Introduction to Hylomorphic Psychology

> He who travels every path will not find out the limits of the soul, so deep is his account.
>
> Heraclitus[1]

0.1 The Origins of Hylomorphic Psychology

How does one determine the first principles of a science if one does not know what sort of object the science is about? As the author of the earliest extant systematic treatise on psychology in the Western tradition, Aristotle is in a remarkable historical situation when he begins his inquiry (ἱστορία) into the science of soul (ψυχή).

After reviewing and criticising earlier views about its nature in *DA* 1.2–5, he affirms a series of striking theses: soul must be a substance (οὐσία), and a substance in the sense of a form (εἶδος), as opposed to a material (ὕλη)[2] or form-material composite, and a form in the sense of a fulfilment (ἐντελέχεια) of a material's potentiality.[3] He then claims that there are two kinds of fulfilment – the first being a mental state like knowledge, the second being the conscious awareness of what one knows – and that the

[1] Adopting the text of Betegh (2009).

[2] I opt for this translation, rather than 'matter', because 'matter' in English immediately imports the idea of atomic discreteness, absent from Aristotle's ὕλη.

[3] *DA* 2.1, 412a19–20. The Greek term ἐντελέχεια, which is an Aristotelian coinage, is usually translated as 'actuality', or 'actualisation'. There are difficult problems as to whether this term has a different sense from the term ἐνέργεια (especially in *De Anima*), another Arisotelian coinage which bears the various meanings of 'actuality', 'operation', and 'activity'. However, since ἐντελέχεια combines the adjective ἐντελής (full/complete) wth the verb ἔχειν (to be/carry), and so literally means something like 'holding in completeness', to capture its sense – which I take to be both 'static' and 'kinetic' – I translate it here as 'fulfilment'. See *Metaph.* Θ.3, 1047a30–b2. Cf. Blair (1967); Johansen (2012, 16).

soul is of the first kind, and belongs to a natural instrumental body potentially in possession of life.[4] From this, he infers that *if* the soul has a general definition, it is: 'the first-fulfilment of a natural instrumental body' (ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ ὀργανικοῦ).[5] How did Aristotle reach these conclusions?

We know part of the answer. This general definition of *soul* belongs to Aristotle's 'hylomorphic' theory of nature.[6] Hylomorphism can be expressed as a theoretical commitment to two principles: (1) there are four fundamental kinds of explanatory causes in the world – the formal, final, efficient, and material cause (the first three of which can be identical),[7] and (2) all natural substances in the section of the cosmos residing below the moon are ultimately analysable into at least two of these causes: a specific material (ὕλη) and its form or organisation (μορφή).[8]

Given this theoretical background, Aristotle's first general definition of soul in *DA* 2.1 advances what I call the *Hylomorphic Thesis*. It claims that: (A) soul is an instance of form, (B) the instrumental body in which soul resides is a material characterised by having a potentiality for a certain form of life, and (C) a living being is a unified item composed of both soul (form) and instrumental body (material).

Aristotle's best attempts to elucidate the distinction between a form and a material rest upon analogies invoking a distinction between a perceptible stuff and the geometrical shape it can be moulded into, such as a lump of bronze taking on the shape of a statue.[9] Hence, one might infer that all that the soul is for him is a sort of mathematical 'aspect' of an ensouled being that remains constant through its life;[10] or worse, one might think that it is no more than the literal shape of the body.[11] However, at the beginning of *DA* 2.4, Aristotle insists that the notion of form, as it applies to the soul–body relation in psychology, goes beyond the idea of geometrical shape. Indeed, it might not include it at all. Drawing upon his four-causal theory, Aristotle attempts to determine with more precision

[4] *DA* 2.1, 412a27–8.
[5] *DA* 2.1, 412b5–6.
[6] See Williams (1986). On the history of how the term 'hylomorphism' entered into standard scholarly use, see Manning (2013).
[7] Cf. *Phys.* 2.3, 194b16–195a3; *Metaph.* A.3, 983a24–b1.
[8] See Kelsey (2010, 109).
[9] *Phys.* 2.3, 194b23–9.
[10] An excellent picture of this view of soul is provided in Nussbaum (1984).
[11] On problems with the conception of form as a cause, see Irwin (1988, 100–2). Aristotle argues against reducing the concept of form to that of shape (σχῆμα) in *PA* 1.1, 640b30–6.

the kind of cause(s) the soul can function as.[12] In doing so, a fuller view of Aristotle's hylomorphic psychology emerges. He writes:

> But the soul is the cause (αἰτία) and the first principle (ἀρχή) of the living body. But these things are said in many ways, and similarly, the soul is the cause in each of the three ways we have defined. For the soul is the cause 'from which' (ὅθεν) motion begins, and the cause 'for the sake of which' (οὗ ἕνεκα) and as the substance (οὐσία) of ensouled bodies. So, that it is a cause as substance is clear. For the cause of being for everything is its substance (οὐσία); but life is being for animals, and the cause and first principle of life is soul. Still, what determines (λόγος) what is in potentiality is fulfilment. But it is also apparent that the soul is the cause in the sense of 'for the sake of which'. For just as mind produces for the sake of something, in the same manner so does nature, and this is its end (τέλος). But the sort of end which accords with nature in a living being is the soul. For all the natural bodies (τὰ φυσικὰ σώματα) are instruments (ὄργανα) of the soul, just as [the natural bodies] of animals [are instruments of the soul], and in this way also [the natural bodies] of plants [are instruments of the soul], and these exist for the sake of the soul. (But there are two senses of 'that for the sake of which', the end 'for which' and the 'for whom'.) But indeed soul is also that 'from which' local motion first begins, although this capacity does not belong to all animals. And alteration and growth also occur in virtue of the soul (κατὰ ψυχήν). (*DA* 2.4, 415b8–24)

Here it becomes clear that Aristotle thinks that soul is not just a substance in the sense of the *formal cause* of a material body endowed with the capacity for life. It is also the *efficient cause* of the characteristic motions of a living body (i.e. that 'from which' animal local motion and growth are produced), and it is the *final cause* of the functions for which a living body serves as an instrument.[13] Call this additional claim about the soul's functioning as a unified efficient and final cause the *Efficient-Final Causal Thesis*.

Aristotle also argues for at least three more ancillary theses that he views as essential to hylomorphic psychology. The third, call it the *Non-Uniformity Thesis*, is that, strictly speaking, the souls of different broad classes of living beings in nature are *not* uniform in kind, but are different in species and characterised by different essential capacities. The fourth, call it the *Part-Hood Thesis*, is that since the soul capacities of different species of soul can overlap, it is plausible to think that individual souls

[12] *DA* 2.2, 413b11–13. On the heterogeneous philosophical origins of these four causes, see Schofield (1991a).
[13] See Leunissen (2010b, 55–7).

have 'parts' – in the sense of capacities – but not plausible to think that these parts are spatial, or subject to spatial division. The fifth, call it the *Separability Thesis*, is that at least one of these 'parts' of the soul, mind (νοῦς),[14] although falling under the scope of the *Hylomorphic Thesis*,[15] might be a fulfilment of the body 'like a sailor on a ship', whether because it can exist apart from the body in which it resides, or because it is something whose mode of existence does not involve natural motion, or both. If either of these conditions obtain, the rational part of the soul – mind – will be a subject of a science other than physics.[16]

How did Aristotle come to believe in these five theses? What were his reasons for thinking that soul is a *formal substance* that fulfils or brings into activity a certain kind of material body? How did he arrive at the idea that the soul functions as *three* of his four explanatory causes, as opposed to just one or two of them? Further, what led him to deny that the soul is a *material* cause? How did he come to believe that there are fundamentally *different kinds* of soul in different broad classes of living things, or that the capacity for thinking (νοῦς) might exist separately from the body?

There are a number of ways we might go about answering these questions. We might tell a developmental story by means of an analysis of the fragments of Aristotle's early dialogues.[17] Or, we might tell a likely story about Aristotle's time at the Academy, and his departure from,[18] or return to, Plato's metaphysics.[19] We might also incorporate a chronological story about the date of Aristotle's various philosophical and empirical inquiries.[20]

[14] The term νοῦς and its cognates are difficult to translate consistently into English. It is often translated as 'intellect', but this technical term tends to mask the practical connotations that νοῦς can have in Greek. Frede (2008) points out that νοῦς is often best translated in English as 'sense', with the practical meaning of 'having sense' or 'being sensible', but this translation suffers the reverse problem of masking its theoretical connotations. In Menn's (1995) important study, he argues that νοῦς is best read as a virtue term, and suggests translating it as 'rationality itself' or 'reason'. Shields (2016) also gives good arguments for translating it as 'reason'. Since 'rationality itself' will not work in most Aristotelian contexts, 'reason' is a good choice, and flexible enough to capture Aristotle's meaning most of the time. Even so, in this work, I have opted to use 'mind' as the translation of νοῦς, and 'thinking' as the translation of νόησις. My reasons for these choices are, first, that 'thinking', like the Greek it translates, can be used in both practical and theoretical contexts. Second, 'mind' is a tolerable translation of νοῦς in the Presocratics quite generally, where it is most often used as a mass-noun. See Barnes (1982, 406).

[15] *Pace* Ross (1961, 214).

[16] The first separability condition is specified at *DA* 1.1, 403b15–16. The claim that something is separable in definition if it does not involve natural motion is given in *Phys.* 2.2, 193b31–5. Cf. *DA* 2.1, 413a6–10; Miller (2012).

[17] See Menn (2002).

[18] See Jaeger (1934); Nuyens (1973).

[19] See Owen (1968b).

[20] See Dancy (1996). An overview of the debate on Aristotle's development is provided in Wians (1996).

In this work, I tell a philosophical developmental story. This story claims that these questions can be answered by analysing the philosophical criticisms Aristotle gives of earlier Greek psychologies, both Platonic and Presocratic. For it is independently plausible to hold that, if a philosopher takes the time to offer detailed criticisms of a certain philosophical theory, *T*, and this philosopher then defends her own theory – call it *L* – in a way that tries to avoid those criticisms, then one is justified in inferring that this philosopher developed *L during* or *after* – and at least partly *in response to* – theory *T*. If so, then in order to fully understand how *L* developed, one must also understand the theory (or theories) that it is meant to replace, and the problems that are alleged to befall it (or them).

In what follows, I argue that Aristotle's criticisms of earlier Greek psychologies are best interpreted as an instance of the above scenario. This is because his criticisms of earlier Greek psychologies are not, in fact, merely an exercise in dialectical showmanship, but, as he himself tells us, an essential starting point on the path towards a science of soul. The task of this work is to show that Aristotle developed the five theses stated above by testing, by means of a demonstrative heuristic, the extent to which earlier Greek definitions of soul can be used to explain two attributes granted to belong to it: the power to cause motion (including the emotions), and the power to cause cognition (including perceptual and theoretical cognition) in living things.

0.2 The Alternative Story

This claim is, of course, controversial. The place where most of Aristotle's investigations into earlier Greek psychology occur is *DA* book 1, a work that, with the exception of its first chapter, has historically been neglected by scholars working on Aristotle's psychology.[21] This neglect is partly due to two profoundly influential studies – Harold Cherniss's *Aristotle's Criticism of the Presocratics* (1935), and *Aristotle's Criticism of Plato and the Academy* (1944). These works appear to have shown that Aristotle was an unfair (albeit sophisticated) critic of his Academic and Presocratic

[21] In Hamlyn's (2002) *De Anima* commentary, for instance, only excerpts of book one are included and discussed. Ross's (1961) own commentary on *DA* 1 is scant in comparison to books 2 and 3. This lack has been remedied in the more recent translation and commentary of Shields (2016).

predecessors, and that his method of treating their philosophical views throughout his corpus, including *DA* 1, was eristical.[22]

Cherniss's hermeneutic assumption was that, in *DA* 1 as elsewhere in his corpus, Aristotle simply assumed the truth of his own hylomorphic views, and then reinterpreted, often violently and unfairly, the *endoxa* of earlier thinkers as 'lisping' at its truth.[23] In recent decades, however, more attention to *DA* 1 has shown that Aristotle's criticisms of earlier thinkers do not take this simplistic form.[24] Although his criticisms of earlier views are certainly vigorous, he often shows signs of charity in their reconstruction.[25] In short, with respect to the interpretation of *DA* 1, Cherniss's view is not viable.[26]

The truth of the matter is more complicated. There is no endoxic reconciliation of the psychological theories discussed in *DA* 1.2–5,[27] such as between the endoxic Democritean belief that the soul is made of fire-atoms and the endoxic Platonic belief that it is a self-moving motion. Such a reconciliation of these *endoxa* would be impossible. Nor does Aristotle appear to seek one. However, if dialectical opposition for the purpose of reconciliation by Aristotle's own hylomorphic theory is not the proper function of his criticism of earlier Greek psychologies, then what is? My alternative story begins here.

On the basis of Aristotle's works in natural or second philosophy, although soul is mentioned, it is not at all obvious what it is, nor what Aristotle *should* say it is. One cannot simply read the *Physics*, for

[22] Early critics of Cherniss include Guthrie (1957) and Mansion (1961b). For a helpful review of the debate, see Collobert (2002). Kahn (1994, 22–3) makes a similar allegation when he mentions the 'frequent errors of Aristotle in the use of documents', but his evidence is hardly convincing. Misconstruing a genitive in *Ath. Pol.* 7.4 and writing 'Amasis' rather than 'Psammenitus' at *Rhet.* 2.8, 1386a20 (if Aristotle is indeed relying upon Herodotus, which is unclear) are certainly not sufficient to prove such frequency. Of the three further examples he gives of 'errors' in Aristotle's reading of Empedocles, none is obviously wrong. Barnes (1982, 14–15) provides a concise refutation of the view that the Peripatetics were poor or dishonest historians. I assume here, with Osborne (1987a, 12–13), that reading the Presocratics (and Plato) through the eyes of Aristotle can be a fruitful endeavour.

[23] Cherniss (1935, xiv), relying upon *Metaph.* A.10, 993a11–18. However, see Cooper (2012), who points out that the earlier thinkers to whom the charge is addressed do not include Plato and the Academy.

[24] For example, Danieli (1984); Irwin (1988); Witt (1992); Menn (2002, 102–3); Falcon (2009); Shields (1988a, 2007, 2016).

[25] See Hussey (2006, 24, n. 19): 'Interpretative charity is, of course, not exclusive of rigorous criticism of the doctrines so reconstructed; it is precisely because of their rigour that Aristotle's charity is often not noticed or not understood.'

[26] Cherniss (1935, xii).

[27] Cf. Irwin (1988, 280–2).

instance, and derive from its doctrines of material, formal, efficient, and final causes, the *Hylomorphic Thesis*, much less the *Efficient-Final Causal Thesis*. On the basis of this work, Aristotle could have affirmed the soul to be (A) itself a hylomorphic composite (e.g. a stuff like *pneuma* with its own 'form' and inner principle of self-motion),[28] or, in relation to the body and its parts, (B) a formal, final, but not efficient cause (supervenience epiphenomenalism),[29] (C) a formal, but not final or efficient cause (accidental epiphenomenalism), (D) an efficient, but not formal or final cause (Cartesian dualism; Pythagorean transmigratory dualism), or even (E) a material cause which served as an ingredient going into the mixture which composes bodies (material reductionism).[30]

One could even go so far as to say some of these options, such as (A), would have been a more obvious choice for Aristotle, given some of his psychological commitments. For instance, he thinks that the soul is an efficient cause of the body's motion,[31] but his standard analysis of motion requires contact between two spatially extended objects.[32] Aristotle's argument in *DA* 1.1 that the affections of soul that are shared in common with the body should be defined with reference to each of the four causes does not help here, because this hylomorphic rule about how to define *affections* that are common to body and soul need not apply to the soul itself – especially if the soul has non-common or peculiar affections, as the *Separability Thesis* suggests.

Thus, even if, as Myles Burnyeat claims, psychological hylomorphism is the 'crowning achievement' of Aristotle's natural philosophy,[33] we still need an explanation for why this achievement takes the form it does. The explanation I propose in this work is that the structure of hylomorphic psychology is governed by a *scientific*, as opposed to merely dialectical or eristical, exposition and criticism of earlier Greek theories of soul.[34] Aristotle has reason to carry out this scientific criticism, I claim, because it is unclear

[28] In fact, the author of the (presumably) spurious *De Spiritu* seemed to entertain this sort of possibility. See *Spirit.* 5, 483a30–3.
[29] See Caston (1997).
[30] This is a view Aristotle countenances in *DA* 1.5, 411a7–23.
[31] *DA* 2.4, 415b10.
[32] Cf. *Phys.* 3.2, 202a8; *Phys.* 7.1, 242b60/242b25; Wardy (1990, 126).
[33] See Burnyeat (2002, 36).
[34] In this work, I use the adjective 'scientific' in two primary ways: first, to describe claims which Aristotle takes to *be established* within a complete (or nearly complete) science (ἐπιστήμη) such as the *Physics*; second, to characterise the *method of inquiry* Aristotle is engaged in, and the kinds of arguments he uses, when he reviews and criticises earlier Greek thinkers. In this latter sense,

how exactly one should apply the basic insights of *general hylomorphism* to the specific case of the soul. As I said above, the four-causal framework hylomorphism provides could accommodate a range of 'hylomorphic' views about the relation between, and definition of, soul and body.

This is not a historical claim about the state of Aristotle's philosophical views at the time of writing *DA* 1.[35] It is a claim about the philosophical reasons that led him to believe that a certain form of hylomorphic psychology is, in fact, explanatorily superior to earlier theories of soul as he understood them (including *other* hylomorphic theories, such as the harmony theory of soul held by Dicaearchus and Aristoxenus, which was on offer at the Lyceum).

Even so, my claim is consistent with at least one historical claim, which I think is likely true. This is that, at some point in time, perhaps during his twenty years as a student at Plato's Academy, or after beginning to teach at the Lyceum upon his return to Athens from Assos, Aristotle critically engaged with the claims of earlier Greek thinkers 'in the lab', as it were,[36] and that *DA* 1 is a sort of record of Aristotle's attempt to think through, both personally and alongside his peers at the Academy and his students at the Lyceum, earlier views about the soul. For instance, his list of criticisms of the harmony theory of soul likely began to take shape at the Academy through dialectical debates and in discussions with Plato about the *Phaedo*, but probably only crystallised at the Lyceum in discussions with Aristoxenus and Dicaearchus about the difference between mathematical and natural forms. The list of criticisms that now occupy *DA* 1.3–5, I take it, are the 'lab notes' that resulted from these personal and communal critical endeavours.

The complexity of Aristotle's treatment of earlier psychologies in *DA* 1, split between their (mostly) uncritical presentation in *DA* 1.2, and their extensive criticism in *DA* 1.3–5, also strongly suggests the pre-existence of this lab work. It further suggests that, at least in terms of philosophical conception, some of this lab work is prior to that of the *Metaphysics*. For instance, although Aristotle's concern with the unity of soul and body,

'scientific' means, 'aims to establish a *Posterior Analytics* style ἐπιστήμη,' or, as Aristotle says at the opening of *DA* 1.1, an εἴδησις of soul. The latter sense has a parallel in Aristotle's description of the first figure of the syllogism as 'most of all' ἐπιστημονικόν, or 'conducive to scientific knowledge', suggesting that different arguments, and argumentative forms, can be more or less conducive to scientific knowledge. See *APo* 1.14, 79a17–23.

[35] Indeed, *DA* 1, just as *DA* 2 and 3, shows signs of recension and revision, primarily in incongruous logical transitions which reflect a change of subject and or terminology (e.g. at *DA* 1.1, 403a2–3).

[36] I owe this metaphor to Gábor Betegh.

discussed in detail in *Metaphysics* Z, provides a sufficient reason for ruling out some of the conceptions in (A)–(E) above, nevertheless, during the course of *DA* 1, Aristotle takes equally seriously the possibility that soul and body are unified in ways other than an essential hylomorphic relation between material and formal substances. For instance, he suggests that soul and body might be unified by an agent-patient relation, or a moved-mover relation, which implies their essential abilities to interact, but is neutral with respect to whether they constitute a hylomorphic compound.[37] This suggests that, in *DA* 1, Aristotle is recounting a previous conceptual stopping point along the path to his hylomorphic conception of soul.

0.3 Earlier Greek Psychologies and Hylomorphism

Aristotle's path to a 'science of soul', then, likely began with his serious engagement with, and criticism of, earlier Greek theories of soul, both Platonic and Presocratic. I shall argue that, to the extent that he found these theories to be viable (and some of them he did), they placed positive theoretical constraints on what he thought needed to be incorporated into his own theory of soul.[38] Similarly, to the extent that he found them intractable, they placed negative theoretical constraints on what his theory of soul needed to exclude. Although jointly these constraints do not completely determine the shape that Aristotle's hylomorphic psychology takes, they do limit it.

The first and most fundamental of the positive constraints on Aristotle's hylomorphic psychology is his acceptance of the attributes of the soul that he claims other thinkers to have handed down. These are that the soul is (1) the cause of the body's local motion, and (2) the cause of perceptive and intellectual forms of cognition.[39] A further condition is laid down later, that it is (3) either an incorporeal (ἀσωμάτος) entity, or an extremely fine-grained body resident within a visible animal body.[40]

Aristotle claims that earlier Greek thinkers tried to explain these psychological attributes in terms of the first principles (ἀρχαί) of nature they

[37] *DA* 1.3, 407b15–19.
[38] See Hussey (2012, 17).
[39] *DA* 1.2, 403b24–8.
[40] *DA* 1.2, 405b12. Cf. Hicks (1907, 234). Cf. *DA* 1.5, 409b21. As I shall show in Chapter 1, Section 1.7, strictly speaking, thesis (3) is represented by Aristotle as providing an explanation for thesis (1).

affirmed, viewed as ultimate causal constituents of the universe, or propositions that could explain the same.[41] The negative theoretical constraints on Aristotle's inquiry involve seeing which of these first principles – which include axioms, hypotheses, and definitions – lead to explanatory dead ends.[42] Importantly, as we will see, Aristotle only rejects earlier first principles (for example, Democritus' theory that the soul is a web of fire-atoms) *after* he has shown that they entail problematic conceptual or empirical consequences. These positive and negative theoretical constraints, I argue, commit Aristotle to a certain path that leads to, and partly justifies, the five hylomorphic theses laid out in Section 0.1 earlier in this introduction.

0.4 The Continuity of Hylomorphism and Earlier Greek Psychologies

As I show in the following chapters, although Aristotle rejects most of the particular elements of his predecessors' accounts of soul, he does adopt and modify a number of their principles for use within his own psychology. Among these principles are (A) the Platonic principle that the essence of soul is the *efficient cause* of the motions of living bodies, (B) the principle of the harmony theorists that soul is the *formal cause* or 'ratio' (λόγος) of the mixtures in a living body, and (C) the Empedoclean principle that soul perceives on the basis of a (modified) like-cognises-like principle. I shall also claim that Aristotle takes over from earlier thinkers other ancillary theses, again with certain modifications, such as (D) the Platonic principle that the soul has certain 'parts' that govern the body's activity, and (E) the Anaxagorean principle that the part of the soul called 'mind' is unmixed with the body.

However, at the same time, Aristotle is innovative in trying to make these principles fall under the universal laws of his natural philosophy, in order that they function as scientific explanations of psychological phenomena in the way idealised in the *Posterior Analytics*. Aristotle's attempt to be faithful to the psychological phenomena in this disciplined, scientific way, often results in his touching upon problems that anticipate later problems in the history of the philosophy of mind, such as the mind–body problem, the locality of the mind, and the nature and phenomenology of

[41] *DA* 1.2, 405b11–12. On ἀρχαί as referring to objects and propositions, cf. Irwin (1988, 487, n. 6).
[42] Axioms, hypotheses, and definitions all count as principles that can be used within demonstrations. See *APo* 1.2, 72a14–24; McKirahan (1992, 68–79).