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Aristotle on the *De anima* and the Study of Life*

Andrea Falcon

1.

Elsewhere I have argued that it is the interest on life - not an interest in this or that form of life but an interest in life in all its forms and manifestations - that motivates Aristotle to engage in a study of the soul.¹ But how does Aristotle conceive of the study of life and, more specifically, how does he think that the study of the soul contributes to the study of life? I would now like to approach these large questions by starting from what Aristotle says at the outset of the *De sensu*.

At the beginning of a new investigation, Aristotle is often explicit as to how the research he is about to carry out is connected with his other inquiries. For instance, it is not unusual for him to say that having done *x*, the next thing to do is *y*. In this way, he establishes a link between *x* and *y*. The opening lines of the *De sensu* are a case in point. These lines introduce the reader to the explanatory project conducted in the short essays traditionally known as *Parva naturalia*. Here is a first, provisional, translation of this interesting passage:

[436 a 1] Since we earlier completed a study of the soul in itself and each of its powers taken as a part of the soul, it is next to be investigated about animals and everything that has life, what are their specific and what are their common activities. [436 a 5] So let's assume what was said about the soul, and let's speak about the rest, and first about what is first.

[436 a 1] ἐπεὶ δὲ περὶ ψυχῆς καθ' αὐτὴν διώρισται καὶ περὶ τῶν δυνάμεων ἐκάστης κατὰ μέρη αὐτῆς, ἐχόμενόν ἐστι ποιήσασθαι τὴν ἐπίσκεψιν περὶ τῶν ζώων καὶ τῶν ζῶντων ἐχόντων ἀπάντων, τίνες εἰσὶν ἴδια καὶ τίνες κοινὰ πράξεις αὐτῶν. [436 a 5] τὰ μὲν οὖν εἰρημένα περὶ ψυχῆς ὑποκείσθω, περὶ δὲ τῶν λοιπῶν λέγωμεν, καὶ πρῶτον περὶ τῶν πρῶτων.

* This article is a revised version of a paper presented in the context of the Lecture Series on Aristotle's *De anima* in memory of Kurt J. Pritzl at the Catholic University of America, Washington DC on November 9, 2012.

1. Cf. FALCON 2009.

In this stretch of text, Aristotle establishes a link between the study of the soul and the study of life: having covered the soul, the next investigation is about animals and everything that has life. I will return to the significance of the words “*animals and everything that has life*” in due course. For the time being, let’s start from what is obvious before turning to what is not so obvious and potentially controversial. First, it is clear that the study of the soul comes before the study of animals and everything that has life *in the order of explanation*.² This is a direct consequence of the foundational role that, according to our passage, the *De anima* plays in the study of animals and everything that has life. In the second part of our passage, Aristotle tells us, explicitly and unequivocally, that he will build on the results reached in his study of the soul. This study provides the explanatory starting points for the investigation of animals and everything that has life. Second, it is also clear from our passage that the study of the soul and the study of animals and everything that has life are to be integrated into a single explanatory project. And yet, it remains to be seen how Aristotle conceives of their integration. More directly, the integration envisioned in the opening lines of the *De sensu* need not be a case of assimilation. There is no doubt, on the one hand, that some of the results achieved in the study of the soul are presupposed in the study of the ensouled beings.³ On the other hand, it is possible to read the passage at the beginning of the *De sensu* not simply as saying that Aristotle has completed his study of the soul and is ready to turn his attention to another investigation, but rather as saying that he has moved away from the study of the soul and is about to engage in another *kind* of investigation.⁴ Note, in particular, that Aristotle is not content to announce the transition from a study of the *soul* to a study of *animals and everything that has life*. He also indicates a shift in focus. While the previous investigation was concerned with the *powers* of the

2. My emphasis on explanation is meant to capture the fact that the ultimate goal of Aristotle’s science is to offer causal explanations. The latter are best understood as answers to the question “why?”. In answering this question, we give the relevant cause(s).

3. Note, however, that this language is not used in the opening lines of the *De sensu*. More on the significance of this absence in due course.

4. I owe this observation to CORCILIOUS 2008, p. 25.

soul, the upcoming inquiry will deal with the *activities* of animals and everything that has life.

2.

At least for the moment, it is not clear how the study offered in the *De anima* differs from the study announced at the outset of the *De sensu* and why. In order to make some progress on this front, I suggest taking a closer look at some other details from the opening lines of the *De sensu* and, in particular, at how Aristotle refers to the study of the soul there.

The ἐπεὶ-clause is open to two readings. Both are discussed by Alexander in his commentary on the *De sensu*. We can use his discussion as an introduction to these readings. The first one takes the study of the soul (evidently that offered in the *De anima*) to be divided into two parts, a study of the soul in itself followed by a study of each of its powers:

[Aristotle] said “we completed a study of the soul in itself” meaning “*separately* concerning the soul as a whole generally and universally, and *separately* concerning each of its parts and powers.”⁵

καθ’ αὐτήν δὲ εἶπε περὶ ψυχῆς διώρισται ἀντὶ τοῦ ἰδία τε κοινῶς καὶ καθόλου περὶ ὅλης ψυχῆς καὶ ἰδία περὶ τῶν μόριων τε καὶ δυνάμεων αὐτῆς ἐκάστης (*In De sensu* 3.7-9 Wendland).

To appreciate how Alexander understands the opening lines of the *De sensu* on this first reading, we have to recall that Aristotle begins his positive account of soul at the outset of the second book of the *De anima* with what he calls “the most common account” of the soul (412 a 5-6: κοινότατος λόγος). On this reading, the most common (i.e. most comprehensive) account of the soul is an attempt to say what the soul is in common (κοινῶς) and in general (καθόλου), that is, with respect to every type of soul (περὶ ὅλης ψυχῆς). This language is reminiscent of what Aristotle says at the outset of the second book of the *De anima*. There, Aristotle ends his most common account of the soul by saying that it has been said what the soul is in general (καθόλου) (*DA* 412 b 10). He also introduces his third and final definition of the soul by

5. I have adapted the translation offered by Alan Towey. Cf. TOWEY 2000.

saying that, if something common (κοινόν) is to be said about the soul as a whole, then the latter is first actuality of a natural, organic body (412 b 4-5). Aristotle goes on to say that it would be ridiculous to stop at such a general level of analysis (414 b 27-29). The most appropriate study of the soul is a serial study of each of the relevant types of souls (415 a 12-13). Since each of the relevant type of souls can be understood as a package of powers, the serial study of the relevant types of souls amounts to a serial study of their relevant powers. To put it differently, Aristotle approaches the study of the soul through a study of the powers of the soul.⁶ This argumentative strategy does not entail that the general account of the soul is eventually superseded. Quite the contrary, the scientific treatment of the soul offered in the *De anima* consists of a general account of the soul combined with a serial account of each of the different types of souls (or powers of the soul). A discussion of the reasons which might have motivated Aristotle to adopt this strategy is beyond the scope of this paper.⁷ What matters for our present discussion is that the ἐπεὶ-clause, if it is read in this way, contains a precise description of the contents of the second and third books of the *De anima*. On this interpretation, the opening lines of the *De sensu* do not simply make contact with the *De anima*; they also give us an outline of the argument of the *De anima*.

It is not clear, however, why Aristotle would have felt the need to recall such an outline in the opening lines of the *De sensu*. More specifically, it is not clear how recalling the argument of the *De anima* would help Aristotle connect the study of the soul with the study of animals and everything that has life announced at the outset of the *De sensu*. So I suggest turning to the second reading of the ἐπεὶ-clause reported by Alexander. According to this second reading, the qualification “in itself” is introduced not to recall the distinction within the study of the soul between a common account of the soul and separate accounts of each of its powers, but rather to contrast the study of the soul as such and the study that Aristotle is about to launch in the *De sensu*. Alexander introduces the second reading with the following words:

6. For a full account of the argumentative strategy adopted by Aristotle, see JOHANSEN 2012, pp. 116-117.

7. I have discussed these reasons in FALCON 2009.

alternatively [Aristotle said] “concerning the soul in itself because it was not also [determined] concerning the body.”

ἢ καθ' αὐτήν περὶ ψυχῆς ὅτι μὴ καὶ περὶ τοῦ σώματος (*In De sensu* 3. 15-16 Wendland 3. 9-10).

On this second reading, the *De anima* is an account of the soul and its powers. It is characterized by a focus on the soul as formal, final, and efficient cause of the living body. As a consequence, the *De anima* is marked by a (relative) lack of interest in the body in which the soul is realized. But as Aristotle moves away from the study of the soul as such, he is able to turn to the study of the body in which the soul is realized.

The second reading of the ἐπεὶ-clause is adopted (among others) by Moerbeke in his Latin translation of the *De sensu*. He renders the Greek as follows: “*quoniam autem de anima secundum [se] ipsam determinatum est et de virtute qualibet ex parte ipsius*.” His translation adds one important element to the interpretation developed up to this point. Moerbeke takes κατὰ μέρος together with αὐτῆς and renders these three words with the Latin *ex parte ipsius* (*sc. animae*). It is quite clear that *ex parte animae* is to be connected and contrasted with *ex parte corporis*.⁸ On this translation, the opening lines of the *De sensu* describe the *De anima* as a study of the soul and each of its powers considered with regard to the soul. Following Moerbeke (and Thomas Aquinas), we may translate the opening stretch of the *De sensu* as follows:

[436 a 1] Since we earlier completed the study of the soul in itself and concerning each of its powers considered with regard to the soul, it is next to be investigated about animals and everything that has life, what are their specific and what are their common activities. [436 a 5] So let's assume what was said about the soul and let's speak about the rest, and first about what is first.

8. Cf. Thomas de Aquino, *Sentencia libri de sensu et sensato*, in GAUTHIER 1985, 7.135-145: “*dico ergo primo quod iam determinatum est in libro De anima de anima secundum se ipsam, ubi scilicet anima diffiniuit, iterum consequenter determinatum est de qualibet virtute, id est potencia eius, sed hoc dico “ex parte ipsius”: cum enim potencie anime preter intellectum sint actus quarundam parcium corporis, dupliciter de eis considerari potest: uno modo secundum quod pertinent ad anima quasi quedam potencie vel virtutes ipsius, alio modo ex parte corporis.*”

On this reading, Aristotle tells us what is *new* in the study he is about to launch. He also gives us a way not only to contrast but also to connect the study that he is about to launch, namely the study of animals and everything that has life, with the study of the soul conducted in the *De anima*. While the *De anima* is concerned with the study of the soul - to be conducted through a study of its powers - the opening lines of the *De sensu* announce a study of animals and everything that has life - to be conducted through as study of their activities.

3.

Two features of the Aristotelian project, as it emerges from the second reading of the opening lines of the *De sensu*, require further elaboration. We need to understand, on the one hand, why a study of the activities of animals and everything that has life leads to a study of the body involved in those activities and, on the other hand, why the study of the soul conducted through a study of its powers does not lead to a study of the body in which those powers are realized.

Consider the case of animal locomotion (*poreia*). *Poreia* is not only an activity that is common to many, if not most, animals; it is also an activity that is naturally articulated into *specific* modes: flying, swimming, walking and other comparable forms of animal progression. Therefore, a study of *poreia* must be a study of the different ways in which animals move around.⁹ This study entails, in turn, a study of the specific bodies involved in the different modes of animal locomotion. There is no need to review the teleological framework that Aristotle employs in the explanation of the relevant activities. Here suffice it to say that the body is regarded as an organ or a tool whose presence is *for* the exercise of the relevant activity. What matters for the present discussion is that an explanation of the presence of certain bodily features as a necessary prerequisite for the performance of certain activities is part of the explanation of those activities. In the case of animal locomotion, in particular, the explanation of the various parts involved in bodily displacement is a part of the explanation of what is specific about the different modes of animal locomotion. This helps us

9. *PA I 1*, 639 b 1-3.

understand why at the beginning of the *De incessu animalium* Aristotle announces a causal study of the bodily *parts* that are useful to animals for locomotion,¹⁰ but elsewhere he is able to characterize what is done in this work as a study of *animal locomotion*,¹¹ or even as a study of the *different modes of animal locomotion*.¹²

This approach to the study of the activities performed by living beings makes it even more pressing to understand why the study of the soul conducted through a study of its powers does not extend to include a study of the body in which those powers are realized. The opening lines of the *De anima* may help us make some progress on this front:

[402 a 4] knowledge of the soul is thought to contribute greatly to all truth, but especially to [truth about] nature, for the soul is like a principle of living beings. [402 a 7] We seek to study and have knowledge of its nature and being, and then of the things that come along in relation to it: some of them are thought to be affections proper to the soul, while others [are thought] to belong to living beings on account of the soul.

[402 a 4] δοκεῖ δὲ καὶ πρὸς ἀλήθειαν ἅπασαν ἢ γνῶσις αὐτῆς μεγάλη συμβάλλεσθαι, μάλιστα δὲ πρὸς τὴν φύσιν· ἔστι γὰρ οἶον ἀρχὴ τῶν ζώων. [402 a 7] ἐπιζητοῦμεν δὲ θεωρῆσαι καὶ γνῶναι τὴν τε φύσιν αὐτῆς καὶ τὴν οὐσίαν, εἴθ' ὅσα συμβέβηκε περὶ αὐτῆν· ὧν τὰ μὲν ἴδια πάθη τῆς ψυχῆς εἶναι δοκεῖ, τὰ δὲ δι' ἐκείνην καὶ τοῖς ζώοις ὑπάρχειν.

The first part of our passage introduces the object of study of the *De anima*: the soul as a principle of living beings. At the outset of our investigation, we do not know what the soul is; we only know that the presence of a soul is what distinguishes a living from a non-living being. Hence, Aristotle has good reasons to describe the soul

10. *IA* 1, 704 a 4-6. The very end of *IA* reinforces the idea that *IA* and *PA* work together in the explanation of the *parts* of animals: “so much for the parts of animals, the others and those concerned with progression and every [form of] locomotion” (*IA* 19, 714 b 20-23).

11. *PA* IV 11, 690 b 15 and 692 b 17; IV 13, 696 a 10-13.

12. *DC* II 2, 284 b 13. Cf. the opening lines of the *De motu animalium*, where Aristotle, in making contact with *De incessu animalium*, characterizes the latter as a study of the specific kinds of locomotion and the causes of their attributes.

as a source, or a principle, of living beings.¹³ We can reasonably expect that by the end of the *De anima* we will have learned a great deal about the soul, including the precise sense in which the soul is a principle of living beings. But we should not expect to learn about living beings because Aristotle does not promise that we will gain knowledge about them. He only promises that we will gain knowledge about the nature of the soul. We will obtain that result by engaging in a search for the *ti esti* of the soul. Note that Aristotle engages in this project without assuming that there are attributes that belong to the soul to the exclusion of the body. On the contrary, the promise made in the second part of our passage is carefully crafted to remain open on this point: while some things *are thought* to belong to the soul alone, others *are thought* to belong to living beings in virtue of the soul. It is telling that, when a few lines below Aristotle turns to the attributes of the soul, his working hypothesis is that the soul is not separable from the body as its attributes are manifestly common to the body and the soul. Thinking is introduced as an attribute that *may* pertain to the soul to the exclusion of the body. But Aristotle is very careful not to endorse this view. At this early stage of his investigation, thinking is presented only as a *possible* exception to the rule.

The subsequent investigation of the soul remains outside the scope of our present discussion. What matters is that this investigation confirms Aristotle's commitment to treating the soul as something that is not separable from the body. It is this commitment that should alert us to the danger of thinking that the *De anima* is a study of the soul in isolation from the body. This thought is suggested by the second reading of the opening lines of the *De sensu*. We should resist it. And yet, it is clear that there are serious limitations to what can be said about the body if one is concerned with the *ti esti* of the soul. The "most common account" offered at the outset of the second book of the *De anima* illustrates this last point. On the one hand, Aristotle is supremely confident that this account confirms the hylomorphic unity of the soul and the body. He tells us that "we should not ask whether the soul and the body are one any more than whether the wax and

13. For a few lucid remarks on this point, I refer the reader to CORCILIOUS 2008, pp. 22-26. He makes this point by saying that at the beginning of the *De anima* "soul" is just a placeholder ("*Platzhalter*": 23).

the shape are one” (412 b 6-8). On the other hand, it is fairly clear that there is not much one can say about the body at this general level besides the fact that it has to be organized in a certain way to support the soul as a source of life. This is one of the messages conveyed by the definition of the soul as first actuality of a body which is not only natural but also organic (412 b 4-6).¹⁴

4.

But why should Aristotle find a search for the *ti esti* of the soul a compelling project in the first place? The opening lines of the *De anima* give us a very good reason that we need to get as clear as possible about the soul: the soul is a source, or a principle, of living beings; hence, clarity about the soul is required to engage in an optimal study of living beings.¹⁵ Note that I have chosen to render τῶν ζῴων and τοῖς ζῴοις with “living beings.” I have defended this translation elsewhere.¹⁶ Here suffice it to say that a primary task that Aristotle sets for himself in the *De anima* is to clarify the concept of life. The thesis that life is not a single *phainomenon* is introduced at the beginning of *De anima* II 2, where Aristotle states that being alive (ζῆν) is said in many ways (413 a 22). It is only over the course of the *De anima* that Aristotle is able not only to show that animals and plants are different kinds of living beings, but also to explain why this is. Retrospectively, in light of this achievement, it may be felt that the language Aristotle adopts in the opening lines of the *De anima* is ambiguous between the claim that the soul is a principle of any living beings that there might be and the claim that the soul is a principle of animals. But it makes perfect sense for Aristotle, right at the beginning of his investigation, to speak, vaguely, of living beings. At that point, he does not have at

14. I have explored this idea in FALCON 2009, pp. 167-181, especially pp. 175-179.

15. Still, the opening lines of the *De anima* do not entail that the interest in the soul is limited or confined to its relevance to the study of life. Quite the contrary, the biological orientation of the *De anima* is fully compatible with the claim that the *De anima* has theoretical implications that go emphatically beyond the narrow boundaries of the study of living beings. As Aristotle himself says at the outset of the *De anima*, the study of souls contribute to all truth.

16. I have discussed these reasons in FALCON 2009.

his disposal the conceptual resources to show that plants and animals are different types of living beings.

As we reflect on how best to translate the opening lines of the *De anima*, it is natural to return to the opening lines of the *De sensu*. Since we are explicitly told that the *De sensu* builds on the results achieved in the *De anima*, it is not open to us to assume that the distinction between animals and plants is not available to Aristotle at the outset of the *De sensu*. But this only makes his choice of words more interesting. We have seen that Aristotle speaks of animals and everything that has life rather than animals and plants. Of course, the phrase “*everything that has life*” includes plants. But it would be a mistake to infer from this that the opening lines of the *De sensu* announce a study of animals and plants based on the results reached in the investigation of the soul and its powers. If this were what Aristotle had in mind, he would have spoken a study of τῶν ζώων καὶ τῶν φυτῶν. Instead, he speaks of a study of τῶν ζώων καὶ τῶν ζῶην ἐχόντων ἀπάντων.

To study everything that has life is not simply to study animals and plants. To see why, we have to recall the theory of science outlined in the *Posterior Analytics*. This theory requires Aristotle to give explanations at the right level of generality.¹⁷ In some cases, this means seeking an explanation in common to most, or even all, animals; in other cases, it entails going beyond the case of animals in order to look for a causal explanation that applies to everything that has life, including plants. This is exactly what Aristotle has in mind in the opening lines of the *De sensu*. We should not forget that these lines, in addition to introducing the investigation conducted in the *De sensu*, are meant to introduce the reader to the explanatory project conducted in the short essays traditionally known as *Parva naturalia*. These essays can be divided into two distinct groups, reflecting two distinct explanatory levels. While the first group of essays deals with activities that pertain to some, most, or even all animals (*De sensu*, *On Memory and Recollection*, *On Sleep*, *On Dreams*, *On Divination in Sleep*), the second is concerned with aspects of life that are not restricted to animals (*On Length and Shortness of Life*, *On Youth and Old Age*, *Life and Death*,

17. The best introduction to this explanatory concern, and how it controls the study of life, remains LENNOX 1987.

Respiration). It is in this second group of essays that we find examples of a common study of animals and plants. Not surprisingly, the Aristotelian tradition has considered this second group of essays, to the extent that they are concerned with activities that are common to all living beings, including plants, as a sort bridge between the study of animals and plants.

5.

At this point it is clear that we should not describe the project outlined in the opening lines of the *De sensu* as a study of the soul followed by a study of living beings. Nor should we say that it is a study of the soul followed by a study of animals and plants. Rather, we must say that it is study of the soul followed by a study of animals and a study of what is common to animals and plants. If I am right, this is a direct consequence of a requirement introduced in the *Posterior Analytics*. To fully appreciate the implications of this approach, we need to pay attention to yet another interesting feature of this explanatory project.

It is fairly clear that even when Aristotle ventures into a common study of animals and plants, as he does in the group of essays that deals with the longevity of animals and plants and the causes of their life and death, the study of animals remains his primary focus. I derive this conclusion from the following remark placed at the very end of *On the Length and Shortness of Life*:

[467 b 5] The cause of long and short life in other animals has been accounted for. It remains for us to study youth and old age, life and death. Once these things are determined, *our investigation of animals* might come to a conclusion.

[467 b 5] νῦν δὲ περὶ τῶν ἄλλων ζώων εἴρηται τὸ αἴτιον περὶ τε μεγέθος ζωῆς καὶ βραχυβιότητος. λοιπὸν δ' ἡμῖν θεωρῆσαι περὶ τε νεότητος καὶ γήρωσ καὶ ζωῆς καὶ θανάτου· τούτων γὰρ διορισθέντων τέλος ἂν ἢ περὶ τῶν ζώων ἔχοι μέθοδος.

In looking forward to an investigation on the topic of youth and old age, life and death, Aristotle tells us that as soon as this other investigation is in place, his *study of animals* will have reached its goal. If this cross-reference is taken seriously, then both the investigation on the longevity of animals and plants and that on life and death and

respiration contribute, directly and immediately, to the study of animals. This means that Aristotle's investigation of animals contains *as one of its components* an investigation of what is common to animals and plants. The obvious question is why Aristotle opted for this strategy.

6.

To take stock: the *De anima* provides the foundation for a theoretically informed study of life. Aristotle's first step in the study of life is the decision to offer separate studies of animals and plants. It is because Aristotle takes animals and plants to be different kinds of beings that he is justified in approaching the study of life through separate studies of animals and plants. But how can he be so confident that animals and plants are different kinds of living being? We have pointed to the *De anima* for an answer to this question. The opening lines of the *De sensu* confirm the foundational role of the *De anima*. These lines suggest, in addition, that his separate studies of animals and plants are shaped not only by the results reached in the *De anima* but also by the methodological recommendation to give explanations at the right level of generality advanced in the *Posterior Analytics*.

These results find confirmation at the beginning of the *Meteorology*, where Aristotle outlines a very ambitious research project.¹⁸ The last installment of this project is a study of “*animals and plants, both in common and separately.*” At least three things can be noted in connection with how Aristotle describes this study. First, he speaks of a study of *animals* and *plants* (rather than a study of *living beings* or a study of *life*). His choice of words leaves no doubts that he envisions separate studies of animals and plants.¹⁹ Second, he indicates that animals and plants are to be studied *in common* and *separately*. This is a reference to the fact that his separate studies of animals and plants

18. *Meteorology* I 1, 338 a 20-339 a 10.

19. Note that there is no reference to a study of the soul in the opening lines of the *Meteorology*. It is open to us to read an implicit reference to the *De anima* in the promise to offer a study of “animals and plants, both in general and separately.” However, Aristotle is very clear in the opening lines of the *De anima* that the contribution of this work to theoretical knowledge goes beyond natural philosophy. As a result, we cannot exclude that, *in Aristotle's eyes*, the *De anima* is not meant to appear in the outline given at the beginning of the *Meteorology*.

are controlled by the requirement expressed in the *Posterior Analytics*. At the beginning of the *Meteorology*, we cannot rule out that Aristotle promises, in addition to separate studies of animals and plants, a study that captures salient features pertaining in common to both animals and plants. After reading the *De anima* and the *Parva naturalia*, however, we can safely say that there is not much Aristotle is able to say in common about animals and plants. What we read at the end of *On the Length and Shortness of Life*, moreover, confirms that the study of life is approached by him through separate studies of animals and plants. Whatever can be said in common about animals and plants is said *in the course of the study of animals*. The special role that the study of animals plays in Aristotle's explanatory project finds a confirmation in the opening lines of the *Meteorology*. This is the third, and final, thing to be noted in connection with the choice of words made in the opening lines of the *Meteorology*. The order in which animals and plants are listed - *first* animal and *then* plants - suggests that the study of life is approached by Aristotle through a study of animals. The special place that the study of animals plays in the context of the study of life is confirmed by the impressive corpus of writings on various aspects of animal life that has reached us. By contrast, the evidence that Aristotle wrote on plants is far from being conclusive. We can leave aside the question whether Aristotle wrote on plants.²⁰ What matters, at least for the present discussion, is that Aristotle regarded the study of life as consisting of two parts to be approached in a definite order, *first* animals and *then* plants.

To conclude, I would like to point to an interesting discrepancy between the explanatory strategy employed in the study of the soul as principle of life and the one adopted in the study of the different living beings (animals and plants). Aristotle approaches the study of

20. The evidence that Aristotle wrote on plants is scanty. The Hellenistic catalogue of Aristotle's writings transmitted by Diogenes Laertius lists two books on plants. If Aristotle ever wrote on plants, his work was lost at an early date. Alexander of Aphrodisias had no access to a book on plants by Aristotle. It has been recently argued, on the basis of a reference in the *De indolentia*, that Galen may have had access to such a book. In explaining how he overcame the distress following the loss of his library in the fire of 192 AD, Galen makes a reference to a number of precious and rare books he owned and lost in the fire, including a work on plants by Aristotle. See RASHED 2011.

the soul through a study of its powers. It turns out that the study of these powers is not only a study of different parts of the soul but also a study of different kinds of souls. Note, in particular, that the serial account of the soul that follows the common account begins with the nutritive soul. Aristotle begins with the nutritive soul because it is the power that all living beings have. The study of this kind of soul has a special status in the argument of the *De anima*. It is used as a paradigm for how souls work as the causal principles of living beings. It is in the course of the study of the nutritive soul that Aristotle establishes that the soul is a formal, efficient and final cause. This causal analysis is subsequently extended to the other basic types of soul.²¹ Since the soul is a principle of life, and since different kinds of souls are principles of different kinds of living beings, one might be tempted to think that the study of living beings should adopt the same argumentative strategy. In other words, just as the study of the soul begins with a study of the nutritive soul, so the study of life should start with a study of plants. In fact, this is not how Aristotle proceeds. In his study of life, Aristotle begins by focusing on animals. It is not difficult to imagine a reason for this explanatory strategy: the world of plants is considerably messier, and significantly more difficult to study, than the world of animals. It makes sense to plan a systematic study of life starting from animals rather than from plants. In all probability, Aristotle assigned a paradigmatic status to the study of animals on the expectation that some of the methodological results achieved in the study of animals could be extended to the study of plants.²²

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21. I am following JOHANSEN 2012, pp. 116-127.

22. For more on Aristotle's systematic study of life through separate studies of animals and plants, including the relation between Aristotle's study of animals and Theophrastus' study of plants, see FALCON 2015.

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