

Merely Living Animals in Aristotle

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In *Parts of Animals* II.10, 655b37-656a8, Aristotle tacitly identifies a group of animals which partake of “living only”. This paper is an attempt to understand the nature of this group. It is argued that it is possible to make sense of this designation (i.e. “merely living animals”) if we consider that some animals, which are solely endowed with the contact senses, do nothing more than mere immediate nutrition by their perceptive nature and have no other action. It is concluded that some of Aristotle’s merely living animals would be *certain* kinds of sponge, *certain* sea anemones and the ascidians among testacea.

Introduction

Aristotle starts *Parts of Animals*, II.10 by addressing the necessary parts of all complete animals and then, representing the living world on a scale ranging from plants to mankind, he says:

It is, then, of the nature of plants, being immobile, not to have many forms of the non-uniform parts; for few actions [πράξεις] require the use of few instruments. Accordingly, we should study the visible character of plants independently. But those [living beings] that have, in addition to life, sensation, are more polymorphic in visible character and some of these more than others. And there is still greater variety among those whose nature partakes not only of living but, in addition, of living well. Such is mankind; for of the animals known to us, either mankind alone, or mankind most of all, partakes of the divine (655b37-656a8, slightly modified).¹

In the above passage, we read Aristotle as considering the possibility of a certain participation in living well by animals other than man. This does not come as a complete surprise for students of Aristotelian biology, since—throughout his biological treatises—Aristotle frequently uses the distinction between parts or traits that animals possess *necessarily*, on the one hand, and those, on the other, which exist for the sake of some *good purpose*.² There is, however, another crucial and particular point in this passage: it elliptically suggests the existence of certain animals whose nature partakes only of living. Commentators

¹ For *PA*, I use the Lennox translation (2001b). For Books VII-X of *HA*, I use Balme’s translation (1991). All other translations of Aristotle’s works are my own.

² For just a few examples among many, see *DA* III.12, 434b22-29; *Sens.* 1, 436b18-437a3; *PA* I.1, 640a33-b1; II.2, 647b29-30; III.7, 670b23-27; IV.12, 694b5-9; *GA* I.4, 717a15-16; *IA* 15, 712b30-31.

seem to neglect this aspect of the passage³ and the question of which creatures can be said to “partake only of living” *despite* their capacity for sensation. The answer seems obvious: those animals would be the most primitive and the least complex ones. Agreed, but which ones? Above all, why those? The present paper offers a partial answer to these questions and it sets out to explore one *strict* biological sense in which an animal can be said to live merely in Aristotle’s biology.

The argument defended in sections 1-4 of the paper is the following. Aristotle thinks that some animals “merely live,” just like plants. He defines merely living as living a life confined to nutritive activities. This is one *strict* biological sense in which an animal can be said to live merely in Aristotelian biology. Thus, animals that are confined to lives consisting of nutritive actions would also be said to merely live. However, their being confined to nutritive life cannot be due to their possessing nothing more than nutritive soul, because such an animal does not exist for Aristotle. Since their being confined to nutritive life cannot be explained by being confined to nutritive soul, the next best explanation views them as living a *perceptive form of nutritive life*; and the best way of doing this is to show the nutritive character of their perceptive natures. It will be argued that the perceptive nature of these animals is so rudimentary that it makes their actions hardly different from a plant’s. In other words, it is with regard to their perceptive nature that these animals are plant-like. An examination of the nature of the sense of touch closes this argument. Section 5 is devoted to exploring this thesis in the cases of specific types of sea creatures.

I. Not only alive, but animal

To address the question of what a “merely living animal” would be for Aristotle, it is helpful to determine what it means for him to say of something that it has life, in the simplest sense of the term. *De Anima* seems to provide a straightforward answer to this question. According to Aristotle, the principle in virtue of which life belongs to all living beings is the nutritive soul (II.2, 413b1-2), which originates and causes activities shared by *all* living

³ See for example Lennox (2001b, p. 222) and Pellegrin (2011, p. 501 n. 2). The only exception I know is Gotthelf (1989, p. 123). Gotthelf seems to understand this passage as dividing the animals into those which partake of living-well and those which do not. However, he does not elaborate on this point. I also believe that it is natural to understand this passage as dividing the *animals* into those which partake of living-well and those which do not. It is obvious that for Aristotle living-well is grounded in partaking of the divine. On the relation between living-well and partaking of the divine see Lennox (2001b, pp. 222-3). On the “divine element” in animal constitution and its relation to *scala naturae*, see Code (1997, pp. 299-311).

things. The form of life for which it is responsible is, then, the most basic. The nutritive soul and its peculiar activities constitute the very threshold between inanimate and animate nature, since it is both the necessary and the sufficient condition for something to be considered alive.⁴

Nutrition, reproduction, and growth are the nutritive capacity's peculiar activities.⁵ As in the case of plants, the nutritive form of life can be found in nature, separately from the higher capacities of soul with which more complex creatures are endowed.⁶ These higher organisms, however, cannot operate without the nutritive capacity. In the order of nature, then, living in its most elementary sense is a vegetative form of life, which consists primarily in those activities peculiar to the nutritive soul.

That Aristotle associates mere living with vegetative life can also be seen from the locution he habitually uses to distinguish animals from plants: we call them “not only alive but animals.” At *DA* II.2, 413b2-4, for example, when explaining the principal difference between animals and plants, Aristotle says, “those beings, which do not move or change place, but are endowed with sensation, we call animals and not merely living things [οὐ ζῆν μόνον].”⁷ To the question concerning what Aristotle means by “mere living,” we have this first answer: mere living is a vegetative form of life, as distinct from perceptive animal life.

II. Animal, and the “plant” in it

However, the binary character of this conclusion does not seem to adequately represent Aristotle's supposition, at *PA* II.10, 655b38-656a8, that certain creatures “live only” despite their perceptive nature. There, Aristotle seems to suppose three groups of living beings. He first distinguishes those that only live from those that “not only live but also have sensation.” In such a binary division of living things, plants embody the first group, whereas the second group includes all animals together, since sensation is their defining characteristic:⁸ they “have sensation in addition to life.”⁹

⁴ *DA* II.4, 415a23-25.

⁵ Or, these can be considered as sub-faculties of the nutritive faculty (Polansky, 2007, 200-222). See also *DA* II.1, 412a14-15; 2, 413a24-31; 4, 415a22-23; 415b25-27; 416a8-9; 416a19 and 416b9-25.

⁶ See *DA* II.2, 413a31-34; 413b5-6; II.3, 414a32-33; 415a1-5. On the simplicity of plants as substances, see Sprague (1991).

⁷ The same locution is used at 656a3-4. See also *IA* 4, 705b8-10; *GA* I.23, 731b4-7; *Juv.* 1, 467b18-27 and 3, 469a18-20.

⁸ *DA* II.2, 413b2: τὸ δὲ ζῆν διὰ τὴν αἴσθησιν πρῶτως.

Yet, it seems this first division does not determine the threshold for “living only”, below which there still seems to be certain creatures, besides plants, which are endowed with sensation. This accounts for a third group of living beings, isolated within the animal world itself: there are animals whose capacity for sensation is not sufficient for them to count as going beyond mere living. In such animals, sensation does not make enough of a difference, in comparison to plants, to take them beyond mere living. Although the difference between nutritive and perceptive souls marks the threshold separating animals from plants, for some animals, having sensation does not correspond to a life beyond mere living, which is characterized primarily by the kinds of activities pertaining to the nutritive capacity. So, if we were to reclassify these three groups of living being according to the threshold of “living only”, then we should classify those animals together with plants. In other words, the binary division of the living world into plants or animals is too simple, and calls for a third category: those animals that are merely alive.

The idea of grouping some lower animals together with plants on the basis that the nutritive activity is preponderant in both of their lives might be thought to find support in the following passage from *Generation of Animals*, I. 23, where Aristotle provides insight into what would be ‘mere living’ in animals:

It is by sensation that animals differ from things, which are merely alive [τῶν ζώντων μόνον]. Yet, since it necessarily lives, if it is an animal, when there is need to perform the function of the living thing, then it couples and unites and becomes as if it were a plant (731b4-7).

Here, Aristotle identifies the mere living of animals with activities corresponding to those of the ‘plant in the animal’. Moreover, in this passage we also have a parallel tripartite division to *PA* II.10, 655b38-656a8: first are distinguished the creatures that only live from animals; then, within the individual animal organism itself, generation is distinguished (from sensation) as the moment of merely living, like a plant.¹⁰

It would be erroneous, however, to conclude from this parallelism that merely living animals live solely by their nutritive souls. That would be a contradiction in terms. Such an animal, that is, an animal whose life has nothing but nutritive soul as its principle, does not exist for Aristotle. For him, animal life is, by definition, perceptive, and defining animal by

⁹ For sensation as the defining principal of animal life, see also *Sens.* 1, 436b10-12; *Somn.* 1, 454a8-10; b24; *PA* II.1, 647a21; III.4, 666a34-35; and *Met.* Z.10, 1035b16-18.

¹⁰ Note however that these two passages are not making the *same* tripartite division: in the *PA* passage, the distinction is between living beings and here in the *GA* passage, the distinction is partially between living beings and partially between soul capacities within the animal.

sensation is a fundamental principle of Aristotelian psychology.¹¹ Therefore, limiting their animal life to their nutritive souls cannot be his way of grouping merely living animals with plants. Their lives' being confined to nutritive activities cannot be explained by their being confined to nutritive souls because they are not so confined.

If, nonetheless, there exist, according to Aristotle, animals that only live, and if, by this designation, he does not mean animals endowed solely with nutritive souls, then he must be supposing an *animal* way of merely living. The last passage from *GA* gives a misleading perspective on the question because we are not trying to understand *mere living in animals*, but *animals that merely live*. We are not concerned with the “plant in the animal,” but with plantlike animals, that is, creatures that live like plants, even though they are perceptive.

III. Not only animal, but also plant

Aristotle's merely living animals would then be plantlike, that is, leading a nutritive sort of life, without being plants. This indicates that they are to be found among those borderline creatures at the obscure edges of the plant-animal boundary, as described in the following lines from *History of Animals*:¹²

Nature proceeds from the inanimate to the animals by such small steps that, because of the continuity [συνεχεία], we fail to see to which side the boundary—that is—the middle between them belongs. [...] The change from them [plants] to the animals is continuous, as we said before. For some of those in the sea might raise for one the question whether they are animal or plant; for they grow attached, and, if separated, many of this sort are destroyed: for the pinnae grow like plants and the razor-shells cannot live after being pulled up. And in general the entire testacean kind resembles plants in comparison with the animals that move about.

And with regard to sensation, some of them give no sign at all, others faintly. The body of some has a nature that is fleshlike, for example those called tethya [i.e. ascidians] and the sea anemone kind; but the sponge in every respect resembles the plants. But always, by a small difference at a time, one after another shows more possession of life and movement.

And it is the same with the activities of their life [τὰς τοῦ βίου δὲ πράξεις]. For plants have no other evident function than to make another one like themselves, in those cases where they are produced through seed; and similarly in certain animals, too, one can grasp no other function besides generation (VII(VIII).1, 588b4-27, slightly modified).¹³

Aristotle supposes a gradual and continuous change in the order of nature, from plants to animals. Yet, it is crucial to note that it is not with respect to one and the same characteristic, but with respect to different features, that these sea creatures are said to be

¹¹ On this point, see P.-M. Morel (2007, 71-89).

¹² This passage has a doublet at *PA* IV.5, 681a10-25.

¹³ The animals mentioned in this passage generate spontaneously according to Aristotle. So, by the term generation here, what is meant cannot be sexual reproduction, but rather coming-to-be or the process of growth. *HA* V.15, 547b23-25 compares some testaceans according to rapidity of growth.

somewhere between plants and animals. They do not occupy the plant-animal boundary in one single respect. The traits with respect to which they are said to resemble plants are the following: (a) growing attached and not being able to survive when detached; (b) being deprived of locomotion; (c) absence or obscurity of the signs of sensation; and (d) having no other vital activity than generation.¹⁴ While it is true that lack of locomotion is an immediate consequence of growing attached, these two traits are to be distinguished from one another. Growing attached, these creatures are like plants, less because they cannot move, than because it marks the same frontier for them, as for plants, between life and death: once detached, they die. Further, the first two traits—growing attached and remaining stationary—are not necessarily correlated with the last two—lacking signs of sensation and engaging in mere growth—since Aristotle explicitly recognizes sensation for certain fixed animals.¹⁵ The second set of traits has more bearing on the question whether these creatures are animals or plants because they transform the question into one of definition, calling the capacity of sensation—and thus animality—into question as such. This is not necessarily the case with the first two traits because they do not define an animal as an animal.¹⁶ It follows, therefore, that, more than growing attached and being stationary, it is the borderline character of their perceptive natures that makes them merely living animals, occupying the plant-animal boundary by living a nutritive sort of life.¹⁷ The cause of their plantlike mere living must be found in the very nature of their perceptive capacity. Things really must be as described in

¹⁴ A complete list would also include: (e) lack of residual excretion (*PA* IV.5, 681a33-34 and b8), (f) reversed positions of up and down (*PA* IV.7, 683b19-20), and (g) absence of a male-female distinction (*GA* I.23, 731b10-11).

¹⁵ See *DA* I. 5, 410b19-20; II.2, 413b2-4 and II.3, 415a6-7.

¹⁶ Locomotion is sometimes treated by Aristotle as definitive of complete animality (see, for example, *Phys.*, VII. 7, 261a13-23; *DA* III. 3, 427a17-21; III. 7, 43a6-7; III. 9, 423a15-17). However, the animality put in question by the above *HA* passage is animality as opposed to “vegetality”. This is what Jean-Louis Labarrière (2004, p.156) calls “the definition from below” of animality. Given that for Aristotle sensation is a prerequisite for animal locomotion, it is not really locomotion which defines animal in its opposition to a plant.

¹⁷ The Aristotelian notion of “dualizers” can certainly be evoked to explain the case of these animals: with respect to their stationary mode of living they tend towards plants, but with respect to their perceptive nature they are animals. However, although pertinent, the notion of “dualizers” does not seem to be sufficient to do all the work in explaining the nature of the “merely living animals”. Aristotelian “dualizers” do not belong to the groups they belong with respect to the same feature, whereas in the case of the “merely living animals” it is with respect to one and a same feature, namely, their capacity for perception, that their animality is put into question: their perceptive nature is so rudimentary that their actions differ hardly from plants’. For dualizing animals, see *PA* III, 6, 669a9; IV, 5, 681b1; IV, 10, 689b32 and 690b22; IV, 13, 697b14; *GA* I, 11, 719a7; 23, 731b9; IV, 4, 772b1; IV, 6, 774b18; *HA* I, 1, 488a1; II, 1, 499b12; IV, 4, 529b20; VIII (IX), 13, 598a15. For a discussion of this notion see Balme (1987, pp. 85-6) and Lennox (2001a, p. 26).

the last phrase of the above *HA* passage: these are *animals*, hence perceptive beings, which, as their vital activities, do nothing more than nourish and grow. They are plantlike because of the nature of their perceptiveness. But could Aristotle have really meant this counterintuitive category?

The pertinence of this question is best shown in a textually problematic phrase, which immediately follows the last passage cited from *History of Animals*. Continuing the idea of a progressively increasing complexity in the order of nature, Aristotle says:

Such [reproductive] activities, then, are common to all alike (πάντων). As sensation is superadded/advanced, then their lives differ both in regard to mating because of the pleasure and in regard to the birth and rearing of their young (588b27-30, modified).

The textual uncertainty concerns the verbal form of the clause in the genitive absolute at 588b28: προσούσης/προιούσης δ' αἰσθήσεως ἤδη. Widely accepted versions (including Bekker and Balme editions) take it to be προσούσης. The MSS accepting the alternative are not always best.¹⁸ So, this passage suggests that, as we follow the increase of complexity *within* the animal world,¹⁹ we see the capacity for sensation either as being superadded at a certain point or as gradually advancing. This, however, is no small difference. If προσούσης (superadded) is correct, the same problem as with *Generation of Animals*, I, 23, 731b4-7 arises because, in this case, we must assume that certain members of the animal world are deprived of sensation and live solely by virtue of the “plant” in them. But, as discussed earlier, there can be no such animal for Aristotle.

If the alternative, προιούσης, is pursued, then it becomes a matter of gradually advancing sensation, within a group of creatures *already* endowed with sensation. Seen this way, the issue will be pointing out the range of differentiation between animals, with regard to sensation, from its most rudimentary form to its most advanced. I take this reading to be correct, since it fits better with Aristotle’s psychology. Yet, this alternative only works if we allow for *perceptive beings* that have nothing but nutrition and growth as their living activities. Such creatures would be plantlike, insofar as they *do* nothing more than what

¹⁸ For a critical apparatus of this line, see Balme (1991, 64 n.2), and his translation note on the opposite page (note e). For relevant information about the manuscript tradition, see his Introduction (1991, 30-50).

¹⁹ I take “πάντων” to refer, not to all living beings, but to animals only. This seems to be the most natural reading of the phrase because τόκος, with regard to which certain animals’ lives are said, in the second half of the sentence, to differ, is animal parturition. Read this way, the entire sentence seems to be designed to make a distinction within one type, namely the animal type of generation. It distinguishes the animals that have no other activity than generation from those whose activity of generation gets highly complex because of their advanced capacity for pleasure.

plants do with their unique principle of life, namely the nutritive soul; yet, they would still be animals, since they would behave like plants despite their perceptive nature. This reading coheres well with the entire passage because the idea of a gradual change from plants to animals seems dependent on the existence of animals, which, though perceptive, do nothing beyond actions that are proper to nutritive life.

However, if animals with only nutritive souls do not exist, then it is, not to the exclusion of, but *by* their capacity for sensation that plantlike animals would be doing nothing more than nutritive activities. If “merely living” means being confined to nutritive life, and if we are speaking about “merely living” *animals*, then those creatures must lead *a perceptive form of nutritive life*. Paradoxical as it may sound, such animals would be plantlike in terms of their perceptive nature, and their *praxeis* would hardly transcend the horizon determined by their nutritive faculties. Their actions based on the perceptive faculty would be limited to those relevant for nutrition. They would hardly act differently from plants, since their perceptive activities would involve little more than the nutritive activities of plants. Between plants and animals, then, there is a sort of continuity [συνέχεια] with regard to sensation as well: certain creatures are plantlike—that is, they are living lives restricted to nutrition—on account of the very nature of their perceptive capacities.

IV. The nature of the sense of touch

It is already clear from Aristotle’s account that merely living animals live the most rudimentary forms of animal life, which means that they live in the most rudimentary states of being perceptive. It immediately follows that these animals possess no other sensory capacities than contact senses, either touch alone, or both touch and taste.²⁰ According to the conclusion from the previous section, these animals perform only nutritive functions with the senses they possess. If this is correct, then the morphological simplicity implied at *PA* II.10, 655b38-656a8, must be understood to imply that these animals have no other *praxeis* than what they do with their contact senses. Their lives are based exclusively on the nutritive functions of the contact senses. Accordingly, the plantlike character of their perceptive

²⁰ I take touch and taste to be separable, even though Aristotle seems also to suggest the alternative: compare *DA* II.2, 413b6, 414a3 and III.13, 435b6-7 with *Sens.* 1, 436b12-15. But I believe their separability is Aristotle’s considered position. According to him, touch is not only the necessary condition for the existence of the other senses (including taste), but it is also the only sense the deprivation of which brings necessarily death to the animal (see *DA* III. 13, 435b2-5). This last point is not true for taste.

natures must be due to the very nature of their contact senses themselves. For Aristotle, the paradigmatic contact sense is the sense of touch.²¹ Touch is the necessary and sufficient condition for being animal; accordingly, it is the only sense common to all animals (*DA* II.2, 413b1-9).²² Its necessity for all animals comes from the fact that animals, as opposed to plants, obtain their nourishment unconcocted, from without their own bodies and by their own efforts,²³ and touch serves the conservation of such beings by providing the most basic “awareness” of what is beneficial or inimical to them as nutriments.²⁴ As an animal’s primary and secure access to food, “touch is the sense of nourishment” (*DA* II.3, 414b7). Touch has this primordial and privileged relation to food because it is perception of the very qualities in tangibles that serve to nourish the animal—namely, dry, moist, hot, and cold (414b7-9).²⁵

Taste, the second tactile sense, is a form of touch because its object, flavor, is tangible. The constitution of flavor can be traced back to, and explained in terms of, the differences touch identifies. Accordingly, a tasteable body, that is, a body with flavor, is a moist body. Although the dry element has the flavor, it is not tasteable unless it is in a moist state (*Sens.* 4, 441b19-20).²⁶ What the animal discriminates (*διακρίνει*) in the thing it tastes is always a part of its global judgment about the thing as comestible. This is why taste, says Aristotle, is “the sensation of what is tangible and nutritive” (*DA* III.12, 434b22),²⁷ and flavor is “an affection of what is nutritive [*ὁ χυμός ἐστὶ τοῦ θρεπτικοῦ πάθος*]” (*Sens.* 1, 436b17-18).²⁸

Touch and taste serve, then, the animal’s nutritive faculty. Moreover, although they are functions of the perceptive nature of an animal, their activities belong to the larger group of functions that nourish an animal. This can best be seen by reference to Aristotle’s distinction between the ways these two senses take part in, and contribute to, an animal’s

²¹ *DA* III.13, 435a17-18 underlines the affinity between “to grasp” and “perception by touch”: “Touch [*ἄφῆ*] occurs by direct contact [*ἄπτεσθαί*], and that is why it has its name.”

²² See also *DA* II.2, 414a3; II.3, 415a3-5; III.12, 434b10-11 and 22-24; II.13, 435a11-b19; *Sens.* 1, 436b13-14; *HA* I.2, 489a17-18; and *PA* II.8, 653b19-24.

²³ See *Juv.* 1, 468a7-11 and *PA* II.3, 650a20-32.

²⁴ See *DA* III.12, 434b9-24.

²⁵ See also *DA* II.11, 422b25-27; 423b27-29; *PA* II.1, 647a16-19 and II.3, 650a2-8. On tangible qualities, see *GC* II.2 and II.3, and *PA* II.1, 646a14-20.

²⁶ On taste as a sort of touch, see *DA* II.10, 422a8-11; *Sens.* 2, 438b30-439a1 and 4, 441a3; *PA* II.10, 656b38 and II.17, 660a20-21. See also Johansen (1997, 182-188).

²⁷ See also *DA* II.3, 414b11.

²⁸ Alexander of Aphrodisias reads “*τοῦ γευστικοῦ*” instead of “*τοῦ θρεπτικοῦ*.” Flavor cannot be an affection of the nutritive part of the soul, he argues, because the nutritive soul is not perceptive (*In librum de sensu commentarium* 9, 18-10, 11). Ross (1955, 185) takes “*τοῦ θρεπτικοῦ*” to refer to food, that is, as an equivalent of *τρόφιμος*, as at *Sens.* 4, 441b24. I follow Ross here.

nutrition. He distinguishes the “nutritive” function of an animal’s food from its “growth-promoting” function. Insofar as the living being represents a certain quantity, food serves to increase its bulk and causes growth; but insofar as it serves to maintain an animal’s substance as a singular reality, food nourishes it.²⁹ These are two aspects of the work a creature performs on its food with its nutritive soul. At *Sens.* 4, 441b27-442a9, Aristotle elucidates the roles touch and taste play in the accomplishment of this work, and retains the distinction between the nourishing and the growth-promoting functions of food. The contributions touch and taste make to these functions differ according to the qualities they discriminate in tangible bodies. Aristotle suggests that, since growth and decay are effected by hot and cold, touch pertains to the growth-promoting aspects of the food, while the sweet is the object on which animals feed and depend for the continuation of their individual existence.³⁰ The sense of taste provides access to what is sweet *qua* sweet, and the discrimination of flavors is how the sense of taste contributes to maintaining existence. By relating the senses of touch and taste to two sub-faculties of the nutritive soul (growth and nutrition), these analyses show that, in animals, nutritive activities extend beyond the nutritive soul, and the perceptive nature of animals has nutritive functions in their overall lives.

We now have a clearer understanding of what plantlike animals are, and what it means for such animals to be plantlike on account of their perceptive natures. Being endowed solely and exclusively with tactile senses, these animals’ actions hardly extend beyond those proper to nutritive life, and they manifest the faintest signs of being different from plants. Their morphological simplicity results from the simplicity of their proper *animal natures*.

V. *The Borderline Animals*

a. *Sponges*

According to *History of Animals* VII(VIII).1, 588b10-27, five types of sea creatures are considered especially worth mentioning, as exemplary cases of the difficulty in marking a clear boundary between plants and animals. They are: pinnas, solens [razor shells], ascidians, sea anemones, and sponges.³¹

²⁹ *DA* II.3, 416b11-13. See also *GC* I.5, 322a17-28 and *GA* I.6, 744b32-36.

³⁰ *Sens.* 4, 441b23-442a12.

³¹ To this list, we may add holothurians and sea lungs, which are described as being unattached yet motionless, and as *animals* deprived of perception (*PA* IV.5, 681a16-26; for the holothuria as

I start with sponges because the question of animality for them is the subject of the most ambiguous remarks in the *corpus*. In the same *HA* passage (588b10-27), Aristotle describes sponges as resembling plants in every respect (παντελῶς). His incredulousness about the animality of sponges has an almost *verbatim* doublet at *PA* IV.5, 681a15-17.

These two passages seem, however, to be in contradiction with *HA* I.1, 487b6-12, where Aristotle says:

Moreover, some animals are stationary; others are mobile. The stationary ones live in water; none of the land animals is fixed. In water, many animals live attached, for example, many kinds of hard-shelled creatures. And the sponge also seems to have a certain sensation. Its sign is that it is more difficult to tear it off if the movement is not made secretly—or so it is said.

This passage has a doublet at *HA* V.16, 548b10-12. Besides, at 549a7 (in the same chapter), Aristotle seems to give his consent to a “plain agreement” among men on the perceptive nature of one species of sponge called “the unwashable.”

Although these passages appear to contradict each other,³² I tend to think Aristotle’s standard view is represented by those passages that recognize sensation in sponges, whereas he makes those comments that seem to deny it for rhetorical value.

Aristotle’s interest in sponges was led, less by the question of knowing whether they were perceptive, than by the frailness of their animality in all respects. However, frail or not, in order to be acknowledged as animals, sponges had to pass the test of sensation. The above passage from *HA* (I.1, 487b6-12) is a good example: Aristotle dogmatically appeals to sensation to justify classifying sponges as animals.³³ Appearing in an introductory chapter, in which Aristotle sketches the program for the entire book, this passage provides an example of one of many zoological differences to be investigated throughout the book. Sponges are an example of *stationary water animals*. So, their animality is not of special concern here. However, the sponge is such a creature that, in order to view it as a *certain kind* of animal, one must first show good reason to view it *as an animal* at all. Thus, Aristotle initially gives

motionless see also *HA* I.1, 487b15). They are compared to some plants that are able to live unattached. To explain these creatures, Lloyd (1996, 80-82) suggests that Aristotle was not dogmatic about perception as *the* criterion of animality. Far from solving the difficulty, his suggestion doubles it: if we accept these creatures as animals—despite their lack of perception—we also need to explain why the unattached plants, to which they are compared, are not equally animals. Rather than giving up one of the most fundamental principles of Aristotle’s psychology, I would prefer a chronological explanation about the development of his thought. Until then, I take Aristotle to contradict himself.

³² According to David Balme, Aristotle would have learned about the perceptiveness of sponges after he wrote the passages denying it (1991, 23 and 64 note b). Lloyd (1996, 75 note 9) is critical of Balme’s suggestion. See also Lennox (2001b, 301).

³³ This passage provides a good counterexample to Lloyd’s suggestion that Aristotle was not dogmatic about perception as the criterion of animality.

credit to the story about sponges contracting when approached, since it is a sign of perceptivity.

On the other hand, the passages that seem to deny sensation to sponges support the idea that these creatures would be less interesting as plants than as frail animals for Aristotle. He wants sponges to be animals, but he likes them to be so in a weak way. First of all, neither *HA VII(VIII)* nor *PA IV* explicitly deny sensation in sponges. The first speaks of the absence of any signs, not of the absence of sensation itself.³⁴ The second compares sponges to plants in terms of being attached and unable to live if detached. Nevertheless, the difficulty in finding a more powerful proof of the perceptivity of sponges than their instant contraction at the approach of a hand seems to lead Aristotle to consider the weakness of this proof as sufficient reason for its negligibility when there is need for good support for his idea of gradual change, in the order of nature, from plants to animals. In other words, the weakness of the evidence actually supports Aristotle's intuition of gradual change in the order of nature: He seems to think that, given the weak evidence in favor of their perceptivity, and, given their stationary mode of life, sponges can be said to *resemble* plants completely. As I understand it, the point here is to point out the frailty of sponge animality, not to put it into question altogether. So, when he seems hesitant about sponge perception, Aristotle does not want to deny animality in them; rather, he wants to be convincing about the idea of a gradual change from plants to animals.

Aristotle can maintain this ambivalent attitude about sponges, without settling the issue decisively, because their case permits that. Their case constitutes a good example of the close relation between the sense of touch and nutritive activities. Certain sponges exemplify the simplest and the most immediate state of this relation because they, according to Aristotle's description, do the minimum of what animals can do with the sense of touch: they use it exclusively for nutritive goals:

All sponges grow either attached to rocks or on sea beaches and they feed on slime. Its sign is that, when they are caught, they appear to be full of slime. This is also characteristic of other living beings that get their nourishment from their points of attachment (*HA V.16, 548b5-548b8*).

Sponges are attached to rocks or to beaches by the lower parts of their bodies, which are covered by a sort of membrane (548b32). The fact that sponges are found to be full of slime when torn off suggests that they take their nourishment *inside* their bodies. As a consequence, their "roots" (548b17) do not serve for reaching and getting an already

³⁴ See Lloyd (1996, 67 and 73-74).

concocted food from slime, unlike plants.³⁵ Aristotle seems to mean that the rootlike parts of their bodies are used for absorbing slime through the points at which they attach to the ground. He suggests, then, that the perceptive activity of sponges is limited to discriminating and appropriating nourishment by the intermediary of touch. They use sensation as a function of their global nutritive activities, but this does not make their bodies more structured than plants' bodies. Since their food is not concocted beforehand, sponges must be classified together with creatures that obtain their food in a raw state, by their own efforts, and from outside their bodies: animals.

However, this interpretation is challenged at *HA* V.16, 548b12-15. By the end of the passage, where he reports the contraction of sponges when approached by hands, Aristotle remarks:

It makes (ποιεῖ) the same thing in windy weather and wavy sea for not being plucked off (πρὸς τὸ μὴ ἀποπίπτειν). But some people do not agree with this, as, for instance, the people of Torone.

The first part of this sentence is marked with overtly teleological language: sponges are said to make (ποιεῖ) the contracting movement for (πρὸς) tightening their hold.³⁶ This use of touch is already *doing something else* and *more* than mere immediate nutrition.

Yet, Aristotle feels the need to note Toronean reservations on this issue. I can see no good reason to suppose that Aristotle would have taken the word of Toroneans less seriously than that of sponge divers for the perceptiveness of sponges. So, when Aristotle cites the Toronean disagreement about sponge behaviors in a tumultuous sea, I take him to acknowledge and note it as testimony to the existence of at least one kind of sponge that does not contract in order to tighten its hold and does not, therefore, use touch for a purpose beyond immediate nutrition.

In the same chapter of the *History of Animals*, Aristotle first divides sponges into two comprehensive groups, loose-textured (μαρός)³⁷ and close-textured (πυκνός),³⁸ and then

³⁵ For a comparison between the digestive systems of plants and animals, see *PA* II.3, 650a2-32. See also *Juv.* 1, 468a4-12.

³⁶ The use of πρὸς, instead of the more usual and technical ἔνεκα, for finality to discuss sponge contraction during stormy weather suggests that the teleology involved in this use of touch is a weaker kind, in the sense that it is not necessitated by the animal's formal nature. For this usage of πρὸς by Aristotle and its relation to animal living well, see Leunissen (2010, 20 and 96) and Lennox (2001b, 291).

³⁷ *HA* V.16, 548b1 and b19. Useful information about the naming and divisions of marine invertebrates can be found in Voultziadou and Vafidis (2007).

³⁸ *HA* V.16, 548b1, b9, b20, and b25.

mentions a third species called *Achilleios*.³⁹ He identifies two species of the close-textured group, ἀπλυσία⁴⁰ and τράγος.⁴¹ Loose-textured sponges are said to be stronger than close-textured sponges because the latter's attachment extends over a smaller area. So, we may suppose that loose-textured sponges and the Achilles, which is said to be "exceptionally strong," would not need to tighten their holds because they are already strong. The τράγος (goat) is particularly hard and rough, says Aristotle, which implies that they live in windy and stormy regions because, as Aristotle suggests, such weather conditions tend to harden sponges. Thus, those sponges in the Hellespont are hard and rough. From this information, we may deduce that "goats," being less strong than loose-textured large sponges, do tighten their holds. In reference to the testimony of Toroneans, it is not surprising that the calmer sea of the Toronean harbor hosts the non-tightening species. In his collection of proverbs, Zenobius says that, because it is separated from the sea by two narrow passages, the sound of the sea was never heard in the harbor. This, according to Zenobius, is the origin of the proverb: "Deaf as the port of Torone" (κωφότερος τοῦ Τορωναίου λιμένος).⁴² So, it is most probable that the sponges of Torone harbor were not "goats," which explains why they would not behave like them and would not use their bodies and touch for tightening their holds. This conclusion may have more of an evolutionary spin than we would expect from Aristotle, but he would not deny that animals have features that enable them to respond to their ecological conditions. His analyses of the correlation between variations in external parts of different kinds of birds, and in their actions and modes of life, are good examples of this (*PA* IV.12). What Aristotle would not say is that an animal kind *developed* such features in response to ecological conditions.

b. *Sea anemones*

Aristotle's account of sea anemones (ἀκαλήφη or κνίδη) is more cohesive than that of sponges. He distinguishes two kinds, the edible (ἀκαλήφη ἐδώδιμος) and the hard (ἀκαλήφη σκληρός).⁴³ According to Aristotle's description, their common features are:⁴⁴ they are

³⁹ *HA* V.16, 548b1-4 and b20.

⁴⁰ Its full description can be found at *HA* V.16, 549a3-11.

⁴¹ *HA* V.16, 548b4-5. This is a subspecies of πικνός.

⁴² *Proverbia Graecorum*, cent. iv. pr. 68.

⁴³ *HA* IV.6, 531b11 and V.16, 548a24.

perceptive; they have no shells, but their entire bodies are fleshy; they attach themselves to rocks; they have mouths at the center of their bodies and feed by seizing upon and clinging to their prey; and they have no excretion.⁴⁵

The fundamental difference between them is significant for our purposes: the edible kind uses touch to loosen and reattach itself, whereas the hard kind, ἀκαλήφη σκληρός, “never loosens its hold upon the rocks,” and seems to use touch—besides its discriminative function—to seize upon and cling to edible things that fall upon it.⁴⁶ Although this creature has a “mouth” for taking food into its body, its digestive system seems so simple that it produces no residue.⁴⁷ Compared to sponges, the presence of mouths is already a step forward in morphological complexity. However, in the case of fixed anemones, their morphological complexity does not seem to take them beyond mere living: given the fleshy uniform nature of their entire bodies and the simplicity of their digestive systems, their use of touch for seizing and clinging to prey looks less like hunting than an integrated stage of the nutritional process. That is, the fleshy body itself works as a part of the animal’s nutritive system and no more. In this respect, they are like sponges, which seem to use their bodies to absorb their nutriment.

Things are different for ἀκαλήφη ἐδώδιμος, which “detaches itself and changes its place.”⁴⁸ That this kind loosens and reattaches itself serves three basic goals: it breaks loose during the night to seek food;⁴⁹ it uses the rock to which it attaches as a shell for protection;⁵⁰ and it changes place according to the seasons, slipping into rock crevices when

⁴⁴ A general description of sea anemones appears at *HA* IV.6, 531a33-b16; *HA* VII(VIII).2, 590a27-33 and *PA* IV.5, 681a36-b8.

⁴⁵ *HA* VII(VIII).2, 590a30 says the contrary, which conflicts with *HA* IV.6, 531b9 and *PA* IV.5, 681b7.

⁴⁶ *HA* VII(VIII).2, 590a27; *PA* IV.5, 681b5.

⁴⁷ Actually, some animals do not produce residue for a different reason than plants. Plants do not produce it because their nourishment is already concocted in the soil. If some animals produce no residue, it is because they concoct less because they have low body heat. Less concoction results in less residue (see *PA* III.9, 672a20-21; IV.3, 677b29-35, and *GA* V.3, 783a25-28). So, their resemblance to plants in this respect does not make them *really* plants; rather, they have low life energy, *just like* plants.

⁴⁸ *HA* V.16, 548a26-27; see also IV.6, 531a33 and b7.

⁴⁹ *HA* I.1, 487b13; *PA* IV.5, 681b2-3.

⁵⁰ This is analogous to the way an oyster uses its shell; see *HA* IV.6, 531b4-5 and VII(VIII).2, 590a30-32.

oppressed by heat.⁵¹ It is evident that this kind of anemone uses touch and its body for several different actions, beyond immediate nutrition.

c. Ascidians

Ascidians are a species of Testacea and have the peculiarity that they are entirely enveloped by their shells.⁵² Within this shell, they have a fleshy part, enclosed by a sinewy membrane. They have two passages leading outwards through the shell, and it is through these orifices that they admit and discharge seawater. Ascidians, says Aristotle, have no excretion, other than surplus moisture, and, in this respect, resemble plants. That they can live only if attached to some other object is another of their plantlike features. Nonetheless, Aristotle thinks ascidians are more akin to animals than are sponges because of their fleshy interiors.⁵³

The ascidian does not use its fleshy part to attach itself to rocks, but rather attaches by the shell. The fleshy part, together with the membrane enclosing it, has the function of straining the water it takes in,⁵⁴ and this process of percolation makes seawater fresher. Like all other testacea, this is the ascidian's way of nourishment.⁵⁵ So, its fleshy part seems to play a role in the process of nutrition. Yet, it is not equally evident that the capacity for touch in the fleshy part is used in the percolation process. One might assume that the sense of touch functions as an absorbing power in percolation. But the wax vessel experiment, described at *HA VII (VIII).2, 590a22-26*, clearly shows that the percolation by the fleshy part does not necessarily require any power of absorption. The experiment aims at testing the presence of drinkable water in the sea. It consists in making a vessel of wax and putting it in the sea; after a night and day, it fills with drinkable water (τὸ πότιμον). The percolation process filters and separates the earthy salty stuff, so the only water let into the vessel becomes potable. Just as the wax in this experiment, the fleshy part of the ascidian plays no greater part than to filter

⁵¹ *HA IV.6, 531b16.*

⁵² *HA IV.4, 528a18-20.*

⁵³ *PA I.5, 681a10-35.*

⁵⁴ One fundamental difference between ascidians and sea anemones lies in the fact that, although anemones obtain nourishment in water and cannot live outside water, they take in neither water nor air (*HA I.1, 487b25*).

⁵⁵ See *PA IV.7, 683b22-23* and *HA VII(VIII).2, 590a22*.

seawater. So, it is not quite clear whether this animal uses its faculty of touch for any nutritive action.

One might still argue that, if salt water becomes potable, hence sweet ($\gamma\lambda\upsilon\kappa\acute{\upsilon}\varsigma$), by filtration,⁵⁶ the ascidian must be using its fleshy part for taste. Aristotle assumes that, where there is potable sweet water, there is nourishment for animals and their offspring.⁵⁷ Thus, the ascidian, too, feeds on the sweet water produced by percolation. It is percolation itself that produces the animal's nourishment, insofar as this process is concoction (590a21).⁵⁸ However, it does not necessarily follow that the ascidian *tastes* the sweet produced, since taste in animals takes place before concoction, not afterwards.

At most, we can conclude that, since the ascidian has an observable fleshy part, it must be perceptive; yet, it is not as obvious that it performs any nutritive action by its sensation. Aristotle himself does not seem to mean any more than that. When he asserts that the ascidian is more akin to animals than the sponge, he does not seem offer a better reason than that its fleshy part may be easily observed.⁵⁹

d. The Pinna and the Razor shell

With the pinna and the razor shell, which are testacea, the threshold of doing more than mere nutrition seems to get crossed for good. This is for three reasons. First, these creatures' fleshy parts are bundles of viscera-like structures.⁶⁰ All testacea (except ascidians) have internal parts that Aristotle identifies by the names of parts of blooded animals, either because of their morphological similarity, or on the basis of functional analogy. So, like all other bivalves, the pinna and the razor shell also have a head, horns, a mouth, a "tongue," a gut, a stomach, and a passage for excretion. Yet, according to Aristotle, viscera and their

⁵⁶ The same wax example is also given at *Metr.* II.3, 358b34-59a7. A more elaborate explanation of the production of sweet from salty seawater by percolation can be found there. See also *Metr.* II.2, 354b17-18; *GA* III.11, 761b1; and *Prob.* XXIII.19, 933b20.

⁵⁷ *HA* VI.13, 567b12-19; VII(VIII).13, 598a30-31 and b5; VIII(IX).19, 601b18-19; *GA* III.11, 761b1-2.

⁵⁸ Concoction by way of natural heat is what distinguishes the salty and the bitter from what is sweet in a nourishing substance. By separating the sweet ingredient, concoction prepares nourishment for the living being. See *Sens.* 4, 442a4-8 and also Polansky (2007, 193 n.6).

⁵⁹ *PA* IV.5, 681a27-28. At *HA* IV.8, 535a24, Aristotle says ascidians appear to have a sense of smell, though poorly developed, but offers no explanation. This simply does not make sense, if the animal has no other sensory organ than its fleshy part, as Aristotle affirms two chapters earlier at *HA* IV.6, 531a28.

⁶⁰ See *HA* IV.4, 529a26-b19 and *PA* IV.5, 679b34-37.

analogue are non-uniform in shape.⁶¹ So, considered together with their shells, these creatures' entire bodies are differentiated between uniform and non-uniform parts. Compared to the animals already discussed, this is a high level of functional and morphological variation. The second reason follows from the first: with internal organs, these animals' activities, relative to nutrition, become highly complex and mediated. Variation in parts follows from variations in purposes and actions, whence the third reason: the pinna, at least, opens and closes its shell. These two movements have distinct purposes: opening lets seawater in for percolation,⁶² while closing protects its fleshy part and preserves its natural heat.⁶³ Though they are related to nutrition, these two actions are not immediately nutritive. They introduce, in fact, mediation to the animal's nutritive life.

With such a highly differentiated digestive system, nutrition ceases to be an immediate function of the sense of touch and its bodily part; rather, nutrition becomes mediated by different actions, performed by internal parts and moving shells. One might object that, in the case of ascidians as well, touch seems to have no direct nutritive function. But, there seems to be no good reason to suppose the ascidian's body is more structured than a plant's: the teleological relation between a shell protecting the inner fleshy part does not seem to be more "differentiated" than the relation between a plant's leaf and the pericarp. However, this objection may help us develop further precision about merely living animals: what makes these animals merely alive is not only that they live a simple life confined to nutritive activities (despite their perceptive natures), but also that they live it in the most simple and the most immediate way possible for an animal.

A clearer glimpse of the distinction between merely living and its beyond in the case of these most primitive sea creatures can be gained, if we consider the sea urchin, which is also a testacean (*PA* IV.5, 680a24-681a2). The urchin has "eggs" in its body.⁶⁴ The animal's body is so arranged that, to each of its five segments are distributed five "eggs," five teeth, and five stomach compartments. Five is the necessary number of "eggs" because, if there were fewer, it "would not serve a good purpose" ($\tau\acute{o}\ \mu\acute{\epsilon}\nu\ \o\upsilon\ \beta\acute{\epsilon}\lambda\tau\iota\omicron\nu$, 680b26) because fewer

⁶¹ Though non-uniform in shape, they are uniform in material, as at *PA* II.1, 647a34-35 and b8-9.

⁶² *PA* IV.7, 683b18-24.

⁶³ *PA* II.8, 654a1-7 and IV.5, 679b13-31.

⁶⁴ According to Aristotle, this is a misnomer because the so-called "eggs" are nothing more than necessary residual products of good nourishment and have no generative function.

than five segments of its body would benefit from their protective function.⁶⁵ More than five is impossible, says Aristotle, because, in that case, they would be quite continuous, which would be against the common nature of the class of hard-shelled animals to which the urchin belongs. The same idea of a balanced arrangement explains the compartmental structure of the stomach, which is also divided into five:

Otherwise, if the stomach were *one*, the eggs would either be distant from it, or it would occupy the entire cavity, which would make it difficult for the sea urchin to move about and to find sufficient food to fill the cavity. But as it is, there are five eggs separated by five intervals, and so there must be five departments of the stomach, one for each interval (680b31-35).

The way the urchin's body is arranged is not only good for its protection, but also best for its moving capacity. On the other hand, the quality of its moving capacity contributes to its feeding. Compared to the life of a sponge, the life of a sea urchin deserves to be regarded as a success story, which could have turned out otherwise, as Aristotle implies.

Conclusion

I set out to explore the nature of those animals to which Aristotle tacitly refers at *PA* II.10, 655b38-656a8 as “partaking only of living”. I concluded that it is possible to make sense of this distinction if we consider that some of animals, which are solely endowed with contact senses, do nothing more than nutrition by their sensation. Though they are perceptive, the *praxeis* of their lives are confined to *mere immediate nutrition*. These animals seem to only live due to the immediacy of the very few actions of which they are capable. Even their perceptive activities are barely distinguishable from nutrition. The absence of signs of perception in some of these animals can be understood this way. I claimed that this conclusion follows, if we consider the nutritive functions of the contact senses. On the Aristotelian *scala naturae*, the mere nutritive use of the sense of touch determines a threshold beyond which certain animal species do never go. The difference marked by this threshold has been partially illustrated by the examples of sponges tightening their holds in stormy weather, sea anemones loosening their holds to seek food, and the interdependence between the inner bodily organization and capacities for moving and nutrition in sea urchins.

According to these results, we have sufficient reason to conclude that some of the “merely living” animals in Aristotle's zoology would be the following: among sponges, the

⁶⁵ See Lennox (2001b, 300). The “eggs” of the urchin correspond to fat in blooded animals, and fat has a certain protective function; see *PA* II.5, 651a36 and III.9, 672a12-20.

loose-textured, the kind called Achilles, and the kind found in the gulf of Torone (already large and strong, they do not tighten their holds); of the two kinds of anemones, the fixed and hard kind—that is, the ἀκαλήφη σκληρός (because it does not loosen its hold to feed); and, among testacea, the ascidians (their bodies being no more structured than the bodies of plants).⁶⁶

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Bibliography

- Balme, D. 1987. “Aristotle’s use of Division and Differentiae” in *Philosophical Issues in Aristotle’s Biology*. Ed. A. Gotthelf and J. G. Lennox. Cambridge: 69 – 89.
1991. *Aristotle. History of Animals. Books VII-X*. Cambridge.
- Code, A. 1997. “Animal and Childhood Cognition in Aristotle’s Biology and the *Scala Naturae*”, in *Aristotelische Biologie. Intentionen, Methoden, Ergebnisse*, eds. W. Kullmann and S. Föllinger, Stuttgart: 287 – 323.
- Gotthelf, A. 1989. “The Place of the Good in Aristotle’s Natural Teleology” in *Proceedings of the Boston Colloquium in Ancient Philosophy*, 4. eds. J.J. Cleary and D.C. Shartin. Lanham, Md.: 113 – 139.
- Johansen, T.K. 1997. *Aristotle on the Sense-Organs*. Cambridge.
- Labarrière, J.-L. 2004. *Langage, vie politique et mouvement des animaux*. Paris.
- Lennox, J.G. 2001a. “Divide and Explain: The Posterior Analytics in Practice” in *Aristotle’s Philosophy of Biology*, Cambridge : 7 – 38.
- 2001b. *Aristotle. On the Parts of Animals*. Oxford.
- Leunissen, M. 2010. *Explanation and Teleology in Aristotle’s Science of Nature*. Cambridge.
- Lloyd, G.E.R. 1996. “Fuzzy Natures?” in *Aristotelian Explorations*. Cambridge : 67 – 82.
- Morel, P.-M. 2007. *De la matière à l’action. Aristote et le problème du vivant*. Paris.
- Pellegrin, P. 2010. *Aristote. Parties des Animaux*. Paris.
- Polansky, R. 2007. *Aristotle’s De Anima*. Cambridge.
- Ross, D. 1955. *Aristotle. Parva Naturalia*. Oxford.
- Sprague, R.K. 1991. “Plants as Aristotelian Substances”. *Illinois Classical Studies* 16(1/2): 221 – 229.
- Voultziadou E. and Vafidis D. 2007. “Marine invertebrate diversity in Aristotle’s Zoology”. *Contributions to Zoology* 76 (2): 103 – 120.

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