our linguistically expressed reasoning in his writings on logic (*Cat.*, *De Int.*, *APr.*, *APo.*, *Top.*, *SE*).

Therefore, reconstruction of Aristotle's theory of language could be successful only when we apply a more integrationist approach. Only then it will be possible to explain how Aristotle's views of language (laden by different perspectives and different goals of study) are connected to each other.

#### — APPENDIX:

##### A TERMINOLOGICAL REMARK

When talking about human beings I use the terms 'language' and 'speech' interchangeably. The reason for that is as follows. From Aristotle's zoological writings we can reliably extract the idea of logical subsumption among concepts of noise, voice, speech and language.<sup>18</sup> Human language (*logos*) is kind of speech

(*dialektos*), every speech is kind of voice (*phóné*) and every consciously produced voice is kind of noise (*psofos*), but not *vice versa*. Aristotle ascribes voice only to those living beings which produce noise *via* their respiratory system. This is a physiological requirement. But the voice must be caused by the souls of animals and it must be accompanied by *phantasmata*. This is a psychological requirement.<sup>19</sup> Next, he distinguishes the speech-kind of voice and he names it *dialektos*. *Dialektos* is an articulated voice. So, there is a physiological requirement of articulation, which in fact is the ability of an animal to join the discrete units of voice into more complex units according to some rules. And as far as these rules are concerned, there is also a social requirement for the way in which speech is transmitted from one individual to another in the living community. Finally, on top of that, Aristotle recognized even *logos* which is a species-specific kind of speech attributed only to human beings and only to those who possess capacity of nous. But it must be clarified that to achieve a fully developed manifestation of human language one has to develop it socially. Last of all, we must not forget that for Aristotle every linguistic assertion and human language as a whole is meaningful only by convention (*κατὰ συνθήκην*), not as an instrument.<sup>20</sup>

18 Cf. *HA* IV.9, 535a27-b3.

19 Cf. *DA* II.8, 420b26-32.

20 Cf. *De Int.* 17a1-2.

## ABBREVIATIONS

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<b>Aristotelés</b>		<i>DA</i>	<i>De Anima</i>
<i>Cat.</i>	<i>Categories</i>	<i>HA</i>	<i>History of Animals</i>
<i>De Int.</i>	<i>De Interpretatione</i>	<i>PA</i>	<i>Parts of Animals</i>
<i>APr</i>	<i>Prior Analytics</i>	<i>GA</i>	<i>Generation of Animals</i>
<i>APo</i>	<i>Posterior Analytics</i>	<i>Rhet.</i>	<i>Rhetoric</i>
<i>Top.</i>	<i>Topics</i>	<i>Pol.</i>	<i>Politics</i>
<i>SE</i>	<i>Sophistical Refutations</i>	<i>Phys.</i>	<i>Physics</i>

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