# The Articulation and Hierarchy of Knowledge in Aristotle's Thought

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Aristotle's endeavor, at least insofar as we can judge from the way it has been transmitted to us and from the titles of the lost works, is often presented as the first work of an encyclopedic nature,[1] as it seems to embrace and order all of the elements of knowledge. Does Aristotle not advance a classification of sciences, in *Metaphysics*, E, 1, as well as a systematic outline of the "sciences of nature" in his *Meteorologica*, I, 1? And again, although logic is often presented as not belonging to the system of sciences since it is not counted as a science in *Metaphysics*, E, 1, is Aristotle not generally considered the inventor of this discipline? The impression is all the stronger in that Andronicus of Rhodes, in the first century B.C., edited Aristotle's works by roughly adopting the threefold division of philosophy into Logic-Physics-Ethics, a division that had become common during the Hellenistic period though more particularly proper to the Stoic system. Since then, all the editions of Aristotle, in every language, have been made to serve the order in which Aristotle's treatises were thus edited.

Yet it is impossible not to wonder whether this general impression is not a rather misleading one in that it seems to enclose Aristotle within a system, as if in order to render it unassailable, he intended it to be fixed once and for all like that of the Stoics, who were the first to explicitly thematize the notion of system. Might not this impression result from the image that we have had, since Antiquity, of Aristotle's place, an image that no doubt runs counter to the way in which he conceived of his own enterprise? To verify this hypothesis, one would actually have to submit to systematic examination all of the passages in which Aristotle presents what he intends to do or what he has just done. As such an

undertaking is beyond the scope of this article, I will limit myself to a few remarks on the Stagirite's approach and on the way it was perceived. To begin with the latter point, let us examine a passage from Plutarch, whose *Quaestiones conviviales* ("Table Talks"), VIII, 10, 734 D, ascribe to Aristotle an insatiable quest for knowledge and erudition covering all possible fields of knowledge: because *polymathy* – the ancient term for what we would no doubt today call encyclopedic knowledge – would provide many ways of answering the questions asked by the physical world. This is precisely what Plutarch ridicules, emphasizing that polymathy neither creates happiness nor contributes to the achievement of intelligence.[2] According to this view then, Aristotle sought, first and foremost, to understand the world, but got lost in the details of a futile erudition and forgot the lessons that Socrates addressed to the physicists in the *Phaedo*: what must concern us above all is the salvation of the soul! So, appearances notwithstanding, scholarship as carried out by Aristotle does not in the end conform with the project of organizing his many treatises into a hierarchy within a system of sciences.

As proof I will use Diogenes Laertius' account of Aristotle's philosophy, given in the third century A.D. in his *Lives of Eminent Philosophers*. Let us imagine for a moment that this account by Diogenes Laertius is our principal source of knowledge about Aristotle. What do we then observe? First, that this account is much briefer than those devoted to Plato or to the Stoics, since it represents only the first thirty-five paragraphs of book V and these are divided up as follows: § 1-21 concern his life, his testament and his witty expressions; § 22-27 provide a list of his works; § 28-34 directly discuss his philosophy. We can further note that this account, involving only seven paragraphs all told, concludes by underlining that Aristotle, as attested by the list of his works (close to 400 counting only the authentic ones, writes the author), also upheld a variety of opinions on very varied subjects which would be tedious to enumerate; what is important is his remarks on the *topoi* of philosophy. Paragraph 28, which inaugurates the exposé of the *placita*, reads as follows:

> There are two divisions of philosophy, the practical and the theoretical. The practical part includes ethics and politics, and in the latter not only the doc-



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> trine of the state but also that of the household is sketched. The theoretical part includes physics and logic, although logic is not an independent science, but is elaborated as an instrument (*organon*) to the rest of science. And he clearly laid down that it has a twofold aim, probability and truth. For each of these he employed two faculties, dialectic and rhetoric where probability is aimed at, analytic and philosophy where the end is truth; he neglects nothing which makes either for discovery or for judgment or for utility.[3]

What could we conclude from such an introduction except that there existed an Aristotelian system constructed in the same way as that of the Stoics? And even more like that of the first Stoics than that of Posidonius, since Logic occupies the initial position as well as that of a shell or closure, rather than one of skeleton or structure. In other words, Logic is not fully connected to the two other parts, and even seems not at all connected insofar as it is made an *organon* – an idea that was to be defended in the third century A.D. by Alexander of Aphrodisias – and that we would be hard put to find explicitly developed in Aristotle, as we would to find in him the project of constituting a Logic.[4] Therefore, if the first arrangement of Aristotelian treatises reflects the attempt to order them according to Stoic conceptions – even in the language used for such an ordering – we could consequently venture a hypothesis to explain the brevity of Diogenes Laertius' account. Indeed, as Sextus Empiricus, a Greek doctor living in the third century A.D., shows us, it is possible to trace the tripartite division of philosophy back to Plato.[5] Since the tripartition was to be strongly thematized and made systematic by the Stoics, Aristotle then becomes, from this point of view, a minor link in the history of this threefold division.

Let us leave this hypothesis aside and now relate our dream to Andronicus' edition in order to observe that the sequence of editing and compiling treatises roughly espouses, as in the account of the doxographer used by Diogenes Laertius, the Stoic tripartition of philosophy. Such is the case, despite the presence of several treatises whose internal order is often uncertain and does not really correspond, except perhaps for physics as the science of nature in general and in detail,[6] to the very few passages in which Aristotle displays his opinions on the classification of sciences. Actually, if we consider *Metaphysics*, E, 1, we find that Aristotle distinguishes three main types of thought: speculative, practical,

and productive, and that he dwells especially on the three types of speculative philosophies distinguished by the nature of the substances studied (immutable, separate and eternal for theology; mutable and separate for physics; immutable and non-separate, but separable by the mind, for mathematics). He furthermore maintains that if there did not exist a substance corresponding to that which is studied by theological science which constitutes the primary philosophy, then physics, and not mathematics, would constitute the primary philosophy. Hence these works of erudition and the lengthy investigations undertaken at the Lyceum, in short the details that would be tedious to list as Diogenes Laertius' doxographer says, neither one of them finding it necessary to do so. Yet this omission without a doubt means missing what is probably most specific to Aristotelian philosophy, which is wary of general propositions and elegant reasoning, preferring instead the meticulous investigations and argumentations that can seem too detailed. And this is precisely what does not easily lend itself to compilation.

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Suffice it to cite G.H. Lewes's extraordinary judgment on this subject at the end of the chapter on the *De anima* in his book devoted to Aristotle:

> We shall note here, as in almost every one of his scientific works, the want of masterly and logical arrangement of subject, and the want of the elementary requisites of good composition. There is no progression, no culmination. One chapter might be transposed in the place of another, one paragraph might precede its predecessor without affecting the symmetry, or rather the asymmetry of the work. Were this not equally observable in other works, we might not unreasonably lay the blame at the door of the earlier editors and copyists; but such an argument is untenable in the presence of compositions so uniformly defective.[7]

As outrageous as this judgment may be, it nonetheless corresponds to what the reader of Aristotle is often aware of: no elegant arrangement of knowledge is here to be found, but one argument after another without clear links connecting them. This is what gave rise, under Jaeger's strong impulse,[8] to the genetic hypotheses with respect to Aristotle's evolution: the contradictions that may be found in Aristotle's work are due to his first editors who

combined texts of different periods, thus masking the dynamics of Aristotelianism and a knowledge in the process of constitution with an Aristotelian pseudo-system closed onto itself.

This is not the place to enter into a discussion of these hypotheses, which are to be sure quite difficult to establish, but what should be noted, without it being necessary to take a position on the chronology of his works and on the pertinence of this method, is that Aristotelian knowledge is an open knowledge made up of investigations that are continually being redrafted. Hence, and here I am returning to the details, the apparent disorder and the profusion of details that are often interpreted as symptoms of inauthenticity. But if this disorder appears to us unworthy of the Stagirite's thought, is it not simply because, to borrow Bergson's words, we do not find in it the order that we expect, which is much more a projected than a real order? This is precisely why, rather than projecting an order onto the corpus, it seems far more fruitful to wonder about Aristotle's way of working, and also that of his team. Yet, if these particular investigations and questions, for example on animals, plants, or constitutions, often manifest a real concern for classification and hierarchies, Aristotle cannot be reduced to a classifier and it is not for the sole purpose of classifying and ordering that he and his collaborators pursue such investigations: it is rather because these investigations are far better tools for exploring the world than are globalizing or edifying formulas, and because philosophy must be wary of poetic language. From this point of view, even if the remark attributed to Plato, calling Aristotle a young stallion in need of bridling, might be inauthentic,[9] it would nonetheless aptly describe the spirit of someone who could not be satisfied with words and who was driven by the desire to know "how things work." Despite the great respect that he held for Plato, we can easily imagine the "young" Aristotle (he spent close to twenty years at the Academy and left there at about thirty-seven years old, quite grieved not to have been elected to lead it after Plato's death) pestering his master with incessant questions and relentlessly diving into his precious books – Plato is said to have nicknamed him the reader, either because he read a lot and alone (silently?), or because he perhaps made something like a card file – to perfect his knowledge and prepare new objections.

Therefore, supposing these to be his state of mind and his way of doing things, it is really not surprising to find this frame of mind in the works that have reached us. We notice that Aristotle is indeed wary of ready-made statements, seemingly satisfying to the mind. This is obvious in ethics, where the apparent common sense that seems to be at work can disappoint those who yearn for imperative formulations ("deontomaniacs"). Aristotle's approach is to bring to bear a practical philosophy that gains strength from its very weakness: I cannot tell you, as such, *in abstracto*, what is the "straight and narrow rule," or on the basis of what Idea of Good the sovereign good must be conceived, but I can tell you that the virtuous man is the one who knows the particular conditions of action and who knows how to relate them to what he can possibly do; this is why we must study the different virtues and be more concerned with becoming virtuous than with knowing what Virtue is. Similarly in politics, we can very well outline the shape of a regime "according to our wishes," but the legislator is far more often faced with reforming existing regimes than with creating a new one; he must therefore know the mechanisms proper to each constitution, and in order to do so, he must conduct inquiries designed to know them in detail so as to isolate the elements they comprise. And again in physics: we can very well deem the knowledge of the stars to be more beautiful than that of animals, which are much baser than stars, but since the stars remain in the clouds, whereas we can arrive at some kind of certainty on the subject of animals, it is worth studying the latter in order to know nature. Therefore, enter into the world of zoology while keeping in mind what Heraclitus once said to guests who found him in his kitchen: "Enter, the gods are also in the kitchen."[10] Why not extend the metaphor: what Aristotle is interested in, first and foremost, is the "kitchen of the world." As he says in fact, nature "machinates" (*memekhanetai*).[11]

Aristotle thus appears more as a man of science concerned with backing up what he advances, and prepared to revise it if need be, than as a mind propelled by a concern for bending the world's diversity according to a preconceived order. Since we write to teach and there is no cause for questioning one who does not know, the dogmatic exposé should therefore not be taken for any-

thing other than what it is: a course of study. In other words, order proceeds from the investigations and not the contrary; hence the numerous passages giving observation precedence over discourses that are not based on the particularities of the object under examination. I will isolate one such passage, which is particularly well-known:

> the facts (= on the subject of the generation of bees), however, have not yet been sufficiently grasped; if ever they are, then credit must be given rather to observation (*tei aisthesei*) than to theories, and to theories only if what they affirm agrees with the observed facts (*Generation of Animals*, III, 10, 760 b 30-33).

Such passages are generally taken up by Anglo-American researchers and ascribed to Aristotle's scientific mind: despite his numerous errors, whether these result from observation or reasoning, Aristotle is considered the founder of experimental science; the same passages are often played down in France under the influence of a more or less Bachelardian epistemology (as with Descartes, Aristotle's errors are themselves taken to show that experience does not have a properly operative function). If Aristotle exhibits a systematic mind, it is not to be understood as an *esprit de système*. The result is also that this apparent "encyclopedic" knowledge cannot be reduced to the general culture of the gentleman, which the term seems to signify in Antiquity, but includes above all a strong scientific culture more immersed in physics than in mathematics, since inquiry is focused on the things of the world rather than on their possible models.

Therefore, perhaps this way of working, which could be termed "scientifically correct" despite underpinnings that we do not necessarily judge as such today, can sometimes give the impression of having to do with something like a system, like an encyclopedia, at least projected. But it must immediately be pointed out that if Aristotle sometimes thinks of himself as putting an end to certain inquiries carried out by his predecessors (this is how he presents his famous theory of the four causes, or hopes to resolve, with the help of his theory of actuality and potentiality, problems that his predecessors were unable to surmount) in an enterprise that promotes the ordering of knowledge, he also thinks of himself as an inaugurator or an inventor of disci-

plines (syllogistics or zoology, for example), an approach that does not always favor such an ordering given the fact that he does not necessarily claim to have completed the work and that, contrary to the first case, he often shows modesty all the while being strongly persuaded of the worth of his contributions.

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If only because of the principle of the incommunicability of kinds – each science has its particular principles – Aristotle does not put forth a system as definitely organized as that of the Stoics, for whom everything must be inextricably entwined and unshakable. Despite the writing of dogmatic treatises, no "diabolical haughtiness"[12] is here to be found, but rather in fact a ferocious will to demonstrate. Neither is there an encyclopedic knowledge in the modern sense of the term if we take it to mean that the various disciplines must be organized in a network and merge seamlessly with one another. In fact, nothing in the Stagirite's writings themselves argues for such a principle of exposition or for some *Mathesis Universalis*. Let us not therefore confuse the "voracity for knowledge" with the investigations, often local, led by Aristotle and his collaborators with some sort of "spirit of system." Rather, what we will find at work is a "logic of discovery."

*Translated from the French by Janine Alexandra Treves, with Jennifer Curtiss Gage.*

## Notes

1. In the modern sense of the term this goes without saying. For the appropriate meaning of the term "encyclopedia" in the ancient world, see I. Hadot's study herein and her master work. *Arts libéraux et philosophie dans la pensée antique*, Paris, 1984.
2. On this point the reader is referred to J. Bertier, "De l'éducation," in *Aristote. Cinq œuvres perdues*, Paris, 1968.
3. See R. Bodéüs, "L'influence historique du stoïcisme sur l'interprétation de l'œuvre philosophique d'Aristote," *Revue des sciences philosophiques et théologiques*, 79 (1995), pp. 553-586, where the author shows admirably that,

for this part of his account, Diogenes Laertius used a doxographer who was steeped in Stoicism, probably slightly after Posidonius, and thus well before Andronicus of Rhodes.

4. Regarding the *organon*, see J. Brunschwig's erudite study, "L'*Organon*. Tradition grecque," in R. Goulet (ed.), *Dictionnaire des philosophes antiques*, I, CNRS, Paris, pp. 482-502.
5. See *Adversus Mathematicos*, VII, 16-19.
6. See J. Brunschwig, "Qu'est-ce que la *Physique* d'Aristote?" in F. de Gandt & P. Souffrin (eds.), *La Physique d'Aristote et les conditions d'une science de la nature*, Paris, 1991, pp. 11-40.
7. See *Aristotle: A Chapter from the History of Science, including Analyses of Aristotle's Scientific Writings*, London, 1864, pp. 244-245.
8. See Werner Jaeger's master work on this point, *Aristotle: Fundamentals of the History of his Development*, trans. R. Robinson (Oxford, 1934, 1948). More than seventy years after its first publication in German, his work can finally be read in French, *Aristote. Fondements pour une histoire de son évolution*, Paris, 1997.
9. See Diogenes Laertius, *Lives of Eminent Philosophers* , IV, 6; V, 2.
10. See *Parts of Animals*, I, 5, 644 b 2-645 a 23.
11. In French, "la nature 'machine,'" Ibid., III, 14, 675 b 12. It should be noted that this term is used to describe nature's strategems for the evacuation of excrement. Perhaps the authentic version of Heraclitus' words is that the gods are also in the latrines!
12. Pascal's words. In French, "superbe diabolique."