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**NEW LIGHT ON THE NOTION OF *ENTELECHEIA*:
TWO WAYS OF HAVING SOUL IN
THE *GENERATION OF ANIMALS***

Abstract

The philosophical relevance of Aristotle's distinction between having soul in *dunamis* and having soul in *energeia*, which is unique to the *Generation of Animals*, has not been properly appreciated. In this paper, I show how this distinction is important in two ways. First, only the mode of having soul in *dunamis* is adequate to articulate the peculiar way in which embryos have the soul-principle. Second, this distinction also casts light on Aristotle's coinage of the word *entelecheia*: since there is more than one way of having a principle, it is fitting to coin a word to capture the complete mode of having a principle.

Keywords

Aristotle, *Dunamis*, *Entelecheia*,
Energeia, Soul, Embryo, Generation

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Introduction

Aristotle uses the notions of potentiality or capacity (*δύναμις*), as well as those of fulfillment (*ἐντελέχεια*) and activity (*ἐνέργεια*),¹ to articulate various modes of being and to contrast them with one another.² For example, he says that the soul is an *entelecheia* of the first kind,³ that motion is an incomplete *energeia*,⁴ and that bronze – rather than earth – is already a statue in *dunamis*.⁵ By means of these notions, Aristotle can describe a wide range of modes of being in the natural world, which include not only subjects (e.g., a statue, an animal, a seed), but also their activities (e.g., generation, sensation) and their principles (e.g., soul, powers).

The literature on Aristotle's account of modes of being has focused on key passages from *De an.* II 1 and II 5, *Phys.* III 1-2, *Nic. Eth.* X 4, and *Metaph.* IX.⁶ However, in these discussions no attention has been paid to the distinction between having soul in *dunamis* and having soul in *energeia* in Aristotle's *Generation of Animals* (*GA*), a distinction that is unique to this treatise.⁷ While this distinction has not gone unnoticed by commentators interested in Aristotle's biology,⁸ its relevance for the particular mode of

¹ Since I will be using these terms frequently, from now on I will simply transliterate them, leaving them unitalicized.

² Commentators refer to these modes of being with others phrases, such as levels of potentiality and of fulfillment (Johansen 2012a, p. 21); levels of realization (Kosman 2013, p. 57); and ways of being (Beere 2009, p. 171).

³ *De an.* II 1.412b4-6.

⁴ *Phys.* III 2.201b31-32.

⁵ *Metaph.* IX 7.1049a17-18.

⁶ For example, see Chung-Hwan (1958) pp. 12-7; Blair (1967) pp. 101-17; Kosman (1969) pp. 40-62; Mamo (1970) pp. 24-33; Couloubaritsis (1985) pp. 129-55; Menn (2002) pp. 28-90; Burnyeat (2008) pp. 219-92; Beere (2009); Johansen (2012b) pp. 209-20; and Kosman (2013).

⁷ Although on a few occasions Aristotle uses the phrase having in *dunamis* elsewhere (e.g. *De an.* II 1.412a27-28 and *Metaph.* VII 9.1034a33-b1), it is only in the *GA* that he mentions its counterpart having in *energeia* and draws an articulated distinction between these two modes of being.

⁸ See, for example: Morsink (1982) pp. 114-9; Carraro (2017) pp. 274-304 and 288-94; Connell (2016) pp. 146-7; and Lefebvre (2020) pp. 101-23.

being of the soul principle of a developing⁹ animal embryo (from now on, I will refer to it simply as embryo) has not been recognized.¹⁰

In this paper, I will show how we need the *GA* distinction to describe the mode of being of the soul of an embryo. Embryos have soul, but not in the same way in which a fully generated animal has soul. The more familiar distinctions between having and exercising (in *De anima*) and between being in *dunamis* and being in *energeia* (in the *Metaphysics*) cannot be used to articulate adequately this peculiar mode of being of the soul of an embryo. We need the *GA* distinction between having soul in *dunamis* and having soul in *energeia* to answer the question: does the embryo have soul?

Further, I will show how this distinction may also elucidate Aristotle's coinage of the word *entelecheia*. Why not simply use the familiar existing word ἔξις (the noun from the Greek verb ἔχειν, which means to have), instead of coining such a complicated new word as *entelecheia*, to refer to the principle of a living substance? Since the mode of having the principle in the embryo and in the fully generated animal is different – the former having the principle in *dunamis* while the latter in a complete way (ἐντελής) – it appears fitting to refer to the latter mode of having as *entelecheia*, and not simply as ἔξις. I will propose that *entelecheia* corresponds to the mode of having soul in *energeia* in a generated animal, in contrast to the incomplete mode of having soul (in *dunamis*) that we find in an embryo.

The paper is divided into four sections. First, I will present the *GA* distinction between having soul in *dunamis* and having soul in *energeia* (Section 1). Then, in the next two sections, I will compare the *GA* distinction with the *De anima* distinction between having and exercising (Section 2) and with the *Metaphysics*' distinction between being in *dunamis* and being in *energeia* (Section 3) respectively. This comparison will help relate the *GA* distinction to these two more familiar distinctions and to show its uniqueness. Finally, I will explain how the distinction from the *GA* may shed light on Aristotle's coinage of the term *entelecheia*.

⁹ That is, *while* the embryo is actually developing towards completion. *Mutatis mutandis*, the same goes for seed of plants that are already developing.

¹⁰ This distinction is also relevant for understanding Aristotle's Homonymy Principle. See De Ribera-Martin (2019b).

1. *Having in dunamis and Having in energeia in Aristotle's GA*

Aristotle is concerned with seeds in different treatises of his corpus.¹¹ It is only in the *GA*, however, that he directly addresses the question of whether a seed has the internal formal principle, that is, the soul. In *GA* II 1, he says:

It is evident both that the seed [σπέρμα] has soul and that it is in *dunamis* [καὶ ἔχει καὶ ἔστι δυνάμει]. And something can be closer or further away from itself in *dunamis* [ἐγγυτέρω δὲ καὶ πορρωτέρω αὐτὸ αὐτοῦ ἐνδέχεται εἶναι δυνάμει], just as the sleeping geometer is farther away from the waking geometer, and as the latter, in turn, is farther away from the one who is theorizing. Thus, no part of the seed is the cause of the generation, but rather that which has moved first from without. For nothing generates [γεννᾷ] itself by itself. But when it has been generated, it already grows itself by itself [ἔταν δὲ γένηται αὐξέει ἤδη αὐτὸ ἑαυτό]. (*GA* II 1.735a8-14)¹²

In this passage, Aristotle uses the adverbial phrase being in *dunamis* (cf. ἔστι δυνάμει and εἶναι δυνάμει).¹³ This phrase is based on the verb to be. However, he also uses another, different adverbial phrase, which is instead based on the verb to have. He says that the seed has soul in *dunamis* (ἔχει ... δυνάμει).¹⁴

Aristotle explains that at some point the seed is ready to grow by itself, while before it is not. As we know from the context of *GA* II 1 and elsewhere, by growing itself by itself (αὐξέει ... αὐτὸ ἑαυτό) Aristotle does not mean the accidental change of growth in size, but the coming to be of the organs that were not present before.¹⁵ There is still a good deal of generation ahead until the seed becomes a complete animal. This path discloses successive modes of being, closer or farther away from the fully generated animal.¹⁶

¹¹ Cf., for example, *Phys.* I 7.190b3-5; *De an.* II 1.412b26-27; and *Metaph.* IX 7.1049a1-18.

¹² All English translations from Aristotle are my own.

¹³ Aristotle uses this phrase in *Metaph.* IX 7.1049a14-16, as we will see later on.

¹⁴ Just a few lines above, he uses a similar phrase, saying that the progenitor has the form in *energeia* (ἐχούσης τὸ εἶδος ἐνεργείᾳ). Cf. *GA* II 1.735a4.

¹⁵ For the distinction between growth in size and generative growth, see De Ribera-Martin (2019c). While it falls outside the scope of this paper, it would be interesting to study how this notion of growing itself by itself in the *GA* can be related to Aristotle's discussion of the difference between moving by itself and moving itself in *Phys.* VIII 4. For this purpose, see Graham (1999) pp. 74-9.

¹⁶ As Aristotle explains, a living substance gradually advances towards its own fulfillment (τέλος) through different modes of being that succeed one another. Cf., for example,

It can be objected that, based on this passage alone, it is not certain that Aristotle is using the phrase having soul in *dunamis*. This observation is fair. I have purposely tried to convey this ambiguity in the translation: “that the seed has soul and that [it] is in *dunamis* (καὶ ἔχει καὶ ἔστι δυνάμει).” The subject of ‘being in *dunamis*’, namely ‘it’, is only implicit, and it can be interpreted as referring either to the seed or to the soul. If the former is the case, then we do not have here the phrase having soul in *dunamis*. Furthermore, given Aristotle’s use of the word seed (σπέρμα) to refer both to seeds at rest and to embryos, we may wonder in which of these two senses he is using the word in this passage.¹⁷

In sum, this passage from *GA* II 1 seems to be using the phrase having soul in *dunamis*, but it still leaves us with some open questions:¹⁸ whether the subject of the phrase is the seed at rest or the embryo; whether Aristotle has in mind only the nutritive soul or also the other kinds of soul; and whether Aristotle is, in fact, using the phrase having soul in *dunamis*. Let us turn to another passage from the *GA* to address these questions.

In *GA* II 3, Aristotle takes up again the question of whether seeds (σπέρματα) and embryos (κυήματα)¹⁹ have soul. In this context, he says:

It is evident that we must say that the seeds and the embryos [τὰ σπέρματα καὶ τὰ κυήματα] that are not yet separated have nutritive soul in *dunamis*, but not in *energeia* [τὴν μὲν οὖν θρεπτικὴν ψυχὴν ... ὅτι δυνάμει μὲν ἔχοντα θετέον, ἐνεργείᾳ δ’ οὐκ ἔχοντα] until (as those embryos that are separated) they draw the food and do the work of such a soul. First, it seems that such things live the life of a plant. Next, it is evident that the same must be said regarding the sensitive soul and the rational soul, for [the seeds and the embryos] must necessarily

Metaph. IX 8.1050a4-16; *GA* II 1.733a11-12; and *GA* II 4.740a3. This end is prior in substance, while last in genesis. Cf. *Phys.* VIII 8.261a13-20 and *GA* II 6.742a16-22. Yet not every last stage (τὸ ἔσχατον) is a fulfillment (τέλος), as for example death (cf. *Phys.* II 2.194a30-33).

¹⁷ Aristotle uses the word seed (σπέρμα) to refer not only to the seeds of plants and to the progenitors’ separate contributions to generation, i.e., the gametes, but also to the substance that results from the interaction of the two gametes, i.e., the κυήμα or embryo. See De Ribera-Martin (2019a).

¹⁸ For other important questions, which are not relevant to our purposes, see De Ribera-Martin (2019c) pp. 230-1.

¹⁹ For the range and complexity of the word *kuêma* in Aristotle’s *Generation of Animals*, see De Ribera-Martin (2019a).

have all [kinds of soul] in *dunamis* before having them in *energeia* [πάσας γὰρ ἀναγκαῖον δυνάμει πρότερον ἔχειν ἢ ἐνεργείᾳ]. (*GA* II 3.736b8-15)

Concerning the soul [ψυχῆς], therefore, it has been explained how the embryos and the seminal fluid have it [πῶς ἔχει τὰ κυήματα καὶ ἡ γονή], and how they do not have it: for they have it in *dunamis*, but they do not have it in *energeia* [δυνάμει μὲν γὰρ ἔχει, ἐνεργείᾳ δ' οὐκ ἔχει]. (*GA* II 3.737a16-18)

In these two passages, Aristotle is using without any ambiguity the adverbial phrases having soul in *dunamis* and having soul in *energeia*. Furthermore, as we see in the first passage, this distinction concerns the different powers of the soul (not just the nutritive, but the sensitive power as well). And it is also clear from the phrase ‘seeds and embryos’ that he is thinking of the embryo when he says that it has soul in *dunamis*, for the embryo (κυήμα) is the first mixture of the male and female contributions, and it already has the two principles of generation.²⁰ The embryo already has the active generative principle from the male, which enables it to generate and grow by its own internal principle into a complete animal.

As Preus explains when commenting on this passage, to say that something has soul in *dunamis* is not simply a tricky way of saying that it does not have it.²¹ While both the seed at rest (before the two gametes unite) and the embryo are in *dunamis* with respect to the generated animal, there is a radical ontological difference between the two. The former is not yet an animal in *dunamis*, while the latter is already an animal in a real way, albeit in *dunamis*. This is so because the former lacks a sensitive soul, while the latter has one.²²

In another passage from *GA* II 5, Aristotle uses a similar adverbial phrase: “soul being present in *dunamis*”. He explains that the female cannot generate by herself because menses lack the active principle from the male. In this context, Aristotle says that “it is impossible that face or hand or flesh

²⁰ See, for example, *GA* I 18.724b12-22; I 20.728b32-34; and II 3.737a29-33.

²¹ Cf. Preus (1975) p. 79.

²² Preus also invites us to compare this passage with Aristotle’s definition of the soul in *De an.* II 1, where Aristotle uses the same phrase applied to life: the soul is the first *entelecheia* of a body having life potentially (δυνάμει ζώην ἔχοντος). In the same way in which we do not say that there is no life in the body because it has life in *dunamis*, Preus argues, we should not say that there is no soul in the fetus because it has the soul in *dunamis* (Preus 1975, pp. 79-80).

exist (or any other part) when the sensitive soul is not internally present either in *energeia* or in *dunamis* [μὴ ἐνοῦσης αἰσθητικῆς ψυχῆς ἢ ἐνεργείᾳ ἢ δυνάμει], and either in some qualified way or simply.” (*GA* II 5.741a10-12). Once again, Aristotle implies that there is more than one way of having soul.

By means of the distinction between having soul in *dunamis* and having soul in *energeia*, Aristotle can offer an account of generation that avoids the two extremes of preformationism (all parts are already present from the outset; they merely grow) and of supervenience of form (the form is not present from the outset, but only supervenes at the end, when the change is completed). According to Aristotle, from the beginning, the embryo already has the principle, namely, the soul, but not yet the necessary organic parts of the body, which must be generated;²³ by the end of the generation, the animal can exercise all the proper functions because the relevant material parts have been completed.²⁴

Thus, Aristotle’s account in the *GA*, following the paradoxical nature of generation, discloses a tension between having soul and being able to exercise its powers. As we will see in Section 2, this tension is not apparent in the *De anima* II 1 and II 5, where to have (ἔχειν) appears sufficient to be able to exercise (ἐνεργεῖν): the knower who has knowledge is able to put it to work whenever he wants. By contrast, this tension does appear in *Metaphysics* IX 7. As we will see in Section 3, the seed that *is* already an animal in *dunamis* – but not yet an animal in *energeia* – is the seed that already *has* the principle of generation (i.e., the soul), namely, the embryo (κνήμα).²⁵ Both the embryo and the fully generated animal *have* soul, but only the latter can exercise all the activities proper to the animal. Thus, according to this passage of the *Metaphysics*, it is not the case that having soul is sufficient to have the *dunamis*

²³ The lack of the proper organs affects the mode of being of the soul, but not its presence. The phrase ‘having soul (but) in *dunamis*’ allows us to say that the embryo has soul (the soul is present) and, *at the same time*, that the soul cannot fully perform its activity.

²⁴ It would be worth studying the relation between incomplete having and impeded having. I wonder if we could regard the incompleteness of the developing seed as a sort of impediment to its own soul, and generation as a sort of removal of that impediment. De Haas explores Neoplatonic readings of Aristotle’s account of learning as a sort of removal of impediments, thus bringing Aristotle’s account closer to Plato’s account of recollection. See De Haas (2000).

²⁵ See De Ribera-Martin (2019a) pp. 119-21.

to exercise all the functions. Beere has pointed out the paradoxical nature of this mode of being in *dunamis*. He says [my italics]:

The problem is that the human being in capacity, as here described, appears to have no place in an Aristotelian ontology, for it would have to fulfill incompatible conditions. On the one hand, the human being in capacity has to have the principle in virtue of which it becomes a human being. This principle is the human form. ... On the other hand, the human being in capacity is not a human being in *energeia*, but merely in capacity. Thus it would seem that *Aristotle here allows that there is something that has the form of human being, and is a material composite of that form and some correlative matter, and yet is only in capacity, not in energeia, a human being.*²⁶

Beere sketches some suggestions as to how this ontological problem may be addressed from the point of view ofhylomorphism,²⁷ but he does not refer to the *GA* distinction between having soul in *dunamis* and having soul in *energeia* to articulate the two different ways in which the embryo and the fully generated animal have the internal principle of soul. Preus raises a similar question when commenting on *GA* II 3:

Two interrelated problems arise from this interpretation: (i) Can it be ever proper, within or without Aristotle's system, to say that something has a power which it cannot exercise *now*? (ii) Is it not self-contradictory to say that something has a soul (defined as first *entelecheia*) but does not have it in *energeia*?²⁸

Preus briefly addresses these two questions, suggesting that powers may be present and still in need of other preconditions before they can be actualized.

²⁶ Beere (2008) pp. 254-5.

²⁷ *Ibid.*, pp. 255-8. The first solution he considers is to allow that in certain cases something may have the form of the human being but not the matter of the human being, as occurs, for example, at the early stages of the fetus. The second solution, compatible with the first, is to distinguish various kinds of composition: complete (when something is no longer simply in *dunamis*) and incomplete (when something is still in *dunamis*). Interestingly, as Beere explains, both proposed solutions deny the principle that according to Aristotle having the form of *X* is sufficient to be an *X* in *energeia* (*ibid.*, p. 256). Besides, the first solution, by allowing for the human form to be present without its correlative matter being present, denies another principle that interpreters often attribute to Aristotle, namely, that the form can only be present in the right sort of matter (*ibid.*). Denying this principle does not mean that just any matter will do, as Beere himself explains. But it would allow the human form to be present, for example, in blood, and not just in flesh and bones.

²⁸ Preus (1975) p. 80.

He also says, that “the supposed contradiction between the presence of an *entelecheia* and the absence of an *energeia* may be resolved by the specification of the precise *entelecheia* and *energeia* involved in the discussion.”²⁹ I think this is fine point, which may be presented in an even sharper way by replacing *entelecheia* with having (ἔχειν): *the supposed contradiction may be resolved by specifying the relevant way of having that is at stake*. In other words, the (apparently) single mode of having soul in *De anima* is now divided into two modes of having soul. And depending on the mode of being in which the soul is had, the substance has or lacks the *dunamis* to exercise the relevant activities.

Recent studies have explained which functions can, and cannot, be performed by the embryo in this mode of having soul in *dunamis* at this juncture of the embryological development.³⁰ My purpose in this section has rather been to show how the distinction between having soul in *dunamis* and having soul in *energeia*, unique to the *GA*, must be used to articulate the different ways in which the embryo and the complete animal have the internal principle: both have soul, but the embryo has soul only in *dunamis*.

In the following two sections, I will compare Aristotle’s *GA* distinction between having soul in *dunamis* and having soul in *energeia*, on the one hand, with the more familiar distinction between having and exercising in *De anima*, and with the *Metaphysics*’ distinction between being in *dunamis* and being in *energeia*, on the other. These two comparisons will serve to relate the *GA* to better-known Aristotelian distinctions, and, at the same time, to show how the *GA* distinction is necessary and unique to this treatise.

2. *Having and Exercising in De anima II 1 and II 5*

In *De an.* II 1, Aristotle distinguishes two kinds of *entelecheia*: the first, analogous to sleep, is described as having knowledge without currently exercising it (ἔχειν καὶ μὴ ἐνεργεῖν); the second, analogous to being awake, corresponds to exercising that knowledge.³¹ The soul, Aristotle says, is an *entelecheia* of

²⁹ *Ibid.*

³⁰ See, in particular, Carraro (2017) pp. 288-94; and Connell (2016) pp. 146-7.

³¹ Cf. *De an.* II 1.412a9-11.22-26.

the first kind, while the body that is capable of living is the one that has a soul. In contrast, the seed and the fruit are such a body only in *dunamis*.³² It is important to note that the seed that Aristotle is considering here is *not* the embryo, but rather the seed prior to fertilization, before the generation has started.³³

In *De an.* II 5, on the other hand, Aristotle explains that we call not only someone currently engaged in the activity of knowing a knower (*ἐπιστήμων*, 417a23), but also someone not using his knowledge; and even someone who does not yet know, provided that person is able to acquire knowledge at some point. The knower who already has the knowledge and is exercising it is the primary instance of what it is to be a knower (*ἐντελεχεία ὧν καὶ κυρίως ἐπιστάμενος*): that person is a knower according to the mode of *energeia* (*κατ' ἐνέργειαν*).³⁴ The other two are knowers according to the mode of *dunamis* (*κατὰ δύνανμιν*), but they differ from one another: one is capable of knowing because that person can be taught, the other because that person already has the knowledge and thus is able to exercise it whenever he wants.³⁵ Aristotle does not have a specific name for each kind of *dunamis*, but he illustrates this distinction by contrasting the mode of being of a boy and that of an adult as regards the exercise of warfare.³⁶

The second mode of *dunamis* and the mode of *energeia* of *De an.* II 5 correspond to Aristotle's distinction between the first kind of *entelecheia* and the other kind of *entelecheia* in *De an.* II 1 respectively. A threefold

³² Cf. *De an.* II 1.412b25-413a2.

³³ Polansky (2007) pp. 166-7. See also Johansen (2012a) p. 32.

³⁴ Cf. *De an.* II 5.417a30 and b19.

³⁵ Cf. *De an.* II 5.417a21-b19.

³⁶ Cf. *De an.* II 5.417b29-418a3. Both the boy and the general are in *dunamis* with respect to the actual exercise of warfare, but in different ways. See Polansky (2007) pp. 244-5. In commenting on *De an.* II 5 (cf. 15.305.34-36), Philoponus refers to the two modes of *dunamis*, respectively, as according to suitability (*κατὰ τὴν ἐπιτηδειότητα*) and as according to habit (*κατὰ τὴν ἕξιιν*). Cf. Philoponus (2005) p. 114. Philoponus also refers to the two modes of potentiality as first potentiality and second potentiality (*διττὸν τὸ δυνάμει, τὸ μὲν πρῶτον τὸ δὲ δεύτερον*). None of the four phrases used by Philoponus to describe the two modes of being in *dunamis* appears in Aristotle's text, but they are helpful and present in the Greek Aristotelian tradition. In the Latin tradition, we find the corresponding distinction between *dispositio* and *habitus*.

scheme emerges from relating these distinctions to one another.³⁷ Aristotle is describing the different modes of being by using primarily three words and their cognates: capacity or ability (δύναμις, δυνατός, δύνασθαι, κατὰ δύναμιν), having (ἔχειν, ἐντελέχεια, ἐντελεχεία ὦν), and exercising (ἐνεργεῖν, ἐνέργεια, κατ' ἐνέργειαν, ἐνεργεῖα γίνονται). Here is an outline of the threefold scheme that emerges:

(1) Knower according to <i>dunamis</i>	- Does not have knowledge - Is <i>able to acquire</i> it by learning
(2) Knower according to <i>dunamis</i> Analogous to being-asleep	- <i>Has</i> knowledge - Is <i>able to exercise</i> that knowledge whenever he wants - Is not currently exercising that knowledge
(3) Knower according to <i>energeia</i> Analogous to being-awake	- Has knowledge - Is able to exercise that knowledge whenever he wants - Is currently <i>exercising</i> that knowledge

Mode (1) corresponds to the progenitors' gametes prior to their union: these seeds are not yet an animal, but only potentially an animal; they do not have the internal active principle of an animal.³⁸ Mode (2) corresponds to the animal that has been fully generated, an animal that has a soul and therefore the *dunamis* to exercise the vital functions of an animal.

But what about an embryo, which is *in the process of generation*? On the one hand, the embryo is essentially different from (1) the gametes, because the embryo already has soul and is no longer at rest, but actively developing by its own internal principle. On the other hand, there is also some difference between the embryo and (2) the fully generated animal, because the former is not yet able to exercise activities proper to the species. Now, the way Aristotle contrasts Modes (1) and (2) in *De an.* II 1 and II 5, presents

³⁷ As Burnyeat explains, *De an.* II 5's threefold distinction (two kinds of *dunamis*, and *energeia*) can be related to Aristotle's distinction between first and second *entelecheia* in *De an.* II 1, although in *De an.* II 5 Aristotle does not explicitly call *entelecheia* the second mode of *dunamis*, and he is extending the model of knowledge to the first mode of *dunamis*. Burnyeat calls the articulation of these distinctions the triple scheme (Burnyeat 2002, pp. 50-1). Menn refers to this scheme as the standard picture (Menn 1994, pp. 88-9).

³⁸ Being potentially an animal must be carefully distinguished from being an animal in *dunamis*. For example, the gametes are not an animal (either in *dunamis* or in *energeia*), but something (not a animal) that is potentially an animal. By contrast, the embryo is already an animal, albeit in *dunamis*.

having soul as sufficient for having the *dunamis* to exercise the proper living functions. This is not, however, the case with the embryo, which *already* has soul but does *not yet* have the *dunamis* to exercise all its proper activities. The embryo corresponds neither to Mode (1) nor to Mode (2), but rather seems to belong somewhere in-between these modes.³⁹

In *De an.* II 5, Aristotle does consider a mode of being between (1) and (2), namely, the transition from the former mode to the latter, as a foil to the mode of being of the activity of sensation. The former transition is exemplified by the acquisition of knowledge and by the acquisition of sensitive soul by the seed under the agency of the male progenitor.⁴⁰ Despite the complexities of this passage,⁴¹ Aristotle's main point is clear: the activity of sensation is neither a replacement nor a development, but a sort of special alteration (*ἀλλοιωσις τις*) different from both.⁴²

³⁹ This asymmetry may also be appreciated when we compare Aristotle's three knowers in *De an.* II 5 with the three knowers in *GA* II 1.735a8-14, the passage quoted earlier where Aristotle explains that something may be closer or farther away in *dunamis*. In *GA* II 1, *all three* knowers have knowledge (the one who has knowledge and is asleep; the one who has knowledge and is awake *but* is not currently exercising that knowledge; and the knower who has knowledge, is awake, *and* is currently using it). By contrast, in *DA* II 5, only the last two knowers have knowledge (the one who has knowledge and is asleep, and the one who has knowledge and is awake exercising it); the first knower has the ability to acquire the knowledge, but does not yet have the relevant knowledge. Further, in *GA* II 1, there is a knower who is awake but not exercising the knowledge, while in *De an.* II 5 the knower who is awake is also exercising the knowledge. This asymmetry suggests that there are *two* ways of having the knowledge, and not just one, in a knower who is not yet putting the knowledge to work.

⁴⁰ The sensitive power of soul is what defines an animal. See, for example, *GA* II 3.736a30-31.

⁴¹ For the complexities of this difficult chapter, see Burnyeat (2002). See also Bowin (2012) pp. 262-82. For the debates regarding how to interpret sensation as a special kind of alteration, see Caston (2005).

⁴² Cf. *De an.* II 5.417b18-19. On the one hand, sensation differs from ordinary alteration, in which one quality is replaced by its contrary, so that the former quality is lost rather than preserved; in this case, the alteration moves towards the contrary disposition (cf. *De an.* II 5.417b2-3.15). On the other hand, the activity of sensation also differs from another special kind of alteration, such as occurs in learning and the generation of the sensitive power, in which nothing is lost, but rather there is a preservation and development into itself and into its *entelecheia*; in this second case, the change is a development into a habit to which something was naturally disposed (cf. *De an.* II 5.417b3-7.16). Accordingly, three different kinds of alteration need to be distinguished, as Burnyeat explains. He refers to them, respectively, as ordinary alteration (replacement), unordinary alteration (development), and extraordinary alteration (exercise). Cf. Burnyeat (2002) p. 65.

For our purposes, the transition that is relevant is that between Mode (1) and Mode (2), which corresponds to the acquisition of the power of sensation by the seed. We are looking for a notion to articulate the mode of being of the embryo, a notion which seems to lie between these two modes of being. Aristotle explains [I add the numbers, which correspond to the modes]:

Thus, the first two knowers, who are knowers according to *dunamis*, come to be knowers in *energeia*, (1) one through the alteration that learning is ... (2) the other in another way: from (2) having the knowledge of arithmetic or grammar, but not exercising it, to (3) exercising it [ἐκ τοῦ ἔχειν, μὴ ἐνεργεῖν δὲ, εἰς τὸ ἐνεργεῖν] ... And the first change [πρώτη μεταβολή] of the sense comes to be by the agency of the progenitor [ὑπὸ τοῦ γεννῶντος], while once it has been generated, (2) it has already the power to sense [ὅταν δὲ γεννηθῆ, ἔχει ἤδη] in the same way as knowledge is had. And (3) the actual exercise of sensation is said in the same way as theorizing. (*De an.* II 5.417a30-b19)

The generation of the sensitive power by the male progenitor, which Aristotle calls the first change (πρώτη μεταβολή),⁴³ lies between Mode (1) to Mode (2). This change, however, is an *activity* (generation) rather than the *subject*⁴⁴ of the activity (the embryo) or its active *principle* (the soul).

⁴³ There are two ways to interpret πρώτη μεταβολή in this passage: as contrasted to the exercise of sensation or as contrasted to a second and third subsequent changes within the generation and prior to its completion (cf. *GA* II 1.733b13-16 and III 9.758a32-b16.21-27). It is thus not clear whether when Aristotle says “once it has been generated (ὅταν δὲ γεννηθῆ)” he refers to the birth of the animal (as most translators and commentators interpret) or to some earlier stage in the process of the generation, after conception but prior to birth, as Johansen explains. I think that Johansen is right when he says that the existence of *two* stages (conception and the development from conception to birth) in the acquisition of a capacity is suggested by Aristotle’s language at 417b16-18 (cf. Johansen 2012a, p. 140). In fact, Aristotle is using the verb γεννάω (to generate, in the transitive sense). For the purpose of this paper we need not settle this matter.

⁴⁴ It is important to distinguish these two aspects of change, as Anagnostopoulos does. See Anagnostopoulos (2017) pp. 170-209. He argues that changes and other activities can be distinguished by two different criteria, which he calls the telic structure criterion (based on the structure of the activities themselves), found in *Metaph.* X 6 and *Eth. Nic.* X 4, on the one hand, and the subject criterion (based on the kind of thing the activity is an activity of – namely, its subject), on the other. According to the former, changes are exclusive of their ends, and thus incomplete activities, while, according to the latter, changes are the activities of incomplete subjects. Anagnostopoulos argues that the subject criterion is more fundamental than the telic criterion (*ibid.*, pp. 171-2).

Furthermore, in *De an.* II 5, Aristotle is considering the generation of the power of sensation as already completed, rather than as ongoing. He says that once the animal has been fully generated, that is, at Mode (2), then the animal already has the *dunamis* of sensation.⁴⁵ Aristotle says nothing about whether during the process of generation the embryo has or does not have such *dunamis*.

Let us take stock. In *De an.* II 1 and II 5, Aristotle draws some distinctions that are helpful to articulate the mode of being of the termini of the generation of the embryo, namely, (1) the gametes and (2) the fully generated animal, as well as the powers of these termini: the former lacks, while the latter has, the relevant principle. None of the distinctions from *De anima*, however, correspond to the mode of being of the embryo as the *subject* of generation; nor can these distinctions articulate the difference between the mode of being of the internal *principle* (i.e., the soul) in the embryo and the mode of being of the soul in the fully generated animal.

This is not a mistake on Aristotle's part though, because in *De anima* he is not interested in the mode of being of the subject of generation nor in the mode of being of its principle *while* the generation is ongoing.⁴⁶ Nevertheless, the triple scheme that emerges from *De anima* proves helpful to framing the mode of being of the embryo: the embryo lies between Mode (1) and Mode (2), the termini of the generation; and the embryo is the subject of the transition from the former mode to the latter.

In the following section I will turn to *Metaphysics* IX 7, where Aristotle applies the distinction between being in *dunamis* and being in *energeia* to natural substances *in the process of becoming*. We will see how the notion of being an animal in *dunamis* adequately captures the mode of being of the embryo as the *subject* of generation. At the same time, we will see that such a mode of being cannot be used to articulate the mode of being of the *principle* (soul) of the embryo.

⁴⁵ Aristotle's approach to generation as completed can be appreciated in the use of the verbal aspect: he says that once it has been generated (*ὅταν δὲ γεννηθῆι* – aorist aspect) the animal already has (*ἔχει ἤδη*) the power of sensation.

⁴⁶ While it is taking place (present aspect).

3. *Being an Animal in dunamis and
Being an Animal in energeia in Metaphysics IX 7*

Dunamis and *energeia* are one of the four senses of being that Aristotle distinguishes in *Metaph.* V 7 and VI 2. In Book IX of the *Metaphysics*, Aristotle explains these notions in more detail. He wants to reach a common account of *energeia*, including not only change, but substance as well, and to show that *energeia* has priority over *dunamis*. For our purposes, the relevant passage is found in *Metaph.* IX 7, where Aristotle addresses the question of when something is already in *dunamis*. Not just anything, nor at any time, Aristotle argues, is a particular being in *dunamis*. For example, earth is not yet a statue in *dunamis*, because it must first be changed into bronze, which is then already a statue in *dunamis*. In turn, bronze comes to be a statue in *energeia* by the efficient causality of the sculptor.

Aristotle asks when something can be said to be already in *dunamis*, and he presupposes a process of generation, as Beere and Johansen note.⁴⁷ Aristotle is after a universal criterion to find out when, in this process of becoming, something can first be said to be in *dunamis*. It turns out, however, that we need two separate criteria: one for things whose principle is internal (i.e., natural and living beings), for example, a human being or an animal, and another for things whose principle is external, such as a house or any other artifact. Aristotle says:

We must distinguish when each is in *dunamis* [πότε δυνάμει ἔστιν] and when it is not, for it is not in *dunamis* just at any time. For example, is earth a man in *dunamis*? Or not yet, but rather when it has already become seed? Or not even then perhaps? ... Similarly, with the house in *dunamis*: if nothing in it, or in the matter, impedes the coming to be of a house, and if there is no need to add or to take away or to change [μεταβαλεῖν], then that is a house in *dunamis* – the same occurs in all cases in which the principle of generation [ἡ ἀρχὴ τῆς γενέσεως] is external –. And in those cases where the principle is in that which has it [τῷ ἔχοντι], when it will come to be by itself if nothing external impedes it. To illustrate: the seed is not yet [οὐπω] a human being in *dunamis*, for it must fall in another and change [μεταβάλλειν]; but when it is already [ἤδη] such by its own principle, then it is a human being in *dunamis*. The former lacks the other principle [ἑτέρας ἀρχῆς δεῖται], as the earth is not yet a statue in *dunamis*. (*Metaph.* IX 7.1048b37-1049a18)

⁴⁷ Cf. Beere (2009) p. 235, and Johansen (2012a) p. 28.

In the case of things whose principle of generation is external, the criterion for when something can be said to be in *dunamis*, simply put, is that no further change is necessary for it to be ready to become such a thing by the agency of its external principle. Accordingly, bricks are already a house in *dunamis*, while earth is not yet a house in *dunamis*, because earth must first be changed into bricks. Once changed into bricks, these are ready to become a house by the agency of the housebuilder. For living beings, the criterion is different, because the principle of generation (ἀρχὴ τῆς γενέσεως) is internal.⁴⁸ In this case, the criterion for being in *dunamis* is to have the internal principle of generation. This principle is acquired by a change (μεταβαλεῖν) effected by the male progenitor.⁴⁹ The first knower in *De an.* II 5 fails to meet this criterion.⁵⁰

In all cases, something comes to be already in *dunamis* through a change. The difference is that the result of that change is, for non-living beings, a passive disposition to be acted upon by an external cause, while in the case of living beings, the result of that change is the acquisition of the internal active principle of generation. As Aristotle explains, once the seed has the principle of generation, it comes to be by its own principle.⁵¹ Only then, and not before (οὐπω), we can say that the seed is already (ἤδη) a particular living being in *dunamis*.

At this point we must recall the distinction between the seed at rest (the gametes), which lacks (δεῖται) the principle of generation, and the embryo, which already has (ἔχειν) the principle of generation and is in the process of being generated. Aristotle's claim is that the former is not yet a human being in *dunamis*, while the latter already is such. The transition from the former

⁴⁸ Cf. *Phys.* II 1 and *Metaph.* IX 7.1049b8-10.

⁴⁹ Cf. *De an.* II 5.417b16-18 and *GA* II 5.741b5-7.

⁵⁰ I want to highlight that the first mode of being a knower in *De an.* II 5 does *not* have the internal principle, that is, such a knower is still lacking in the relevant knowledge. By contrast, the being in *dunamis* of *Metaph.* IX 7 already has the principle, albeit in an undeveloped way – that is why we cannot yet say that it is a knower in *energeia*. Thus, while both the first knower of *De an.* and the embryo in *Metaph.* IX 7 can be said to be in *dunamis* in a broad sense, the former does *not* qualify as being in a knower in *dunamis* according to the criterion of *Metaph.* IX 7.

⁵¹ Cf. *Metaph.* IX 7.1049a15-16 and *GA* II 1.735a13-14.20-21. See also Johansen (2012a) p. 28.

to the latter is a change (μεταβολή), through which, by the agency of the male progenitor, the principle of generation is acquired.

The change Aristotle is referring to in this passage, namely, the change whose completion marks the first stage at which something is already in *dunamis* in the case of living beings, is a part of what he calls the first change (πρώτη μεταβολή) in *De an.* II 5.⁵² The terminus ad quem of the change that Aristotle is referring to in *Metaph.* IX 7 is not birth, nor the completion of the generation. Rather, by the end of this first change, which marks when something can first be said to be in *dunamis*, *the generation is still ongoing*, but now under the agency of the embryo's own internal principle. The animal cannot yet exercise all its powers: it is still an animal in *dunamis* and not fully in *energeia*. Accordingly, in the process of the generation of an animal we must distinguish between (a) the passive acquisition of the principle of becoming by the external agency of the male progenitor, on the one hand, and (b) the active generation of the animal by its own internal principle, on the other. The completion of the former marks the beginning of the latter.⁵³ The subject of (a) is (1) the gametes, while the subject of (b) is the embryo, which is no longer merely potentially an animal, but rather already an animal in *dunamis*. The former does not yet have, while the latter already has, the principle of generation.

To distinguish modes of being in *Metaph.* IX 7, Aristotle favors the adverbial phrase with the verb to be (εἶναι), namely, being in *dunamis* and being in *energeia*, over the phrase based on the verb to have (ἔχειν), which is prominent in *De anima*. It is telling, however, that the criterion that Aristotle gives in *Metaph.* IX 7 for living beings ultimately reduces being in *dunamis* to having a principle: something *is* already a particular being in *dunamis* when it no longer lacks, but already *has*, the internal principle and is thus becoming on its own. This connection between being and having invites us to correlate the modes of being of *Metaph.* IX 7 to the modes of being of *De anima* in the following way. I will use the example of an animal:

⁵² Cf. *De an.* II 5.417b17.

⁵³ At some point, as Aristotle explains, the developing seed or embryo must manage itself by itself, as a child who has left his father's house (cf. *GA* II 4.740a5-7). For more on the progressive stages of embryological development in Aristotle see De Ribera-Martin (2019a) pp. 114-9.

1) Being potentially an animal (the gamete(s)) ↓ (<i>a</i>) change by the external progenitor	does not have the principle
(*) ⁵⁴ Being an animal in <i>dunamis</i> (embryo) ↓ (<i>b</i>) change by its own internal principle	has the principle (i.e., the soul) but <i>lacks</i> the <i>dunamis</i> to exercise
(2) A generated animal at rest Analogous to being-asleep	has the principle (i.e., the soul) and <i>has</i> the <i>dunamis</i> to exercise
(3) A generated animal at work Analogous to being-awake	has the principle (i.e., the soul) has the <i>dunamis</i> to exercise and is currently exercising

While among the various modes of being of *De anima* we do not find one that corresponds to the embryo, (*) the mode of being an animal in *dunamis*, as described by Aristotle in *Metaph.* IX 7, does correspond to the embryo as the subject of (*b*) generation. The embryo is an animal in *dunamis* because it already has the principle of generation and is becoming a fully generated animal by its own internal principle. Thus, the *Metaphysics* provides us with a notion (being in *dunamis*) that is suitable to articulate the mode of being of the embryo as subject.

Nevertheless, the notion of being an animal in *dunamis* from *Metaph.* IX 7 still raises important questions.⁵⁵ The most relevant for our purposes is the problem of how to articulate the different ways in which (*) the embryo and (2) the generated animal *have* soul. In fact, both are said to have the principle, but only the latter has the *dunamis* to exercise all the relevant powers. As I mentioned earlier, in *De anima*, to have (ἐχέειν) a principle or power appears to be sufficient for having the *dunamis* to exercise (ἐνεργεῖν) that power: (2) the person who has knowledge of geometry can (3) exercise that knowledge whenever he wants. By contrast, (*) the embryo has soul but not

⁵⁴ I use the symbol ‘(*)’ to refer to the mode of being of the subject of generation while (*b*) the change by its own internal principle is taking place. As we will see, Mode of being (*) corresponds to Being X in *dunamis*.

⁵⁵ For example, when exactly does it happen, from the biological point of view, that the subject of generation is first an animal in *dunamis*? This is something that Aristotle never specifies in this chapter (cf. Beere 2009, p. 236). Further, when does the subject become an animal in *energeia*? Again, Aristotle does not specify this in this chapter either. Presumably, it will be already an animal in *energeia* once the generation is over, and, in a fuller sense, when the generated substance actually exercises the proper functions. These are complex matters, but we do not need to address them for the purposes of this paper.

yet the *dunamis* to exercise all its powers. Having the principle, therefore, is not sufficient in this case to have the relevant powers.

We have already discussed how this mode of being of the soul of the embryo is puzzling. *It is now apparent why Aristotle must draw a distinction between two modes of having soul* in the *GA*, namely, having soul in *dunamis* and having soul in *energeia*, when directly facing the question: does the embryo have soul or not? We cannot simply say that the embryo has soul without qualification. It does have soul, but in a different way. Accordingly, we need to divide having soul into two different ways, namely, in *dunamis* and in *energeia*, which is precisely what we find in the *GA*. To say that the embryo has soul in *dunamis* is the correct way to articulate this paradoxical mode of being of the soul during the process of generation.

In the following and final section, I will turn to the other way of having soul, namely, having soul in *energeia*. I will show that this second member of the *GA* distinction is also relevant, because it may illuminate why Aristotle coined such a strange word as *entelecheia*.

4. *Entelecheia: Having Soul in energeia*

The word *entelecheia* is Aristotle's own coinage. It has been translated into English by different words: actuality,⁵⁶ fulfillment,⁵⁷ realization.⁵⁸ It is agreed that the word includes the roots of τέλος (perfection, completion) and of ἔχειν (to have), but its precise etymology remains obscure and has not yet been settled, despite much discussion.⁵⁹ In this section, I will show how the *GA* distinction can illuminate Aristotle's coinage of this word. I will do so

⁵⁶ Cf., for example, Aristotle (1999) pp. 166-7, 211; Menn (1994) pp. 100-1; Polansky (2007) pp. 149-50; and Shields (2016) pp. 12 n. 2, 22-3.

⁵⁷ Cf., for example, Beere (2009) p. 218.

⁵⁸ See, for example, Kosman (2013) pp. 46, 49.

⁵⁹ See Graham (1989) pp. 73-80. As Beere puts it, "It is agreed, I think, that *entelecheia* is fundamentally a teleological notion. Whatever its precise etymology – which is obscure – the term clearly suggests *the property or state of fulfillment and completion*." (Beere 2009, p. 218). Another complication to understanding the notion of *entelecheia* is the close connection that Aristotle draws between *entelecheia* and *energeia*, the latter's being key to Aristotle's account of being as activity in the *Metaphysics* (cf. *ibid.*, pp. 218-9). *Energeia* is also Aristotle's coinage, but its etymology is not disputed. Aristotle sometimes uses *entelecheia* and *energeia* as if they were interchangeable.

by comparing Aristotle's account of the mode of being of motion as an incomplete *energeia* (ἀτελής ἐνέργεια) in the *Physics* with the distinction in the *GA* between having in *dunamis* and having in *energeia*.

In *Phys.* III 1-2, Aristotle describes motion as the *entelecheia* of a *dunamis* as such.⁶⁰ He also uses the word *energeia* to describe motion, while qualifying that it is an *energeia* of a special sort: an incomplete one (ἐνέργεια μὲν εἶναι τις δοκεῖ, ἀτελής δέ).⁶¹ Two of the definitions of motion are relevant for our purposes. Aristotle says:

The *entelecheia* of that which is in *dunamis*, when, while being in *entelecheia*, it exercises [ὅταν ἐντέλεχίᾳ ὄν ἐνεργῇ], not as such [i.e., not as in *entelecheia*] but as movable, is motion. (*Phys.* III 1.201a27-29)

Motion seems to be some sort of *energeia*, but incomplete [ἀτελής]. The reason why it is incomplete is because that which is capable, to which the *energeia* belongs, is incomplete [ὅτι ἀτέλεις τὸ δυνατόν, οὐ ἔστιν ἐνέργεια]. And this is why it is difficult to grasp what it is, for it must be placed either under privation or *dunamis* or *energeia* simply; but none of these appears to be possible. It remains then the way we have said, namely, that it is a sort of *energeia*, an *energeia* such as we have described, difficult to conceive, but possible to exist. (*Phys.* III 2.201b31-202a3)

From the first passage, I will just note that it openly discloses the temporal aspect of motion, which remains opaque in *De anima*. In *De an.* II 5, Aristotle moves directly from (1) the seed that *lacks* the principle, to (2) the fully generated animal that already (and fully) has the principle (ὅταν δὲ γεννηθῆ, ἔχει ἤδη – recall the aorist aspect)⁶² and is at rest. Aristotle, in *De an.* II 5, is thus considering the transition from (1) to (2) as a change that has been *completed*, not as an ongoing one. By contrast, in *Phys.* III 1, Aristotle is considering motion as an *ongoing* change, thus displaying its temporal character (ὅταν ... ἐνεργῇ – note the present aspect).

In the second passage, Aristotle acknowledges how difficult it is to grasp the nature of motion. Motion is neither simply *dunamis* nor simply *energeia*. Rather, he explains, motion is a sort of incomplete *energeia* (ἐνέργειά τις,

⁶⁰ Cf. *Phys.* III 1.201a10-11.27-29; b4-5; and III 2.202a7-8.

⁶¹ Cf. *Phys.* III 2.201b31-202a3 and *De an.* II 5.417a16-17.

⁶² Cf. *De an.* II 5.417b17-18.

ἀτελής μέντοι),⁶³ in contrast to those *energeiai* that are complete, as for example the activity of seeing.⁶⁴

The contrast between complete and incomplete *energeia* corresponds to what Anagnostopoulos calls the telic structure criterion.⁶⁵ As he explains, this is neither the only criterion to approach change, nor the most basic one. Rather, the most fundamental criterion to distinguish change from complete activities is what he calls the subject criterion, which the definition of change yields:⁶⁶ “Changes are incomplete because their subjects are incomplete beings.”⁶⁷ Despite how counterintuitive the idea of an incomplete *energeia* may sound, Aristotle clearly says that the *energeia* is incomplete “because (ὅτι) that which is capable, to which the *energeia* belongs, is incomplete (ἀτελής).” In other words, the *energeia* is incomplete *because* its subject is incomplete during the process of becoming.

Incomplete *energeia* concerns the mode of being of a change (e.g., generation), which is one kind of *activity*; it does not concern the mode of being of the *subject* of a change (e.g., the embryo), nor of its *principle* (e.g., the soul

⁶³ Cf. also *De an.* II 5.417a16-17.

⁶⁴ Aristotle’s distinction between ἐνέργεια and κίνησις is well known in the literature. In *De an.* III 7.431a6-7, he refers to this distinction in terms of incomplete (ἀτελής) *energeia* vs. *energeia* simply (ἀπλῶς). The former *energeiai* are an end in themselves; there is no distinction between *F*-ing and *F*-ed. For example, seeing *is* having seen, and vice versa. By contrast, in the latter *energeiai* the end (*F*-ed) are different from the *energeia* (*F*-ing). For example, learning is an incomplete *energeia* different from having learned, which is the end. In the activity of motion there is something other than the activity itself, namely, its completion (τέλος). In this light, the qualification of the *energeia* as incomplete (ἀ-τελής) is most appropriate: motion is an *energeia* that has not yet reached its completion. Aristotle sometimes substitutes the word *energeia* with the word *praxis* (action), for instance, in *Eth. Nic.* I 1.1094a16-17 and in *Metaph.* IX 6.1048b18-35. For this last passage, which is controversial, see Burnyeat (2008).

⁶⁵ See n. 44 above.

⁶⁶ “Aristotle is in effect claiming that the ‘potential being’ that figures in the definition of change is ‘incomplete being.’ This incompleteness is a feature of the subject of change, not (as in the telic structure criterion) of the activity. ... It is *because* ... the subject of change, i.e., the ‘potential being’ of [*Phys.*] 3.1’s definition, is incomplete, that change itself is an incomplete ἐνέργεια rather than an ‘unqualified’ one.” (Anagnostopoulos 2017, p. 179).

⁶⁷ *Ibid.*, p. 172. It is unclear how this principle may apply to other kinds of change, such as locomotion: in which sense is the subject incomplete while it is moving from one place to another? For the purposes of this paper, which is concerned with the case of generation, we need not address this problem. As Anagnostopoulos puts it, “at least for the case of change, the incompleteness of the subject appears to explain the incompleteness of the activity.” (*Ibid.*, p. 180).

of the embryo). The explanation of why the activity of change is incomplete, however, gives us a clue to understand why we may also speak of an incomplete (ἀτελής) way of having (ἔχειν) the principle: if change, considered as an *energeia*, is incomplete because its subject is still incomplete,⁶⁸ we can also conceive of an incomplete way of having the principle for the same reason, namely, because the subject of the principle is incomplete. In both cases, it is the paradoxical nature of change that is creating the tension of something's being in itself complete (i.e., the *energeia* as such and the soul as such) and, at the same time, incomplete in virtue of the incompleteness of its subject.

What is incomplete in the embryo, as I mentioned earlier, is the material side of the composite substance. The generation of a living substance goes hand in hand with the generation of the material organs that are necessary to have the *dunamis* to exercise the proper functions. Accordingly, generation has a principle (ἀρχή) and a completion (τέλος). Given the composition of living substances (i.e., matter and form) and the internal and primordial character of their form,⁶⁹ during the process of becoming the subject of generation of a living substance is not yet fully complete (it is rather ἀτελής) and, nevertheless, at the same time, it already has the principle. The coincidence of having the formal principle with being materially incomplete is precisely what characterizes the animal in *dunamis* (i.e., the embryo) of *Metaph.* IX 7: the embryo is already (*) an animal in *dunamis*, and *no longer* simply (1) potentially an animal, because it already has the principle and, therefore, the *dunamis* to actively become on its own. On the other hand, the embryo is *not yet* (2) an animal in *energeia*, because, due to its material incompleteness, it still lacks the *dunamis* to exercise all the functions.

Here is an interesting passage from the *GA* where Aristotle connects the incomplete mode of being of the subject with its incomplete material development:

Since it [the embryo] is already an animal in *dunamis*, but not complete [δυναμει μὲν ἤδη ζῶον ἀτελὲς δέ], it must take the nourishment from elsewhere, so that it makes use of the womb that holds it – as a plant makes use of the earth – in order to take the nourishment

⁶⁸ See *De an.* III 7.431a6-7 for another example of how Aristotle draws a causal connection between an incomplete subject and the incompleteness of its activity.

⁶⁹ Cf. *Phys.* II 1.192b21-23.

until it is eventually completed [ἔως ἂν τελεωθῆ] so as to be already [ἤδη] an animal with the *dunamis* to move around. (*GA* II 4.740a24-27)

In this passage, Aristotle uses the adverbial phrase of *Metaph.* IX 7 (namely, being in *dunamis*) to describe the mode of being of the embryo during the process of becoming. He does not focus on the principle of generation, but rather on its subject. The embryo has the *dunamis* to actively become, because it already has the principle and goes on its own, even if it still needs the assistance of the mother to take nourishment. Thus, it is already (*) an animal in *dunamis*, and not simply (1) potentially an animal. However, since the developing seed is still incomplete and lacks the proper organs to move around, it is not yet (2) an animal in *energeia*, and, therefore, does not yet have the *dunamis* to exercise the locomotive function. This passage from the *GA* shows how being an animal in *dunamis* and the incomplete character of the subject of generation (i.e., the embryo) are causally connected: a *principle* is incomplete when its *subject* is incomplete.

Elsewhere, Aristotle refers to the incomplete *activity* as ἐνέργεια ἀτελής, while referring to the complete activity as *energeia* simply (ἀπλῶς ἐνέργεια)⁷⁰ or as τελεία ἐνέργεια.⁷¹ Analogously, I think that the *GA* distinction between having soul in *dunamis* and having soul in *energeia* is precisely Aristotle's way of referring to the incomplete and complete ways of having the principle of soul respectively. This correlation sheds light on why Aristotle may have coined the word *entelecheia*: *since there are two ways of having the principle, and not just one, it is appropriate to have a specific word for the complete way of having the principle.* Aristotle coined the word *entelecheia*, corresponding to the phrase having soul in *energeia* in the *GA*, *to refer to the complete mode of having the principle.* This fits well with the two roots of the word, namely, ἔχειν (to have) and ἐντελής (complete).

The existence of two different ways of having the principle also explains why the word *entelecheia* is not redundant with the word ἔξις (habit, the substantivized form of the verb ἔχειν): as we speak of two kinds of *energeia* (complete and incomplete), so too we can speak of two kinds of habit: complete and incomplete ones. And just as the phrase τελεία ἐνέργεια is not redundant

⁷⁰ Cf. *De an.* III 7.431a7.

⁷¹ Cf. *Eth. Nic.* X 4.1174b16-17.

with *energeia* – the phrase signals that at some previous point the *energeia* was incomplete⁷² – so too the word *entelecheia* is not redundant with ἔξις: the word *entelecheia* signals that at some previous point the principle was had in an incomplete way.⁷³ Here is an outline of the comparison I am proposing between *energeia* and *entelecheia* from the point of view of completion:

	Incomplete Subject	Complete Subject
ἔργον, ἐνέργεια	ἐνέργεια ἀτελής	τελεία ἐνέργεια
ἔχειν, ἔξις	ἔχειν [X] δυνάμει	ἔχειν [X] ἐνεργείᾳ ἐντέλεχεια

As the outline shows, *entelecheia* corresponds to the mode of being that Aristotle calls in the *GA* having in *energeia*. An interesting and somewhat speculative question, which I will only briefly allude to, is which word (and not just which phrase)⁷⁴ would then be the correlative to *entelecheia*. Aristotle did not coin any such word, but I think that he could have done so in at least two ways. The first one would be <ἀτελέχεια> (incomplete having). While this is not a word documented in Greek, it would be the natural counterpart of the word *entelecheia*, given that the contrary of the adjective ἐντελής (complete) is the adjective ἀτελής (incomplete), both of which are common adjectives in Greek and frequently used by Aristotle himself.

The second possible word correlative to *entelecheia* would be <ἐναρχήχεια>. Again, while this is not a word documented in Greek, it appears as another natural counterpart of the word *entelecheia* given the correlation between ἀρχή and τέλος. Having the ἀρχή and having the τέλος

⁷² To refer to something as complete only makes sense if there is a possible correlative incompleteness. And vice versa. We do not call something complete that has not been, or at least could have been or be, incomplete. For example, it only makes sense to call a tree or a table complete if the tree or the table have been found, or could be found, at some point in an incomplete state. On the other hand, incompleteness is not a mere privative term, but another positive way of being.

⁷³ Aristotle could have used the phrase τελεία ἔξις as a parallel to the phrase τελεία ἐνέργεια, to describe the complete way of having the principle; but he did not. Instead, he preferred to coin the word *entelecheia*.

⁷⁴ As a phrase, having in *dunamis* fits well as the counterpart of *entelecheia*.

(*entelecheia*) are correlative terms.⁷⁵ The τέλος is that which comes to be last in genesis,⁷⁶ while the ἀρχή is that which comes to be first. Thus, the completion of the genesis is rightly called *entelecheia*, and not simply ἔξις. By contrast, the beginning of the genesis is already a having (ἔχειν), but still incomplete (ἀ-τελής), and, accordingly, not yet an *entelecheia*. When the subject, say an embryo, has the ἀρχή, and not yet the τέλος, we say that it *has* soul in *dunamis* and that it *is* an animal in *dunamis*;⁷⁷ we do not say that it has the τέλος. On the other hand, the development from ἀρχή to τέλος is not the acquisition of a soul that before was not present:⁷⁸ having the ἀρχή is the initial mode of having the soul while the subject is not yet complete, but still in the process of becoming; while having the τέλος (*entelecheia*) is the final mode of having the soul.⁷⁹

Conclusion

Aristotle's distinction between having soul in *dunamis* and having soul in *energeia*, unique to the *GA*, has not received the attention it merits in the scholarly literature. As I have shown in this paper, this distinction is relevant to Aristotle's account of modes of being in two important ways. First, it provides the correct notion to articulate the mode of being of the soul-principle

⁷⁵ In the same way in which predicating completion (τέλος) of something only makes sense if there is a corresponding state of incompleteness (ἀ-τελής), it only makes sense to say that a subject has a principle (ἀρχή) if the subject can have at some point a culmination or completion (τέλος).

⁷⁶ Cf. *GA* II 3.736b2-5.

⁷⁷ Recall how in *Metaph.* IX 7 being an animal in *dunamis* goes hand in hand with having the principle (ἀρχή).

⁷⁸ Recall how in *De anima* Aristotle only considers the mode of not having and the mode of having simply, without disclosing two ways of having the internal principle.

⁷⁹ Accordingly, and notwithstanding the real presence of soul in the embryo, it appears that we should probably *not* call the soul in that (incomplete) mode of being an *entelecheia*, but rather another kind of having. In other words, it does not appear to be the case that in all its modes of being the soul of a living being should be called *entelecheia*, but only when the generation is completed and the soul has the *dunamis* to exercise all its basic functions. This is not to deny, of course, that regardless of the mode of being in which the soul is actually present, it is present and active as the first act (first actuality) of the living substance. It is this soul, which the embryo has in *dunamis*, that actually leads the embryological development from the start as its intrinsic cause.

of an embryo – a notion which is not provided by Aristotle in his more well-known discussions of modes of being in *De anima* or the *Metaphysics*. In answering the question of whether the developing seed has soul, we can say neither that it does not have it (οὐκ ἔχειν) nor that it has it (ἔχειν) without qualification; we need to clarify that the developing seed has soul in an incomplete, undeveloped way. The notion of having soul in *dunamis* adequately articulates the paradoxical mode of being of the soul principle of an embryo in the process generation: due to the incompleteness of its subject, the embryo does not yet have the soul in a mode of being that would allow the exercise of all its powers (ἐνεργεῖν).

Second, the *GA* distinction also sheds light on Aristotle's coinage of the word *entelecheia* as the appropriate counterpart of the incomplete way in which embryos have soul. *Entelecheia* corresponds to what Aristotle calls having soul in *energeia* in the *GA*, the mode of having soul that is complete, fully developed. Aristotle describes the mode of having that is not complete by the phrase having soul in *dunamis*. Since there are two modes of having the principle, a complete and an incomplete one, the words ἔχειν and ἔξις are ambiguous in a way in which Aristotle's new word *entelecheia* is not. So, it is fitting to have a particular technical term, i.e., *entelecheia*, for the complete mode of having the principle.

Considering these two points together, it is worth noting that at least some of Aristotle's technical and novel notions, which he uses in other fields, seem to have been forged in the context of his biological investigations. Aristotle's metaphysics and physics, in contrast to Plato, has sprung, so to speak, from his grappling with the phenomena of life, and not from mathematical inquiries.

The order of Aristotle's works remains controversial to this day. The differences I have pointed out in the use of the notion of ἐντελέχεια between the *Generation of Animals* and other treatises such as *De anima*, the *Physics*, and *Metaphysics* may be helpful in illuminating the order in which Aristotle wrote these treatises. This issue, however, is beyond the scope of the present paper, though it is a question worth pursuing.⁸⁰ The same goes for Aristotle's enigmatic claim in the *Generation of Animals* that intellect alone comes from

⁸⁰ I am grateful to an anonymous reviewer for pointing this out to me.

without (τὸν νοῦν μόνον θύραθεν),⁸¹ which I have not discussed in this paper. In what sense can intellect *become* an ἐντελέχεια of the body if it comes from without? The same problem appears in *De anima*, albeit from a different perspective: in what sense *is* intellect the ἐντελέχεια of the body?⁸²

There are other interesting uses of the notions of *dunamis* and *energeia* in Aristotle's *Generation of Animals* that deserve a more detailed study.⁸³ In this paper I have focused on the distinction between having soul in *dunamis* and having soul in *energeia*, which shows that the *Generation of Animals* is a treatise that is relevant not only for those interested in Aristotle's biology, but also for those interested in his metaphysics.

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⁸¹ Cf. *GA* II 3.736b27-28 and Connell (2021).

⁸² An important source for studying this problem is found in a work by the Renaissance Aristotelian commentator Simone Porzio, *De Humana Mente Disputatio V*. See García Valverde (2012). I am also grateful to the anonymous reviewer who suggested this work to me.

⁸³ I will just mention two. First, Aristotle only uses the term *entelecheia* twice in the *GA*; and in both cases he uses it as interchangeable with *energeia* (cf. *GA* II 1.734a30 and b35; II 6.743a23). Second, Aristotle also uses the adverbial phrase having in *dunamis* / *energeia* to refer to the *parts*, and not just to the principle. He says, for example, that the menses have all the parts in *dunamis* (πάντα τὰ μόρια ἔχει δυνάμει, ἐνεργείᾳ δ' οὐθέν). See *GA* II 3.737a21-24 and also *GA* II 5.741b7-8.14-15, where Aristotle says that parts are present in the matter (i.e., the menses) in *dunamis* (Ἐνυπαρχόντων δ' ἐν τῇ ὕλῃ δυνάμει τῶν μορίων) and that parts come to be in *energeia* after having been present before in *dunamis* (γινόμενα ἐνεργείᾳ ἃ ὑπήρχεν ὄντα δυνάμει πρότερον).

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