

ARISTOTLE ON THE END OF AN ORGANISM'S NATURE

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1. INTRODUCTION

Observation. In four passages of the corpus—one in *DA* 3 (3.12, 434b1) and three in *GA* 2 (2.1, 735a18-19; 2.4, 740b37-741a2; and 2.6, 742b1-3)—Aristotle appeals to what we might term the **natural end** of an organism. These references seem to have received little attention from commentators.

Question. What is the natural end of an organism, and what explanatory role does it play in Aristotle's biology?

Hypothesis. These references to the natural end of an organism allude to a model of the animal soul that Aristotle sketches in *Parts of Animals* and defends in *De Anima*, according to which the soul is a “certain complex activity” (πράξις τις πολυμερής) of the living animal body. I call this the **complex activity model of soul**:

COMPLEX ACTIVITY MODEL OF SOUL (CAM)

The **soul** of an animal is an actuality of its organic body characterized by

[1] a diverse set of functions (ἔργα) or activities (πράξεις), $\phi_1 \dots \phi_n$, where:

where:

[2] each of $\phi_1 \dots \phi_n$ is present for the sake of the same teleologically primary ϕ_j .

So understood, an organism's **natural end** corresponds to (the achievement of) its **teleologically primary activity**.

Working Backward. We begin by looking at the references in context, to appreciate the explanatory use to which Aristotle puts the notion of a natural end. Next, we turn to some programmatic passages, first from *PA* and then from *DA*, which I take respectively to articulate and defend the complex activity model of soul. Finally, we consider what insights this model of soul offers into the explanations in which the natural end plays a decisive role.

2. THE NATURAL END IN CONTEXT

2.1. Explaining Why Animals Perceive: De Anima 3.12–13

What are DA 3.12–13 about? Controversial (for discussion, see e.g. Leunissen 2010, ch. 2, and Howton 2019), but on any reading Aristotle's major objective is to show that living things have all or most of the psychic capacities with which they are naturally endowed *of necessity*, since “nature does nothing in vain”. Hence:

- The nutritive soul (in its threptic capacity) belongs necessarily to everything that grows and reaches (reproductive) maturity, since to do that everything needs food (434a23–26);
- But perception is not necessary for all living things (a27–30), just the animals (a30–31):
 - All animals have the senses with which they're naturally endowed “for the sake of being” (τοῦ εἶναι ἕνεκα):
 - * All animals require the contact senses, touch and taste, for “survival” (σωτηρία), since without these the animal could not nourish itself and avoid threats (b11–24);
 - * Some, the roamers, additionally need distance senses, sight, hearing, and smell, since they must also be able to spot opportunities and threats at a distance in order to survive (b24–29).
 - Additionally, animals have certain sensory capacities “for the sake of well-being” (τοῦ εὖ ἕνεκα); cf. DA 3.13, 435b19–25, Sens. 1, 436b18–437a3.

The natural end in explanation of animal perception. Aristotle adverts explicitly to the natural end of animals in explaining why locomotive bodies must have perception:

Text 1 *De Anima* 3.12, 434a30–b8

τὸ δὲ ζῶον ἀναγκαῖον αἰσθῆσιν ἔχειν, εἰ μὴθὲν μάτην ποιεῖ ἢ φύσις. ἕνεκά του γὰρ πάντα ὑπάρχει τὰ φύσει, ἢ συμπτώματα ἔσται τῶν ἕνεκά του. εἰ οὖν πᾶν σῶμα πορευτικόν, μὴ ἔχον αἰσθῆσιν, φθείροιτο ἂν καὶ εἰς τέλος οὐκ ἂν ἔλθοι, ὃ ἔστι φύσεως ἔργον· πῶς γὰρ θρέψεται; τοῖς μὲν γὰρ μονίμοις ὑπάρχει τοῦτο ὅθεν πεφύκασιν, οὐχ οἷόν τε δὲ σῶμα ἔχειν μὲν ψυχὴν καὶ νοῦν κριτικόν, αἰσθῆσιν δὲ μὴ ἔχειν, μὴ μόνιμον ὄν, γενητὸν δέ. [ἀλλὰ μὴν οὐδὲ ἀγένητον·] διὰ τί γὰρ οὐχ ἔξει; ἢ γὰρ τῇ ψυχῇ βέλτιον ἢ τῷ σώματι, νῦν δ' οὐδέτερον· ἢ μὲν γὰρ οὐ μᾶλλον νοήσει, τὸ δ' οὐθὲν ἔσται μᾶλλον δι' ἐκεῖνο. οὐθὲν ἄρα ἔχει ψυχὴν σῶμα μὴ μόνιμον ἄνευ αἰσθήσεως.¹

But the animal must have perception, if nature does nothing in vain. For everything that is by nature belongs for the sake of something, otherwise it will be an attribute of things which are for the sake of something. **If, then, every body were mobile but lacked perception, it would die and fail to reach the end that is the function of its nature.** For how will it nourish itself? This [sc. nourishment] is provided to stationary [bodies] from where they are naturally produced. Nor is it possible to have soul and a discriminating intellect but not perception, if it is not stationary and generated [—but not even if it is ungenerated]. For why would it not have [perception]? It would have to be better for the soul or for the body, but in fact it is better for neither. For [the soul] will not think better, nor will [the body] be any better because of that. Therefore no non-stationary body has a soul that lacks perception.

¹Text Förster in Corcilius 2017

Question. How general is Aristotle's reasoning here? Is it limited to roaming animals' need for perception? Does it extend to all animals? Could similar reasoning apply to the presence of psychic capacities in any psychological kind to which they belong necessarily?

2.2. *Explaining Embryonic Development: Generation of Animals 2.1–6*

The project(s) of GA 2.1–6. Again controversial (for recent discussion, see Gotthelf and Falcon 2017 and Leunissen 2017), but *one* of Aristotle's aims is to establish "how well and orderly nature brings about generation" (ὥς εὖ καὶ ἐφεξῆς τὴν γένεσιν ἀποδίδωσιν ἡ φύσις), both *taxonomically* across species and *chronologically* in the sequence (τί μετὰ τί) of embryonic development (cf. GA 2.6, 741a16; PA 1.1, 640a35–b4).

The natural end in explanation of embryogenesis. Aristotle appeals to the natural end of plants and animals three times in discussing the orderly progress of embryonic development.

2.2.1. *Generation of Animals 2.1, 735a18–19*

Aristotle has just argued that the first mover in embryogenesis is something external (τὸ πρῶτον κινήσαν ἔξωθεν, 735a12–13). However, although nothing *generates* (γεννᾷ) itself (a13–14), the embryo once formed is already in the process of *growing* (αὔξει) itself.

This sets up a preliminary explanation of embryogenesis:

Text 2 *Generation of Animals 2.1, 735a14–26*

διόπερ πρῶτον τι γίγνεται καὶ οὐχ ἅμα πάντα. τοῦτο δὲ γίγνεσθαι ἀνάγκη πρῶτον ὃ αὐξήσεως ἀρχὴν ἔχει· εἴτε γὰρ φυτὸν εἴτε ζῶον ὁμοίως τοῦτο πᾶσιν ὑπάρχει τὸ θρεπτικόν. τοῦτο δ' ἔστι τὸ γεννητικὸν ἑτέρου οἷον αὐτό· τοῦτο γὰρ παντὸς φύσει τελείου ἔργον καὶ ζώου καὶ φυτοῦ· ἀνάγκη δὲ διὰ τὸδε ὅτι ὅταν τι γένηται αὐξάνεσθαι ἀνάγκη. ἐγέννησε μὲν τοίνυν τὸ συνώνυμον οἷον ἄνθρωπος ἄνθρωπον, αὔξεται δὲ δι' ἑαυτοῦ. αὐτὸ ἄρα τι ὃν αὔξει· εἰ δὲ ἔν τι καὶ τοῦτο πρῶτον, τοῦτο ἀνάγκη γίγνεσθαι πρῶτον. ὥστ' εἰ ἡ καρδία πρῶτον ἔν τισι ζώοις γίγνεται, ἐν δὲ τοῖς μὴ ἔχουσι καρδίαν τὸ ταύτη ἀνάλογον, ἐκ ταύτης ἂν εἴη ἡ ἀρχὴ τοῖς ἔχουσι, τοῖς δ' ἄλλοις ἐκ τοῦ ἀνάλογον.

This [sc. the fact that the *kuêma* grows itself] is precisely why some [part] is generated first, and [why] it is not the case that all [parts] are generated simultaneously. And the part that contains the principle of growth is necessarily generated first. **For this, the nutritive faculty, belongs to all alike, whether plant or animal, since this is the faculty for generating another like oneself—for this is the natural function of every complete animal and plant.** This is necessary on account of the fact that, whenever something is generated, it necessarily grows. So although something synonymous generated it, for instance a human generates a human, it grows on its own account. In growing itself, then, it *is* something. And if in fact it is some one thing and this primarily, this must necessarily be generated first. Hence, if the heart is generated first in some animals, whereas in those that do not have heart the [part] analogous to it [is generated first], the principle would be from this [sc. the heart] in the [animals] that have one, while in others [the principle] would be from the analogous [part].

Text 2 appeals to the natural end (ἔργον φύσει) to explain why the heart (or its analogue) appears first in embryogenesis, and goes as far as hypothesizing that the animal (or the embryo?) is *primarily* the part containing the natural end.

2.2.2. *Generation of Animals* 2.4, 740b37–741a2

As **Text 2** indicates, Aristotle wants to show that the embryo, once generated, has an *internal* principle both of growth and “from which also the plan for the body is later generated in animals” (ἀφ' ἧς καὶ ὕστερον ἡ διακόσμησις τοῦ σώματος γίνεταί τοις ζώοις, 740a7–9). In GA 2.4, he appeals to the natural end again to explain why the nutritive part of soul can operate as a principle in both ways.

Text 3 *Generation of Animals* 2.4, 740b25–741a3

ὥσπερ δὲ τὰ ὑπὸ τῆς τέχνης γιγνόμενα γίνεταί διὰ τῶν ὀργάνων—ἔστι δ' ἀληθέστερον εἰπεῖν διὰ τῆς κινήσεως αὐτῶν· αὕτη δ' ἐστὶν ἡ ἐνέργεια τῆς τέχνης, ἡ δὲ τέχνη μορφὴ τῶν γιγνομένων ἐν ἄλλῳ—οὕτως ἡ τῆς θρεπτικῆς ψυχῆς δύναμις, ὥσπερ καὶ ἐν αὐτοῖς τοῖς ζώοις καὶ τοῖς φυτοῖς ὕστερον ἐκ τῆς τροφῆς ποιεῖ τὴν αὔξησιν, χρωμένῃ οἷον ὀργάνοις θερμότητι καὶ ψυχρότητι (ἐν γὰρ τούτοις ἡ κίνησις ἐκείνης, καὶ λόγῳ τινὶ ἕκαστον γίνεταί), οὕτω καὶ ἐξ ἀρχῆς συνίστησι τὸ φύσει γιγνόμενον. ἡ γὰρ αὕτη ἐστὶν ὅλη ἢ αὐξάνεται καὶ ἐξ ἧς συνίσταται τὸ πρῶτον, ὥστε καὶ ἡ ποιούσα δύναμις ταὐτὸ τῷ ἐξ ἀρχῆς· μείζων δὲ αὕτη ἐστίν. εἰ οὖν αὕτη ἐστὶν ἡ θρεπτικὴ ψυχὴ, αὕτη ἐστὶ καὶ ἡ γεννώσα· καὶ τοῦτ' ἔστιν ἡ φύσις ἡ ἑκάστου ἐνυπάρχουσα καὶ ἐν φυτοῖς καὶ ἐν ζώοις πᾶσιν, τὰ δ' ἄλλα μόρια τῆς ψυχῆς τοῖς μὲν ὑπάρχει τοῖς δ' οὐχ ὑπάρχει τῶν ζώντων.

Just as things brought about through craft come about through instruments (though it is truer to say through their *motions*, and this is the activity of the craft, and craft is a form of things which are brought about in something else), so too the capacity of the nutritive soul, in the just the way that it produces growth out of nutriment later in animals and plants themselves, using heat and cold as tools—for the motion of that [sc. the soul] is in these, and it brings each about in some proportion—in this way too is what is naturally generated composed from the beginning. For the same matter by which it grows is also [the matter] from which the primary part is composed, so that the productive capacity is also the same as that at the beginning, though greater than it. **If therefore this is the nutritive soul, it is also the generating [soul? capacity?]. And this [latter?] is the nature of each thing,² being present as it is in all plants and in all animals, whereas the other parts of the soul belong to some living things, but not to others.**

If I understand this difficult passage, Aristotle is claiming that the nutritive soul can operate as the principle of growth in both ways: first, *qua* nutritive, as the principle responsible for growth, using heat and cold as instruments for concocting nutriment; and second, *qua* reproductive, as the source of the plan according to which the animal's body will develop.

If that's right, it would fit nicely with the final appeal to the animal's natural end in Aristotle's account of embryogenesis.

2.2.3. *Generation of Animals* 2.6, 742b1–3

In GA 2.6 Aristotle offers a comprehensive theory of the order of embryonic development. The theory is teleological: for the most part, *developmental* priority reflects *teleological* priority. But this is not always the case. To accommodate the special cases, Aristotle distinguishes three senses of priority (742a19–36; cf. Gelber 2018):

- Distinguish three relata of teleological priority (742a27–33):

End or that for the sake of which, e.g. the student learning to play the flute.

²Contrast Leunissen (2017), who I think undertranslates the passage: “So if this is the nutritive soul, it is also the generative soul; and this is the nature that is present in each thing” (67n21, my emphasis).

Source of Motion/Generation which is for the sake of the End *as cause of its coming to be*, e.g. the teacher, who causes the student to learn the flute.

Tools which are for the sake of the End as instruments (*ὀργανικά*) used by the End for its exercise, e.g. flutes.

- The **Source of Motion/Generation** must be developmentally prior to the **End**, since e.g. there can be no learner without a teacher.
- But the **End** must be prior in generation to the **Tools**, *since the latter are for the sake of the former*:
 - Flutes are posterior to the learner, since “it is superfluous for one who does not know how to play the flute to have flutes” (742a27–28)
 - Likewise, it would be superfluous for the end to possess tools which it could not yet use.
 - Hence, the end must be developmentally prior to what is for the sake of it, but not as a source of motion/generation.

Aristotle uses this distinction in particular to explain the developmental priority of the part that contains the principle described above, i.e. the heart or its analogue, relative to the other parts of the body:

Text 4 *Generation of Animals* 2.6, 742a28–b6

τριῶν δ' ὄντων—ένος μὲν τοῦ τέλους ὃ λέγομεν εἶναι οὐ ἔνεκα, δευτέρου δὲ τῶν τούτου ἔνεκα τῆς ἀρχῆς τῆς κινητικῆς καὶ γεννητικῆς (τὸ γὰρ ποιητικὸν καὶ γεννητικόν, ἡ τοιαῦτα, πρὸς τὸ ποιούμενόν ἐστι καὶ γεννώμενον), τρίτου δὲ τοῦ χρησίμου καὶ ᾧ χρῆται τὸ τέλος—πρώτον μὲν ὑπάρχειν ἀναγκαῖόν τι μόριον ἐν ᾧ ἡ ἀρχὴ τῆς κινήσεως (καὶ γὰρ εὐθὺς τοῦτο τὸ μόριόν ἐστι τοῦ τέλους ἐν καὶ κυριώτατον), ἔπειτα μετὰ τοῦτο τὸ ὅλον καὶ τὸ τέλος, τρίτον δὲ καὶ τελευταῖον τὰ ὀργανικὰ τούτοις μέρη πρὸς ἐνίας χρήσεις.

ὥστ' εἴ τι τοιοῦτόν ἐστιν ὅπερ ἀναγκαῖον ὑπάρχειν ἐν τοῖς ζώοις, τὸ πάσης ἔχον τῆς φύσεως ἀρχὴν καὶ τέλος, τοῦτο γίνεσθαι πρῶτον ἀναγκαῖον, ἡ μὲν κινητικὸν πρῶτον, ἡ δὲ μόριον τοῦ τέλους μετὰ τοῦ ὅλου. ὥστε τῶν μορίων τῶν ὀργανικῶν ὅσα μὲν ἐστι γεννητικὰ τὴν φύσιν, αἱ πρότερον δεῖ ὑπάρχειν αὐτά (ἄλλου γὰρ ἔνεκά ἐστιν ὡς ἀρχή), ὅσα δὲ μὴ τοιαῦτα τῶν ἄλλου ἔνεκα ὕστερον.

So there are three: first, the end, which we say to be that for the sake of which; second the principle of motion and generation existing for the sake of this [end] (for as such what is productive and generative is relative to that which is made and generated), and third the useful and what the end uses. Given that, it is necessary for there first to be some part in which the principle of motion is present—for of course this part too is one part of the end, indeed the most controlling part). Next, after this [it is necessary for there to be] the whole and the end. Third and finally, [it is necessary for there to be] the parts instrumental for these [sc. previous parts] in relation to various uses.

Therefore if there is any such [part] that must be present in animals, [viz.] the part containing the source and end of [the animal's] entire nature, this must be generated first: first *qua* productive of motion, but along with the whole *qua* part of the end. Therefore those among the instrumental parts that are generative of the [animal's] nature must in every case be present first, since they are for the sake of something else as principle, whereas those which are not such among the things for the sake of something else are posterior.

Aristotle's claim is that the part that “contains the source and end of [the animal's] entire nature” (742b1–3) develops first *qua* **Source of Motion** (i.e. organ of nutritive soul in its *threptic* capacity), then *qua* (part of the) **End** (i.e. organ of nutritive soul in its *reproductive* capacity, perhaps as well as ultimate organ of perception; cf. 743b26–28).

Questions. What is the end being described here, and what are its parts? The heart *qua* generative seems to be identified as the most controlling part of the animal's end. But what of the other parts? What is the “whole end” Aristotle speaks of?

3. WORKING BACKWARD: SOUL AS A COMPLEX ACTIVITY IN PARTS OF ANIMALS 1.5

Aristotle seems to provide a helpful model for understanding these claims in *PA* 1.5:

Text 5 *Parts of Animals* 1.5, 645b14–20

ἐπεὶ δὲ τὸ μὲν ὄργανον πᾶν ἔνεκά του, τῶν
 15 δὲ τοῦ σώματος μορίων ἕκαστον ἔνεκά του, τὸ δ' οὐ ἔνεκα πρᾶ-
 ξίς τις, φανερόν ὅτι καὶ τὸ σύνολον σῶμα συνέστηκε πρᾶ-
 ξεὺς τινος ἔνεκα πολυμεροῦς. οὐ γὰρ ἡ πρίσις τοῦ πρίονος χάριν
 γέγονεν, ἀλλ' ὁ πρίων τῆς πρίσεως· χρήσις γάρ τις ἡ πρί-
 σις ἐστίν. ὥστε καὶ τὸ σῶμά πως τῆς ψυχῆς ἔνεκεν, καὶ τὰ
 20 μόρια τῶν ἔργων πρὸς ἃ πέφυκεν ἕκαστον.³

17 πολυμεροῦς P Δ Ψ (*apud* Oppenraaij 1998, 234) : πολλοὺς E : πληροῦς
 U S Σ Υ Π

Since every instrument is for the sake of something, and each part of the body is for the sake of something, and what each is for the sake of is a certain activity, it is apparent that **the whole body too has been constituted for the sake of a certain complex activity**. For sawing does not come about for the saw's sake, but the saw for the sake of sawing, since sawing is a certain use [of the saw]. So too is the body in a way for the sake of the soul, and the parts are for the sake of the functions for which each naturally developed.

As I read **Text 5**, Aristotle describes the use for which the animal body is instrumental, and which characterizes the animal soul, as “a certain *complex activity*” (πρᾶξις τις πολυμερής). This is the reading of the Greek mss. PΔ and Ψ, the Arabic exemplar of Michael Scot's Latin translation of Aristotle's zoological works. This reading is accepted by Charles 2000, 330, Düring 1943, Gelber 2017, Louis 1956, Menn 2002, 109n38, Ogle 1911, and Peck in Peck and Forster 1961. However, several other commentators, following the majority of mss., read πλήρης, “complete”, in place of πολυμερής; see Balme 1992, Kullmann 2007, Labarrière 2005, 242n6, Lennox 2001, Lennox 2010, 332n5, and Morel 2006, 135n70.

I think “complete” obscures the point Aristotle is trying to make, namely that *the logically distinct activities of the animal soul are nevertheless unified within a single teleological structure*.

The lines following **Text 5** stress the point that the logically distinct activities of the soul stand in teleological relations to one another—the example activities Aristotle gives here include generation, growth, breeding, waking, sleeping, roaming, “and whatever else of this sort that belongs to animals” (645b35–36). Notably, he here observes that the teleological relations obtaining among the activities are mirrored in the teleological relations obtaining among their instrumental *parts*:

Text 6 *Parts of Animals* 1.5, 645b28–33

[1] ὅσαι μὲν οὖν πράξεις ἄλλων ἔνεκα, δῆλον ὅτι καὶ ὧν αἱ πράξεις τὸν αὐτὸν τρόπον διεστᾶσιν ὅνπερ αἱ πράξεις. [2] ὁμοίως δὲ καὶ εἴ τινας πρότεροι καὶ τέλος ἐτέρων πράξεων τυγχάνουσιν οὐσαι, τὸν αὐτὸν

³Apparatus modified from Louis 1956.

ἔξει τρόπον καὶ τῶν μορίων ἕκαστον, ὧν αἱ πράξεις αἱ τοιαῦται καὶ τρίτον, [3] ὧν ὄντων ἀναγκαῖον ὑπάρχειν.

So [1] whichever activities are for the sake of others, it is clear that the things whose activities they are differ in the same way as the activities. Similarly too, [2] if some [activities] turn out to be prior to and ends of other activities, it will be the same way with each of the parts whose activities are of this sort. And third, [3] there are things that are necessarily present because others are.

CAM is the claim that Text 5 endorses a special case of the teleological structure of psychic activities described in Text 6, one in which there is a single, **teleologically primary activity** for whose sake the animal engages in *every* other activity naturally available to it.

Questions. What could an animal's teleologically primary activity be? And why would Aristotle accept CAM?

4. WORKING FURTHER BACKWARD: THE PRIORITY OF NUTRITION IN *DE ANIMA* 2.4

The priority of nutrition. The answer to both questions, I think, traces back to an important claim made in the early stages of Aristotle's inquiry into soul. Aristotle has just concluded that the most appropriate (οἰκειότατος) account of soul is an account of its principal capacities, including the capacities for nutrition and reproduction, perception, locomotion, and thought (*DA* 2.3, 415a13). However, Aristotle claims, priority must be given to an account of the nutritive soul:

Text 7 *De Anima* 2.4, 415a23–b7

ἡ γὰρ θρεπτική ψυχή καὶ τοῖς ἄλλοις ὑπάρχει, καὶ πρώτη καὶ κοινοτάτη δύναμις ἐστὶ ψυχῆς, καθ' ἣν ὑπάρχει τὸ ζῆν ἅπασιν. ἥς ἐστὶν ἔργα γεννῆσαι καὶ τροφῇ χρῆσθαι· φυσικώτατον γὰρ τῶν ἔργων τοῖς ζῶσιν, ὅσα τέλεια καὶ μὴ πηρώματα ἢ τὴν γένεσιν αὐτομάτην ἔχει, τὸ ποιῆσαι ἕτερον οἶον αὐτό, ζῶον μὲν ζῶον, φυτὸν δὲ φυτόν, ἵνα τοῦ αἰὲ καὶ τοῦ θείου μετέχωσιν ἢ δύνανται· πάντα γὰρ ἐκείνου ὀρέγεται, καὶ ἐκείνου ἔνεκα πράττει ὅσα πράττει κατὰ φύσιν (τὸ δ' οὐ ἔνεκα διττόν, τὸ μὲν οὐ, τὸ δὲ ᾧ). ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ αἰὲ καὶ τοῦ θείου τῇ συνεχείᾳ, διὰ τὸ μηδὲν ἐνδέχεσθαι τῶν φθαρτῶν ταῦτό καὶ ἐν ἀριθμῷ διαμένειν, ἢ δύναται μετέχειν ἕκαστον, κοινωνεῖ ταύτῃ, τὸ μὲν μᾶλλον τὸ δ' ἥττον, καὶ διαμένει οὐκ αὐτὸ ἀλλ' οἶον αὐτό, ἀριθμῷ μὲν οὐχ ἓν, εἶδει δ' ἓν.

For the nutritive soul belongs also to the others, and is the primary and most common capacity of soul in respect of which living belongs to all. (Its functions are reproducing and [in general] using food.) For the most natural function for living things—those that are complete and not maimed or have spontaneous generation—is for it to produce another like itself, an animal an animal, a plant a plant, so that they may share as much as possible in the eternal and divine. **For all strive for that, and do whatever they do by nature for the sake of that.** (And that for the sake of which is double: on the one hand that *of which*, on the other that *for which*.) So, since it cannot share in the eternal and divine in continuity, on account of the inability of any perishable thing to persist one and the same in number, each shares in it as much as it can partake, some more, some less; and not it but something like it persists, not one in number, but one in species.

The priority of nutritive soul is *teleological*:

- A *sign* of the priority of nutritive soul is that it is present in all other types of soul.
- But the *reason* for its priority is that one of its functions, namely **reproduction**, is the “most natural” (φυσικώτατον) or teleologically primary function for most living things.

- All living things do all they do by nature in order to share in the eternal and divine to the fullest extent they can.
- Reproduction represents the best available means of sharing in the eternal and divine for most living things—excluding spontaneous generators and those afflicted by infertility or rationality.
- Hence most living things do all they do by nature in order to reproduce.

The priority of nutrition and the natural end. So understood, there is a clear parallel between Aristotle's claim in **Text 7** that reproduction is the “most natural” function for most living things and his identification of reproduction with the natural end of complete plants and animals in **Texts 2–3**:

Text 7 Reproduction is the most natural function of living things because it is not just the end of the nutritive soul (cf. 416b23–25), but that for the sake of which living things engage in *every* activity naturally available to them.

Texts 2–3 Aristotle encapsulates this teleological priority of the reproductive function by identifying it as the end, not merely of nutrition, but of the organism's entire nature.

Aside on the senses of τὸ οὖ ἐνεκα. Of course, reproduction cannot function as that for the sake of which of all natural capacities in the same way. Perhaps this is why Aristotle distinguishes two senses of τὸ οὖ ἐνεκα in **Text 7**:

The end of which (τὸ οὖ), or the function Nutritive soul in its reproductive activity is for the sake of reproduction as the end of *which*, the function characterizing the fulfillment of that activity.

The end for which (τὸ ὅ), or the beneficiary Living things' non-reproductive activities are for the sake of reproduction as the end *for which*, since for the most part it is *as reproducers* that living things benefit by engaging in those activities.

Compare Aristotle's discussion of this distinction in *Phys.* 2.2, 194a25–26: the function of helm-making is a helm (or the production of one), but it is the navigator who, by *using* the helm, benefits as such from the achievement of that function.

The priority of nutrition and CAM. The teleological priority Aristotle extends to nutritive soul in **Text 7** exemplifies the model of soul I've claimed is sketched in **Texts 5–6**:

- The soul is a complex of capacities for a range of logically distinct vital activities, but it is not *merely* a collection of those capacities.
- Rather, since all living things strive to share in the eternal and divine to the extent they can, each will have a single **teleologically primary activity** corresponding to its best available means of sharing in the eternal and divine.
- The entire soul will then be a single *complex* activity in the sense that each of its logically distinct functions will be for the sake of a single, teleologically primary activity.

5. BACK TO WHERE WE STARTED

Viewing reproduction as the teleologically primary activity in the sense sketched above helps us to understand the explanatory role of the natural end in both *DA* 3.12–13 and *GA* 2.1–6.

5.1. DA 3.12–13: Explaining the Psychic Capacities of Living Things

Assumption. What a living thing does by nature is what it does through the exercise of the psychic capacities with which it has been endowed by nature.

Argument. If living things do *everything* they do by nature for the sake of some teleologically primary activity, then every psychic capacity with which nature has endowed it will be present at least for the sake of that teleologically primary activity.

Interpretive proposal. A capacity belongs to a psychological kind for the sake of *being* insofar it promotes the teleologically primary activity appropriate to that kind, but for the sake of *well-being* insofar as it contributes to ends beyond the teleologically primary activity.

Nutrition (in its Threptic Capacity) Belongs to all perishable living things for the sake of *being* insofar as the all need food in order to reach reproductive maturity (*ἀκμῇ*; cf. DA 3.9, 432b24–25).

Perception Belongs to all animals for the sake of *being* insofar as it is necessary for nutrition and survival, without which the animal would die before achieving “the end that is the function of its nature”; but for the sake of *well-being* insofar as it contributes to cognitive ends beyond reproduction: see DA 3.13, 435b19–25, *Sens.* 1, 436b18–437a3; cf. GA 1.23, 731a30–b4.

Question. What about perception's contribution to “discriminating *nous*” (434b3–9); is this a contribution to being or well-being?

Question. What role, if any, does *well-being* have in explaining the natural attributes of living things? Cf. *Somn.* 2, 455b23–5: τὸ γὰρ αἰσθάνεσθαι καὶ τὸ φρονεῖν πᾶσι τέλος οἷς ὑπάρχει θάτερον αὐτῶν. βέλτιστα γὰρ ταῦτα, τὸ δὲ τέλος βέλτιστον.

5.2. GA 2.1–6: Explaining Embryogenesis

Interpretive proposal 1. Aristotle's account of embryogenesis is a straightforward application of CAM:

- The instrumental parts of the animal body stand in teleological relations that mirror those of the activities for which they are instrumental.
- For the most part, developmental priority tracks teleological priority.
 - The first part to develop is that which contains the nutritive soul, first *qua* threptic and **Source of Motion**, then *qua* reproductive and most controlling part of the **End**.
 - Next, **Tools** that are parts of the **End**; cf. GA 2.6, 743b26–28: διὰ μὲν οὖν τὸ τὴν ἀρχὴν ἐν τῇ καρδίᾳ τῶν αἰσθήσεων εἶναι καὶ τοῦ ζώου παντὸς αὕτη γίγνεται πρῶτον.
 - Finally, **Tools** for these, which are not parts of the **End**, e.g. peripheral sense organs, bone, sinew, etc.

Interpretive proposal 2. Aristotle's talk of the “whole End” can be understood in terms of CAM: (1) the teleologically primary activity is the “most controlling part of the end”; (2) the remaining parts of the end are the capacities that in DA 3.12–13 are said to belong for the sake of that teleologically primary activity;

and (3) the unity of the whole is explained by teleological structure that makes the soul's use of the living body a single complex activity.

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