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Aristotle's Naïve Somatism

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Graduate Program in Philosophy

A thesis submitted in partial fulfillment of the requirements for the degree in Doctor of Philosophy

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ARISTOTLE'S NAÏVE SOMATISM
(Thesis format: Monograph)

by

Alain Ducharme

Graduate Program in Philosophy

A thesis submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

The School of Graduate and Postdoctoral Studies
The University of Western Ontario
London, Ontario, Canada

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THE UNIVERSITY OF WESTERN ONTARIO
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Aristotle's Naïve Somatism

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Abstract

Aristotle's Naïve Somatism is a re-interpretation of Aristotle's cognitive psychology in light of certain presuppositions he holds about the living animal body. The animal body is presumed to be sensitive, and Aristotle grounds his account of cognition in a rudimentary proprioceptive awareness one has of her body. With that presupposed metaphysics under our belts, we are in a position to see that Aristotle in *de Anima* (cognition chapters at least) has a different explanatory aim in view than that which the literature generally imputes to him. He is not explicating what we would call the "mental"—the private, inner realm which some take to be of a different kind than the physical—as most take him to be. His *explanandum* is content acquisition; the *explanans* is showing how the body becomes like various aspects of objects. Although he famously describes the mind (*nous*) as unmixed with the body, he is guided by functional constrains—*nous* cannot be limited or qualified if it is to potentially think all things. Thus, his inquiry into cognition is philosophically limited from a contemporary perspective. Aristotle is not doing philosophy of mind, for he doesn't seem to find the "mental" philosophically perplexing.

Acknowlegements

I am grateful for the help and support from faculty and friends in the department of philosophy. I cannot overstate my gratitude to my Supervisor, John Thorp, without whom I would not have been inspired to study Aristotle. I am also appreciative of the feedback and comments given by my supervisory committee, John Nicholas and Devin Henry. This project could not have been completed without the support from my friends and family. But I am truly indebted to my partner and best friend Nina, who, as a pillar of love and support, enabled the realization of this thesis.

Keywords: Aristotle; Perception; Literalism; Proprioception; Philosophy of Mind

Contents

Certificate of Examination **ii**

Abstract **iii**

Acknowledgments **iii**

1 Mise en Scène **1**
1.1 The Approach 2
1.2 Aristotle's Approach to the Study of *Psuchê* 5
1.2.1 *De Anima* I.1 5
1.2.2 Aristotle's Definition of Soul 6
1.3 The Plan of the Thesis 15

2 Those Who have Come Before **18**
2.1 Introduction 19
2.2 Various Interpretations 23
2.2.1 Dualisms 23
2.2.2 Materialist Interpretations 24
Reductive Materialism 24
Functionalism 30
Problems with Functionalist Readings of Aristotle 37
Is Ackrill's Problem a Problem for Functionalists? 38
2.3 Where does this Leave Us? 41

3 Perception, Thought, and the Plasticity Principle **44**
3.1 Introduction 45
3.2 The Sensitive Mean 46
3.3 The Plasticity Principle 49
3.4 Aristotle's Mean Literalism 58
3.4.1 Filling in the Picture: Literalism and Media 62
3.4.2 Against the Argument From Anachronism 66
3.4.3 Against the Argument From Extraordinary Alteration 68
3.5 *Nous* and Isomorphism 76
3.5.1 The Case for Strong Isomorphism 79
3.5.2 The Rejection of Weak Isomorphism 82
3.6 Conclusions 85

4 **Content Acquisition and Somatic Proprioception** **88**
4.1 Introduction 89
4.2 Acquisition and Cognition 91
4.3 Body Sense as Somatic Proprioceptive Awareness 95
4.4 Cognition and Consciousness 99
4.5 Conclusions 114

5 **Reflections and Conclusions** **117**
5.1 Introduction 118
5.2 Aristotle in Context 118
5.2.1 Pre-Socratic Conceptions of *Psuchê* 120
Empedocles 120
The Atomists 122
5.2.2 Plato's *Psuchê-Sôma* Dualism 124
5.3 Conclusions 130

Bibliography **135**

Curriculum Vitae **146**

Chapter 1

Mise en Scène

1.1 The Approach

Much of the recent literature on *de Anima* is engaged in trying to slot Aristotle into some or other position in modern philosophy of mind. Although the trend is to liken Aristotle's cognitive psychology to some kind of functionalism, scholars have tried to fit him into various camps such as dualism, materialism, non-reductive materialism, etc.[1] Others, focusing on the essential differences between Aristotle's and contemporary theories of mind, argue that Aristotle's philosophy of mind is no longer viable in the contemporary arena, and thus he cannot rightly said to be a dualist, functionalist, or what have you.[2] But what I shall be arguing for—the thesis of my thesis, if you will—is that this distorts Aristotle, because he is not trying to develop a philosophy of mind at all; rather, he presupposes one.

I argue that if we seek to know Aristotle's position in the metaphysics of mind and body we can't read it off the page; we will have to unearth it. Thus, what follows is a philosophical archaeology of sorts; digging up Aristotle's presuppositions about the living body and articulating the context in which he sets out to explain cognition. What we will uncover might be called "Naïve Somatism", roughly the view that the living animal body is already presumed to be sensitive. That is, Aristotle does not seek to explain how this can be: he presupposes it. The evidence for this is that his account of cognition—including the extensive details he gives for the physics and physiology of perception—ground out in a basic sense that the animal has of its body. Interestingly, Aristotle nowhere tries to develop an account of this body sense—the proprioceptive awareness one has of one's body—though he clearly acknowledges that it exists, albeit without a general term for it. What I mean, then, by "Naïve Somatism" is the presupposition that living animal bodies just do have body sense.[3]

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[1] We will survey the landscape of the literature on this issue in the next chapter.

[2] Such a view is held by Myles Burnyeat (1991, 1995), which we will also discuss in the following chapter.

[3] I am commandeering the obsolete term "somatism" here, and prying it free of its original meaning, which was bound up with theoretical disputes in early psychiatry. In the 19th century, approaches to psychiatry boiled down to main etiological camps: the psychic and the somatic (See Wallace (2008) for discussions of the development and institutional embodiments of these concepts). Somatism, as a theory in the history of psychiatry, treats mental illness as having physical causes such as brain lesions or disturbed nerves, whereas, the psychic approach takes mental illness to stem from emotional duress.

Emphasizing Aristotle's conception of the living body is the first of two main reasons that I use "somatism" to denote his theory. The second is that a new brand is in order given that none of the terms currently used to describe philosophies of mind can be said to be Aristotle's for the simple reason that his Greek does not allow it. To call Aristotle a physicalist in Greek would be nothing more than to say that he thinks life (and by extension, mind) is part of nature (*phusis*). Dubbing him a materialist—a *hylist* (*hulê*)—too will not do, for he conceives of soul as form to the matter of the living body. Indeed, one can still give a materialist interpretation of soul as form, but the simple term *hylist* fails to capture the nuances of Aristotle's approach.[4] A dualist interpreter may claim the high ground here and argue that there is no trouble giving Greek descriptions of dualist readings of Aristotle, such as mind-body (*nous-sôma*) or soul-body (*psuchê-sôma*) dualisms, for instance. This may be so. But as we will see in the next chapter, there is no reason to think that Aristotle holds any kind of dualism for the same reason that he does not hold reductive materialism, functionalism, etc. And thus while we may have suitable language to ascribe this theory to him—i.e. language that can be put into his Greek—we have no other convincing reasons for doing so.

By "Naïve Somatism", then, I aim to focus on the "philosophy of mind" that we can rightly say is Aristotle's. Note the scare quotes. Again, since I argue that Aristotle cannot properly be said to have a philosophy of mind, what we are doing is trying to unearth the enterprise that he takes himself to be engaging when he sets out to explain the manifold facets of cognition. Since he is not attempting to explain the nature of mind we cannot say that any theory of mind is rightly his. Thus the naïveté. Focusing on *sôma* and not "matter" (*hulê*) or "physical" (*phusis*) etc., "somatism" captures the presumed sensitivity of animal bodies while side-stepping these other loaded terms in contemporary philosophy of mind. Thus a new term is coined because a new term is required to capture the novelty of this interpretation. To use any existing term would serve only to shoe-horn Aristotle into a view that is not fully his.

With Aristotle's presupposed metaphysics under our belts, we are in a position to see that

[4]See, for instance, the discussion below emphasizing Aristotle's focus on living things *qua* form-matter composite as his subject matter in defining soul.

Aristotle in *de Anima* (cognition chapters at least) has a different explanatory aim in view than that which the literature generally imputes to him. He is not doing outright metaphysics of mind. Rather, he is simply trying to explain how various features of the external world get reproduced in specialized parts of the body, and so fall within the purview of body sense. We have often not understood what Aristotle is doing in these chapters because we have not understood what his relatively limited aim is. To put it in contemporary terms, Aristotle's philosophical concerns are with the acquisition of content, and not with the nature of content. His *explanandum* is content acquisition; the *explanans* is showing how some parts of the body become *like* various aspects of objects.

This thesis is thus radical in the sense that it shows that the philosophical tradition of interpreting Aristotle has seriously misunderstood his explanatory enterprise in the study of soul and its various functions, such as perception and thought. Contrary to the popular and unnoticed assumption, Aristotle is not trying to do philosophy of mind in the sense that he does not find the *nature* of the mind philosophically interesting. But he is interested in explaining the various puzzles and questions involved in showing how properties of things become properties of perceivers and thinkers.

This line of thought is motivated by many reasons, one of which being that despite certain parallels and overlaps between what Aristotle discusses and what contemporary philosophers of mind discuss, there are considerable differences. Aristotle, for instance, seems much more concerned with the physiology and physics involved on cognition, with very little attention paid to what we would now call the philosophically important aspects, such as intentionality and consciousness. Indeed, quite often we find that those new to Aristotle's *On the Soul* are shocked, and disappointed by the fact that there is very little talk of "soul" after the early chapters of Book II. What one gets instead is significant attention to detail on the physics and physiology involved in coming to perceive or to know aspects of external objects, such as colour and sound. The reason for this, I will argue, is that Aristotle is not trying to explain the

nature of soul at all.[5] And the reason, I contend, is that what we would call the metaphysics of soul—and by extension, the metaphysics of mind—is not on his explanatory agenda.

It is possible that one may object to my Naïve Somatist interpretation even before I make the case for it, thus I must take a moment and brace against possible attacks. One could counter my claim that Aristotle is not engaged in the metaphysics of mind by pointing to the obvious fact that Book I of *de Anima* is an examination of the views of the nature of soul that have come before, and that he then works out his own definition of soul in Book II.1. What could he be said to be doing here, one might ask, if not trying to hone in on the *nature* of the soul? Indeed, it is common to think that, regardless whether one reads his definition of soul as committing him to dualism or if it is his anti-dualist answer to the mind-body problem, Aristotle seems to be explicating the nature of the soul in *de Anima* II.1.

1.2 Aristotle's Approach to the Study of *Psuchê*

1.2.1 *De Anima* I.1

One could point to Aristotle's approach to the study of soul, as laid out in *de Anima* I.1, to make trouble for my thesis. One could find therein, that is, Aristotle's articulation of the *explanandum* of the *de Anima* that runs counter that which I attribute to him. My opponent could point to the opening passages of the *de Anima* where Aristotle emphasizes the importance of investigating the nature and essence of soul (402a8) to make the claim that Aristotle is indeed engaging in doing the metaphysics of soul.[6] In the same chapter Aristotle explicitly claims that we should try to understand the "what it is" (*ti esti*) of soul. Furthermore, as is the case with other sciences, Aristotle holds that knowledge of a thing's essence is invaluable to understanding the cause of its attributes, and conversely, that understanding a thing's attributes contribute to knowing what a thing is (402b16*ff*). This does seem to run counter the general thrust of the Naïve Somatism reading. How am I to square

[5] As we see below, he does explain the soul as a set of capacities and thus he does explain what it is. But we will also see that soul, as a set of capacities, is not a thing properly speaking.

[6] This point was brought to my attention by Devin Henry.

these claims with my central thesis?

From the remarks made in Book I, we can either try to understand what the essential nature of soul is given how Aristotle goes on to define it in Book II. Or, we can challenge the assumption that Aristotle holds true to his promise of identifying the essential nature of soul, whatever that amounts to. As for the second option, we must ask ourselves that if Aristotle is indeed engaged in articulating the essential nature of soul, why does the *de Anima* fail to look like the product of such an enterprise? In Book I he clearly articulates that one should aim to find the essential nature of soul for a science of soul is incomplete without it. But after surveying and assessing various views about the soul that have come before his, as well as a brief chapter and a half of Book II trying to define *psuchê*, Aristotle seems to leave these kinds of issues behind. The majority of *de Anima* consists in detailing the various functions peculiar to living things. Moreover, this treatment of the various capacities of soul is done, quite remarkably, in terms of physics and physiology. Talk of the soul as such just falls out of the picture. Thus even if Aristotle claims to be seeking the essential nature of soul, we can question his success in doing so in his treatment of the functions of soul that consumes most of the treatise.

We could also try to understand what the essential nature of soul amounts to given how Aristotle goes on to define soul in Book II. We can try, that is, to work out what Aristotle takes to be the essence of soul given that he defines it as "the first actuality of a natural body that is potentially alive". The way in which we unpack this (and the other versions of this definition as well) will determine what kind of nature Aristotle thinks is peculiar to soul. Let us thus turn our attention to Aristotle's definition of soul.

1.2.2 Aristotle's Definition of Soul

In what follows I will briefly describe how I think we ought to read Aristotle's definitions of soul. We should not, I think, take him to be doing metaphysics of mind or any such thing here, for soul just is a certain set of capacities peculiar to each kind of living being. Soul is not a

thing properly speaking, and in fact, the account of soul that Aristotle gives us in *de Anima* II.1 is not a proper definition, but rather a rough and general sketch. He is not honing in on some specific thing or entity we may call "soul", but rather giving an account that applies to all living things. I will also reply briefly to some alternate readings and say how I think they are inadequate.[7]

In *de Anima* II.1 Aristotle does seek to give a general account of soul and he floats three different versions. According to these, soul is:

1. The form of a natural body that has life
2. The first actuality of a natural body that has life potentially
3. The first actuality of a natural body that has organs

Whether these are intended to be separate or distinct definitions of soul or approximations to a final definition has been the source of some disagreement. Some, for instance, take Aristotle to be stipulating three independent and sufficient conditions for soul such that if one is met by something, then that thing is said to be ensouled.[8] We will find reason to reject this reading in the discussion that follows. The clearest and most obvious reading is to take Aristotle to be working towards the third definition via the first two. That is, these definitions roughly amount to the same thing, but they reflect different stages in Aristotle's working towards the full articulation of his definition of soul. We can say, then, that the first two definitions are subsumed by the third. We will return to this point after our analysis of Aristotle's definitions.

Before we examine the definitions proper, we must air some of Aristotle's technical vocabulary. For Aristotle, every living thing is a substance[9], which is a composite of matter (*hulê*) and form (*eidos* or actuality *entelecheia*). Thus we get Aristotle's hylomorphism

[7] As we will see in the next chapter, all varying interpretations of Aristotle's psychology find a way to read his definition of soul such that it endorses the theory being suggested, be it materialist, dualist, functionalist, etc.

[8] This line is taken by Bolton (1978).

[9] What Aristotle means by substance (*ousia* or *ti esti*), and how his various treatments of it (between the *Categories* and *Metaphysics* Z, e.g.) are cans of worms that we need not open here. For present purposes we can take "substance" to refer to any living "thing", conceived as a composite of matter and form.

(literally matter-formism). Aristotle employs his hylomorphism to answer the question "what is soul"? Form, as actuality, is what makes matter, which is potentiality, a certain "this" (*tode ti*). Soul is what makes a given form-matter composite a specific "this"; it explains the "what it is" of living things. It is this sense in which soul is the form (actuality) of the composite, living body.

Aristotle's application of hylomorphism to soul-body relations has been read in many different ways. A naïve vitalist reading, for instance, takes soul as the "form of the body" to mean that soul is the form added to bare matter, and this explains living things. This reading, however, obviously falls short for it ignores the point that the soul is the form of a *living body*, which means that it is the form of a form-matter composite. But Aristotle's view may be seen as a vitalist conception even if we take soul to be the form of the form-matter composite. Some focus on the body "having life potentially in it" to base their vitalist readings. John Vela, for instance, goes so far as to use the example of Frankenstein's Monster to illustrate Aristotle's position. The corpse lying on Dr. Frankenstein's table is a fully organized human body (despite being eclectically pieced-together) which is a composite of matter and form, yet it is not alive. Once the lightning-powered machinery is activated, the corpse gains a new property: the property of life, which Vela thinks Aristotle equates with soul.[10] Thus the body (which is taken as composite here) is merely potentially alive until the spark of life—soul—is infused into it.

Despite popular appeal this reading fails to fully explain Aristotle's definition of soul on his terms. Importantly, it ignores the nuances of Aristotle's distinction between act and potency. Potentiality (*dunamis*) is contrasted with two grades of actuality (*entelecheia*) (412a11). Following Aristotle's example, we can see his distinction paralleled in the different ways one can be a knower. In his famous example, one can be said to be a knower of grammar if:

A. One is human (Potentiality)

[10]Vela 2008, pp 92.

B. One has knowledge of grammar (1st Actuality)

C. One is attending to one's knowledge of grammar (2nd Actuality)

To be a knower in (a) is to merely have the potential to learn and apply anything that might be knowledge; one has no actual knowledge of grammar. To be a knower as in (b) is to actually have some knowledge but not be attending to or employing that knowledge (one may know not to split one's infinitives e.g., but not be thinking about or saying or employing the rule). To be a knower as in (c) is to exercise one's knowledge; to correct another when one hears another say "to boldly go". The nuance in Aristotle's account lies in the addition and special status of (b), for this level is both an actuality and a potentiality, depending on the perspective from which one looks at it. One actually knows the rules of grammar yet this actuality is a potential in the sense that it is not yet actualized.

If the Frankenstein analogy is to fit with this description of Aristotle's definition of soul, then animating the corpse is a move from (a) to (c). This fails to capture what Aristotle means by saying that the soul is the "first actuality of a natural body that is potentially alive". The un-ensouled natural body is potentially alive in the sense, not of (a) being potentially (c), but of (b) being potentially (c). The first actuality, as a kind of potentiality, is a *capacity* to do that which corresponds to the second actuality. A living body is thus a matter-form composite that has a capacity to do at least one thing which is peculiar to living things, such as nourishment, growth, decay, locomotion, perception, or thought.[11]

Aristotle's idea is that if a body is properly organized—built in the right way—then it has vital powers, namely, the powers to actualize the capacities that it holds in first actuality. The vital powers are not some vitalist element added to the properly organized body; they are the product of such a body.[12] Soul is not the spark that enables the capacities that a living body has as first actuality. Soul is the first actuality of a properly organized living body.[13] This

[11]This list is compiled from the capacities stated separately in *de Anima* II.1 and II.12. Unless stated otherwise, I take the translations of Aristotle from Barnes 1984.

[12]Sorabji (1974) also holds Aristotle to this view of the soul; let us call it the "capacities reading".

[13]My reading of Aristotle's definition of soul is very much influenced by, and indebted to, John Thorp's reading.

supports the Naïve Somatist thesis, for Aristotle takes the living body as given. On his definition, soul is the first actuality of a natural body that has life potentially, and this living body, although potentially alive, is already alive with the potential to do the things unique to living things. The point: Aristotle is assuming that the body is already alive—he's not trying to explain the genesis of life—and this is fodder for the thesis that I am defending.

Let us return to the issue of how each definition connects with the other. Thus far we've explicated Aristotle's definition as a unit and have primarily employed the second formulation. The third definition, however, does seem to be saying something quite different since, although it keeps the "actuality of a natural body", it introduces the notion of organs. How do these fit together?

The introduction of organs into the definition of soul seems to lessen the generality of the definition. It now requires that natural bodies be equipped with organs in order to be ensouled, which seems to restrict the broader second definition that applies to all natural bodies that have life potentially. For this reason, Robert Bolton interprets these definitions as a set of different definitions of soul. That is, these are a series of different definitions of soul, each of which constitutes a sufficient condition for something being ensouled. On Bolton's reading, the second definition applies to a wider set of living things than the third. Whereas the third applies only to natural bodies with organs, the others apply to organ-less yet still ensouled entities such as the Prime Mover and the separable intellect.[14] It must be noted that Bolton's interpretation is meant as an alternative to what he thinks is the problematic Unitarian account of the definition of soul. Thus if we can explain the unity of the seemingly different definitions then the force of Bolton's interpretation wanes.

A unitary reading is had by simply focusing on the relation between being a natural body and having organs.[15] Aristotle uses "organ" (*organikos*) in a very general sense, using it to refer to all the "tools" peculiar to, and used by, living things. The organs of animal bodies,

[14]Bolton 1978, 258.

[15]Bolton fails to see the generality in using "organs" for he identifies organs with the special organs of sense. Accordingly, his reading implies a very narrow application of this definition of soul.

such as eyes, ears, the brain, etc., do fall into this set of tools, but so do the leaves and the pericarp of plants—each serves a vital purpose for the plant (the leaves shelter the pericarp; the pericarp shelters the fruit) for instance.[16] The idea here is that Aristotle takes organs to be the tools or instruments of life: the things that allow living beings to do the things unique to living things. Soul is the first actuality of a natural body, properly organized (or, equipped with these tools). In stating the third definition, then, Aristotle is not giving any less general account than the previous definitions, for any living body will exhibit at least one instrument for life just because any living body must have a capacity for at least one vital function, and such a capacity cannot be had if the living body has no means, or instruments, to actualize this capacity. Rocks, for instance, although they are organized form-matter composites, are not living things because they are not structured to exhibit life; they lack organs. To be alive is to display some characteristic peculiar to living (i.e. animated) things, such as taking on nourishment, growing, reproduction, perception, locomotion, etc. Rocks do not exhibit life and they are not even potentially alive for they lack the structure to do the things peculiar to living beings.

Thus the third formulation of the definition of soul is no less general than those that Aristotle has floated previously. Indeed, the first two definitions fit within a fleshed out reading of the third, one in which we read "organs" in a wide sense. To be ensouled, on Aristotle's account, is thus to be a natural body properly organized to have certain capacities. To be ensouled is to be ready and able to perform any given psychic function *X*.[17] But given that soul is the first actuality and not the second, something can be ensouled even if it never actualizes its psychic capacities. Having soul is all about just being able to do *X*.

Aristotle's definition of soul focuses on the capacities peculiar to living beings. And thus on this reading, what has been taken to be different souls—the reproductive soul, animal soul,

[16]See *de Anima* 412b. Here Aristotle also likens the roots of plants to mouths on functional grounds: both serve to nourish their respective bodies.

[17]By using the term "psychic function", I do not mean some extra-sensory function or ability, such as Uri Geller's supposed ability to bend spoons with his mind. Rather, I use "psychic" as pertaining to the soul (*psuchê*), and thus this term captures all of the functions of living organisms: growth, decay, perception, thought, etc.

and the rational soul—are not different things, but different sets of capacities. Plants display only the psychic functions of growth and nutrition. Animals display these and others, including locomotion and perception. And some things enjoy intellect as well as perception, locomotion, growth, etc.[18] For the most part the capacities of soul are nested: anything that has a "higher" degree of soul also has the lower. Each different set is not demarcated by the possession of a thing or entity—a kind of soul—but by the varieties of psychic functions it contains.

The reading of Aristotle's definition of soul being advanced here runs counter to many in the literature that take Aristotle to be defining soul as an entity, and thus, the various readings that take him to be defining soul in order to take a stand in the metaphysics of mind. Bolton, for instance, argues that the best way to read these passages is as Aristotle establishing a soul-body dualism akin to Descartes' substance dualism. His main evidence is likening the soul-body relation to that of a sailor and the ship. Bolton takes Aristotle's analogy that the soul is the actuality of the body as the sailor is the actuality of the ship to entail dualism. The claim that this entails dualism, however, is hasty. The context in which we find the passage is indeed a discussion on the soul-body relation. But prior to the passage Aristotle is explicit that "it is clear that the soul is inseparable from its body"[19], thus a wholesale application of dualism to the account of soul he is forwarding is unwarranted.

Furthermore, we can also question the extent to which we should take the analogy to reflect Aristotle's considered view. First, there seems to be a serious flaw in the analogy. It is not clear how the sailor is indeed the actuality of the ship. The actuality of the ship would be the doing of the things that it can do in the sense of being the first actuality of it. Being hulled, made of wood, and having a sail, for instance, mean that the ship can potentially float and sail. Floating and sailing are the actuality of the ship just as thinking and perceiving are, among other activities, the actuality of me sitting here writing this piece. How then is the sailor, in

[18]This account is restricted to sublunary organisms, for Aristotle's Prime Mover, as an ensouled contemplator enjoys the ability of thought but does not perceive, grow, decay, etc.

[19]413a4: ὅτι μὲν οὖν οὐκ ἔστιν ἡ ψυχὴ χωριστὴ τοῦ σώματος.

any sense, the actuality of the ship? It seems that we should liken the sailor, not to being the actuality of the ship, but being *instrumental* to sailing or floating, and thus, like the organs of living beings. Thus the analogy gives us no more reason to favour a dualist reading than it does a functionalist one.

Now it may be argued that the analogy fails to capture the soul-body relation just because the ship is an inanimate object. I think, however, that such a claim overlooks Aristotle's own use of inanimate objects in explicating his notion of soul. If an axe were a natural body, being an axe would be its soul, and its function (or actualization) would be to hew. The use of the axe, although an inanimate object, parallels the use of the eye to make the same point. If the eye were an animal, sight would be its soul (412b15*ff*). Thus we ought not to reject Aristotle's ship analogy on the mere grounds that the ship is inanimate. But it fails to parallel the soul-body relation nonetheless. Indeed, the sailor is no more the actuality of the ship than we can say the lumberjack is the actuality of the axe.

The way in which Aristotle defines soul gives us no reason to think that he is weighing in on the mind-body problem. The upshot of Aristotle's definition is that the soul *just* is a set of capacities. Thus, "soul" does not refer to or pick out any special thing that stands in relation to the body; it just is the set of capacities peculiar to any properly organized body. Aristotle is not using his definition to do metaphysics of mind, nor is he doing metaphysics generally for his definition is not a definition proper. Indeed, the inquiry of Book II begins by answering the question "what is soul?", but he is merely trying to formulate a general account as an answer to it.[20] Aristotle's technical notion of "definition" (*horismos*) is not used in this chapter, and thus what is typically understood as being a definition of soul—i.e. trying to articulate what kind of thing "soul" is—is rather a "rough sketch" of what we mean by soul.[21]

A definition in the technical sense is "an account which signifies what it is to be for

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[20] πειρώμενοι διορίσαι τί ἐστι ψυχὴ καὶ τίς ἂν εἴη κοινότατος λόγος αὐτῆς.

[21] The chapter ends with the remark that "this must suffice as our sketch or outline of the nature of soul" τύπῳ μὲν οὖν ταύτῃ διωρίσθω καὶ ὑπογεγράφθω περὶ ψυχῆς (413a9-10). We should not be surprised y this claim if we subscribe to the capacities reading of soul and how this informs the organization and structure of *de Anima*. More on this below.

something".[22] The phrase "what it is to be" (*to ti ên einai*) is the crucial element for it makes the point that definitions specify more than merely the meanings of words. Technical definitions pick out the "what it is to be" or essence of things by identifying their genus and differentia.[23] Thus, only things with essences can be so defined. Since soul is the "what it is to be" for living things, clearly the technical definition does not fit. If soul is the essence then it is not amenable to a definition, properly speaking. This shows that Aristotle is not giving a technical definition in his account of soul, but rather a "sketch", and the reason is that there is no singular "essence" to soul over and above being a set of capacities. This so-called definition then, is a general "definition" intended to capture the "what it is" of soul, or in other words, to capture what it is about living things that separates them from inanimate objects. It is a general account that applies to every instance of soul. The specifics—i.e. specific sets of capacities—are spelled out in the remainder of *de Anima*. The plan of *de Anima* thus runs as follows: a detailed treatment of the *endoxa* in Book I; the general definition of soul in II.1, the details of each capacity of soul are spelled out in the remainder of *de Anima*: the capacity for nutrition; the capacity for sense-perception; the capacity for imagination; the capacity for thought; the capacity for locomotion.

So Aristotle, in "defining" soul, is not honing in on the nature of some thing that stands over and above the body and that explains its being alive. Aristotle is indeed trying to formulate an account of soul, albeit a rough sketch that is deliberately general. But given that soul just is a set of capacities on Aristotle's view, we cannot say that what he is doing in *de Anima* II.1 is taking a stand in the mind-body problem. This should not be a controversial claim, for he is emphatic that:

> If, then, we have to give a general formula applicable to all kinds of soul, we must describe it as an actuality of the first kind of a natural organized body. That is why we can dismiss as unnecessary the question whether the soul and body are one: it

[22] *Topics*, 101b38 ἔστι δ᾽ ὅρος μὲν λόγος ὁ τὸ τί ἦν εἶναι σημαίνων.

[23] Aristotle's use of τὸ τί ἦν εἶναι was rendered in Latin as *essentia* by Roman translators from which we get "essence".

is as though we were to ask whether the wax and its shape are one (412b2-7)[24]

Given his definition (read "sketch") of soul and the subsequent plan of *de Anima*, it is clear that Aristotle's focus is questions of the *what does it do* rather than the *what is it* variety, for soul just is that by which living things do the things that they are organized to do. That is, the "what it is" of soul given Aristotle's definition, just is the "what it does". Aristotle's account, which we get from the three formulations, is quite general, as it must be if it is to capture the various capacities of all kinds of different living beings.

1.3 The Plan of the Thesis

What we have seen then, is that Aristotle's attempt to outline what he takes soul to be is not a foray into what we would call the metaphysics of mind, nor is it intended to pick out any "thing" that stands in relation to the living body; it just is the capacities of certain living bodies properly organized. The soul just is a set of capacities that are peculiar and unique to every living thing.

At first blush this claim may not seem controversial. But it follows from it that if Aristotle is not engaged in the metaphysics of soul—both generally and concerning the parts of soul, such as mind (*nous*)—then we have *prima facie* evidence against any interpretation holding him to a position in the philosophy of mind. It is controversial, that is, because it runs counter the trend in the literature that seems to take it for granted that Aristotle is engaged in the same philosophical enterprise as we are.[25] The contrast between the Naïve Somatism that I am propounding and rival interpretations will be brought to light in the following chapter. We will survey the various trends in the tradition of trying to press Aristotle onto the logical landscape of contemporary philosophy of mind. Examining the reasons why certain thinkers hold

[24] εἰ δή τι κοινὸν ἐπὶ πάσης ψυχῆς δεῖ λέγειν· εἴη ἂν ἐντελέχεια ἡ πρώτη σώματος φυσικοῦ ὀργανικοῦ. διὸ καὶ οὐ δεῖ ζητεῖν εἰ ῾ἐν ἡ ψυχὴ καὶ τὸ σῶμα, ὥσπερ οὐδὲ τὸν κηρὸν καὶ τὸ σχῆμα.

[25] Michael Frede (1991) seems to be the only other thinker that would accept my general claim. He argues that Aristotle does not have a philosophy of mind *per se*, and his reason is that the remarks about nous are so cryptic and arcane that we cannot rightly count it as a proper treatment of the mental. Note, however, that Frede still maintains that Aristotle is working with the same *explanandum* as contemporary philosophers of mind, which is the point on which his interpretation falls in with the rest.

Aristotle to dualism, functionalism, etc., we find that all seem to focus on finding points on which certain aspects of Aristotle's ruminations on cognition are consistent with certain aspects of the theories of mind. It will be argued that consistency, however superficially attractive, is not enough to warrant the ascription of some theory of mind or other to Aristotle.

If we cannot rightly say of Aristotle that he holds a functional theory of mind, for instance, then what can we say about it? In chapter III we begin to answer this question by examining Aristotle's approach to cognition. Following Aristotle, special attention is paid to the nature of the organs of the soul, which are built, I argue, specifically to take on the forms of their respective proper sensibles. Attention is paid to the role of the sensitive mean, which is fundamental to understanding the change peculiar to perception. I argue that each organ is materially constituted to be able to be "all of their objects potentially but none in actuality", and this guides Aristotle's emphasis on the functional plasticity of organs. The upshot of this reading is a more nuanced and detailed literalism (that the special organs of sense become like their sensible objects really and literally); one which goes beyond meeting the challenges of its rivals.

The organs of sense are materially constituted to enable the plasticity required for the reception of forms. Thus, we find a functional parallel between Aristotle's theory of perception and thought, for he uses the same principle to show how all the specialized parts of the body—the organs—come to be like their respective objects. Aristotle's literalism and the isomorphism between cognizer and object more generally, are not surprising given the explanatory agenda of his Naïve Somatism. The *explanandum* is content acquisition; the *explanans* is showing how the body becomes *like* various aspects of objects. For both *nous* and any given organ of sense, the identity between form cognized and the form in object makes any foray into Aristotle's theory of content a non-starter. He simply does not have any developed notion of intentionality.

In chapter IV, we engage the big question left open by the previous analysis, namely, whether the literal changes in the organs of sense are sufficient for perception, or whether

there is some further (intentional e.g.) element required for sensory cognition. There is not, I argue. The reason is that Aristotle's account of perception grounds out in a specific feature of the animal body that Aristotle takes for granted; a proprioceptive awareness that the animal has of its body. His account of cognition, that is, rests on an assumed body sense. I argue that the changes in the organs do suffice, not only for the perception of proper sensibles such as colour, sounds, and tastes, but also for the perception of our perceptions. That is, I argue, against influential interpretations, that Aristotle's account of our ability for reflexive awareness is best accounted for in the same terms as the original perceptions—*viz.* literalism.

Chapter V examines implications of Aristotle's Naïve Somatism. I give cursory treatments of the question whether Aristotle's *explanandum* is novel or unique to him. On the whole, Presocratic accounts of cognition seem to lack the idea of the interior and private realm. Even Plato's ontological dualism between body and soul is not the separation of the interior and private from the physical and objective. And thus we cannot rightly say of the ancient dualist *par excellence* that he is a dualist in the sense relevant to the modern conception. In this chapter I also reflect on what we can say about the ancient view of the *explanandum* of philosophical cognitive psychology. Given that the ancients are concerned with explaining the acquisition of content and not the nature of content, we must revisit our views regarding the history and genesis of intentionality.

Unearthing Aristotle's presuppositions on body sense permits reading his cognitive psychology in an historically accurate and philosophically honest way. Grounding cognition in a body equipped with a base level of sensitivity limits the *explanandum* and what we can say of his treatment of *psuchê* as philosophy of mind. We do find an explanation of thought, but we do not find a treatment of "mind". *Nous* may be separable and unmixed with the body, which is required if it is to think all things, but it is not described as the inner, private realm seemingly at odds with the physical. Aristotle does not have a philosophy of mind because Aristotle does not have a relevantly similar concept of "the mental".

Chapter 2

Those Who have Come Before

2.1 Introduction

There has been much debate on how to interpret Aristotle's cognitive psychology. Was he a dualist? A functionalist? Was he some sort of materialist? Or did he have a *sui generis* conception of mind? In recent years, many have asked what kind of philosophy of mind we should attribute to Aristotle, and this has produced a wealth of literature holding Aristotle to dualism, to physicalism and pretty much everything in between. Many take their lead from Aristotle and flesh out theories that they take to be viable contenders in the contemporary arena of the philosophy of mind.[1]

Despite the vast literature on Aristotle's psychology, few have asked the question whether Aristotle's treatment of the nature of the soul and his explications of cognitive processes can rightly be called a philosophy of mind in a sense relative to how the term is used today. Prior to deploying our Naïve Somatist interpretation, which turns out to be a challenge to anyone taking Aristotle to have a philosophy of mind, a brief look at some key contributions in the literature from the last few decades will shed light on the intellectual landscape in which this thesis is set.

The positions in the recent literature fall into one of three categories: those who think that Aristotle has a philosophy of mind that is identifiable with a modern one; those who think he has a philosophy of mind that is not identifiable with a modern one; and those that do not think that he has a philosophy of mind. Very few fall into the last category, but it is just such a view that I am defending.[2]

More thinkers have argued that we cannot rightly say that Aristotle has a philosophy of mind identifiable with any modern one. Although Martha Nussbaum and Hilary Putnam maintain that Aristotle has a functionalist account of the mental[3], they think it is misleading to say that he has a philosophy of mind *per se*. Nussbaum argues that the differences between

[1] Victor Caston (2001) is a prime example of this kind of approach. In particular, he develops a theory of consciousness from Aristotle's discussion of the fact that we perceive that we see and hear. Caston's position is evaluated in chapter IV.

[2] The exception here is Michael Frede (1995).

[3] Their positions will be addressed in the section on functionalist interpretations below.

Descartes' metaphysical agenda and the scope of Aristotle's hylomorphic treatment of substances are significant.[4] Yet this does not hinder Nussbaum and Putnam from arguing that the best interpretation of Aristotle is functionalism.

By far the most influential and provocative interpretation in this line is Myles Burnyeat's argument that Aristotle's philosophy of mind should "be junked".[5] Note that Burnyeat still holds that Aristotle has a philosophy of mind, but one which is not viable in the modern arena. Burnyeat's main aim is to resist the current trend to, and growing influence of, functional interpretations. The crux of Burnyeat's argument is that not only does Aristotle take awareness as crucial to mentality, he takes it as a primitive given in nature. The former claim is substantiated in regards to Aristotle's theory of perception. Burnyeat, taking himself to be following what he calls the Christian tradition—i.e. in the footsteps of John Philoponus, Thomas Aquinas, Franz Brentano, *et al.*[6]—maintains that sensory cognition is not some physiological process as others (e.g. Sorabji) claim, but a "spiritual awareness" of sensible forms. He argues that this claim is justified by two main textual threads in Aristotle. First, he points to Aristotle's assertion that sense-perception is the reception of sensible forms "without the matter" (*aneu tês hulês*). Like the wax receiving the signet ring's impression, the eye (e.g.) receives the forms of objects seen. The block of wax, Burnyeat holds, does not become circular upon impression, but it displays the circle which it registered in the act of being impressed. Likewise the eye does not become coloured but registers colours, and this registration is the awareness of colour.[7]

Now, this spiritual awareness is not why Aristotle's philosophy of mind should be scrapped, for it is consistent with several kinds of dualism. But Burnyeat argues that awareness factors also into Aristotle's conception of matter, which is starkly incompatible with modern theories of mind that both assume and require a post Cartesian conception of extended matter. Thus Burnyeat concludes that we ought not go looking to Aristotle for a

[4]Nussbaum, 1984.
[5]See Burnyeat 1991a and 1991b. His position is dealt with in more detail in the next chapter.
[6]Burnyeat, 1991a, 18.
[7]*Ibid*, 22.

viable alternative to contemporary theories of mind, because

> [A]lthough Aristotle had a non-Cartesian concept of the soul, we are stuck with a more or less Cartesian concept of the physical. To be truly Aristotelian, we would have to stop believing that the emergence of life or mind requires an explanation.[8]

Thus, Burnyeat maintains that Aristotle cannot hold functionalism, dualism, or any other contemporary theory of mind because his notion of matter is already "pregnant with consciousness", to borrow Burnyeat's phrase, and is thus not in opposition to mind.[9]

The majority of interpretive work tying Aristotle to some specific philosophy of mind stems from the last half century or so, even though this kind of endeavor was being done in antiquity and throughout the middle ages.[10] Notably, Thomas Aquinas captured one stream of interpretation in his grand attempt to mesh Aristotle with the dictates and doctrines of the Church. But the beginnings of the contemporary debate as to the nature of Aristotle's philosophy of mind are seen in the 19th century commentators—foreshadowing the onset of contemporary philosophy of mind. In order to get the full flavour of the contemporary debates regarding Aristotle's philosophy of mind, it will serve us well to examine (even if only briefly) the arena of philosophy of mind that has developed since the 17th century and ending roughly in the 1980s where our debate becomes more intense.

In quite broad strokes, modern philosophy of mind is typically described as a range of positions running the gamut from Cartesian substance dualism to reductive materialism. The picture quite often sees Descartes as breaking away from the scholastic tradition with his dualism. To be sure, philosophers have long been dualists, particularly since the Christianization of philosophy. But Descartes' contribution, as it were, was to cleave the mechanical realm of the body from the mind. Descartes' real distinction between mind and

[8] *Ibid*, 26.

[9] Burnyeat's thesis has received no shortage of negative attention. For the more significant criticisms of his view, see Caston (2005), Nussbaum and Putnam (1991), and Cohen (1991). For more detail and assessment of Burnyeat's view, see chapter III.

[10] To be sure, since antiquity thinkers have been reading Aristotle and trying to make sense of the more cryptic passages in order to fill out a systematic and thorough picture of his philosophy, more often than not borrowing from concepts which Aristotle may not have had. A significant part of medieval philosophy was just that.

body is such that they are essentially different—the essence of the substance of mind is thought; that of the body is extension (all bodies are essentially extended substance). Further, the two substances do not admit each other. Mind is essentially not extended and bodies essentially lack thought. Notwithstanding Descartes' insistence that, despite being utterly unlike each other, the two substances interact, his programme was soon besieged by those taking him to task on this point.[11] Metaphysical worries that are raised by these completely different substances aside, the interaction problem was significant for many in their turning to alternatives.

At what is taken to be the extreme opposite pole from Descartes' dualism lies materialism, which is a substance monism and generally holds that all "mental" phenomena are, or reduce down to, physical or material phenomena. The appeal of materialism grew along with the ongoing successes of the sciences.[12] There is no plurality of substances posited in the sciences (not any longer, at any rate—e.g. phlogiston and caloric fluid) yet scientific explanation seems not to be hindered or slowed in any way. With physics delving into the nature of the constituents of the universe and biology explaining the origins and development of complex beings, many think there is no reason to posit anything over and above observed natural phenomena. For this reason, philosophers have been inspired to find theories of mind—perhaps the last mystery to be explained scientifically—that fit within the scientific framework. That is, materialist theories of mind.

Given Descartes' influence and the trend towards materialism, it is no surprise that we see commentators on Aristotle trying to frame his works on the soul in these categories. Thus we see Jaeger taking Aristotle's definition of the soul as anti-dualist; Nuyens also sees Aristotle as an anti-dualist, even if the uncertain nature of *nous* and the prime mover do raise mysteries; and Ross sees an evolution in Aristotle's thinking such that the dualist trends found in *nous* and the prime mover are part of an earlier stage of thinking that he comes to abandon.[13]

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[11] See, for instance, Descartes' correspondence with Elizabeth (Descartes 1964, volumes 3, 4, and 5).

[12] The growing influence of the medical sciences, for instance, led Julien Offray de La Mettrie to write his *Homme Machine* in 1748; an early defense of materialism, albeit more rhetorical than philosophical in nature.

[13] Jaeger 1948, 217; Nuyens 1948, 317; Ross 1957, 65.

Serious academic debate on this issue takes its lead from these commentators and gives rise to the spectrum of positions that we see today. In what follows we will examine in turn dualist and materialist interpretations of Aristotle. Given that these interpretations are a significant minority of the literature, overshadowed by the functionalist view, we will then turn to functionalist interpretations and their rise in the last third of the twentieth century.

2.2 Various Interpretations

2.2.1 Dualisms

The consensus in the literature is that it is quite obvious that Aristotle is not a Cartesian substance dualist. The significant dissimilarity between Descartes' "mind" and Aristotle's notion of soul is hard to reconcile. As we have explained in the previous chapter, soul for Aristotle is the sum of capacities or functions of living beings. He does not identify it with the subjective, private, and immaterial mind, as we see it in Descartes. The cryptic passages in *de Anima* III.5, however, do describe the intellect, or *nous*, as "separable" (*chôristos*), "impassible" (*apathês*), and "unmixed" (*amigês*) (430a18). Although Aristotle does not here state explicitly that *nous* is immaterial (*ahulê*), this is exactly what dualist readings tend to see. Some dualists do take care to notice that Aristotle fails to mention explicitly the supposed immateriality of *nous*, but they argue that its description as unmixed, impassible, and separable, entail its immateriality. In essence then, Aristotle is taken to be specifying why *nous* must be immaterial.[14]

Aristotle's description of the active intellect notwithstanding, there are *prima facie* reasons why it is misleading to pitch Aristotle's tent in the dualist camp. For instance, soul applies to all living things for Aristotle, whereas Descartes equates the mind with the soul and thus only rational creatures have soul. Unlike Aristotle, Descartes denies that plants and other animals have souls. But he may be a dualist of sorts, and some have argued as much.[15] We will return

[14]See, for example, Joseph Magee (2003).

[15]Howard Robinson (1983) and Robert Heinaman (1990) argue for independent dualist interpretations of Aristotle, and Jonathan Barnes takes him to be a kind of property dualist. More on their respective interpretations

to interpretations holding Aristotle to some species of dualism below.[16]

2.2.2 Materialist Interpretations

As with dualism, there are also several *prima facie* reasons why one might take Aristotle to be a materialist of sorts. The explicit statement that "the soul is inseparable from the body" (*ouk estin hê psuchê chôristê tou sômatos* 413a4) does seem to favor materialism. Some thinkers focus on Aristotle's definition of the emotions for support. In the *de Anima* being angry is defined as "a particular movement of a body of such and such a kind, or a part or potentiality of it, as a result of this thing for the sake of that" (403a26-28).[17] Others are impressed by the extensive—if not complete—treatment of the processes involved in sense-perception in terms of physiology. Aristotle spends much attention describing the material constitutions of the organs of sense and how they are built in ways that enable them to take on the forms of their proper objects.[18] But a superficial consistency with modern materialism alone does not warrant the claim that Aristotle is such a materialist, if only because pointing to consistency does little to determine the kind of materialism that Aristotle is said to hold, nor does it rule out rival interpretations. For this we must look at the connection between Aristotle and different brands of materialism in more detail.[19]

Reductive Materialism

Just as few accept that Aristotle is committed to an extreme dualism, few accept that he buys into what is taken as the opposite pole: reductive materialism. However, whereas critics of dualist interpretations develop textual arguments in order to refute their opponents, many reject the idea that Aristotle is committed to a reductive materialism almost immediately and

below.

[16]We will return to this issue in the next chapter, where it is shown that *nous*, although doing the work of mind, is not the same in nature as what we call the mind.

[17] τὸ ὀργίζεσθαι κίνησίς τις τοῦ τοιουδὶ σώματος ἢ μέρους ἢ δυνάμεως ὑπὸ τοῦδε ἕνεκα τοῦδε.

[18]Those following Sorabji's literalism focus on the physiology of perception. I take myself to be one in this tradition. See the chapter on *aisthêsis* below (chapter III).

[19]Carrier (2007) is a recent example of taking the superficial consistencies as evidence for the strong claim that Aristotle is a materialist.

perhaps hastily. This may be due to the fact that many thinkers deem reductive materialism a farce not deserving of serious consideration, and thus not befitting the likes of Aristotle. Yet in order to be thorough in our assessment we should try to let our intuitions and presuppositions not interfere with our analysis. And given that there are several reasons why Aristotle *could* be seen as a materialist, we will examine whether we can say of Aristotle's philosophy of mind that it is in line with reductive materialism.

Simply put, reductive materialism holds that mental states just are physical states. More specifically, mental states are physical states of the brain. It holds a numerical identity between mental states and brain states.[20] Putting stock in the future success of cognitive science and neuroscience, thinkers in this vein hold that our current knowledge of how mental states reduce to brain states is limited, but this is merely a practical limitation. Eventually, science will be able to explain the identity between the mental and the physical.

Wallace Matson is the only thinker (to the best of my knowledge) to hold Aristotle to an identity theory of mind (i.e., that mind is identical to body or in other words, a reductive materialism).[21] He does so, however, in a very unsatisfying manner for all that is shown is a *consistency* between Aristotle's view and reductive materialism. It is unsatisfying for there is a want of textual evidence, and supposing Matson's exposition is correct, his argument is fallacious. He offers a brief materialist interpretation of Aristotle (and by extension most ancients). Specifically, he endorses the view that Aristotle held a mind-body identity theory. His argument can be summed up in two principal steps: (1) the identity of mind and body is taken for granted in ancient Greek literature, and (2), there is no denial in Aristotle (*et al.*) of the view that sensing is a bodily process. Thus Aristotle holds an identity theory. The problem with Matson's account is that his claim is very ambitious yet significantly unsubstantiated. Even more troubling is that he gives (2) above as a reason for (1), and as such his conclusion is an unwarranted inference from his premises: it may be the case that people have never denied that the Earth is identical to Pluto, yet it doesn't follow that people assume that they

[20]For a brief description of reductive materialism, see Churchland 1996.
[21]Matson 1966.

are identical. So the lack of evidence of this denial is not sufficient to establish the fact that the ancients did indeed take mind-body identity for granted. Thus Matson strategy is *argumentum e silentio*: using the lack of evidence in the texts to support his claim. Sometimes this method can be a convincing form of abductive reasoning, but given the considerable lack of textual support, Matson's conclusion that Aristotle is an identity theorist is unwarranted.[22]

More recently, Joseph Magee has published a book-length criticism of the more influential materialist interpretations of Aristotle, which is also thus a defense of a spiritualist or dualist reading.[23] He provides the following reasons why Aristotle cannot be a reductive materialist:

1. Aristotle requires the explanation of a substance to be more than a mere list of its material constituents.

2. Reductive materialism is akin to the *harmonia* theory of the soul that Aristotle rejects in *de Anima* I.4.

As for (1), Magee is right that Aristotle requires more than simply describing the material cause of a thing in order to give a full explanation of it, and thus to know it. One must include all four causes—material, formal, final, and efficient—in order to produce a full explanation. Now if we suppose, for the sake of argument, that Aristotle is indeed a reductive materialist, then he is committed to a view in which all properties of things are reducible to and thus explainable by their constituent parts. Magee thinks that this runs directly counter Aristotle's four-fold criteria of explanation. Again, for the sake of argument, if we assume that Aristotle

[22]One reason why Aristotle is not a reductive materialist in any strong sense is that identity theory holds that states of the mind are physical states, but more specifically, physical states of the brain. As we will see in the following chapter, Aristotle does not think that the brain is a cognitive organ. It is primarily a radiator for cooling the body. This incongruity notwithstanding, we should try to determine whether Aristotle is a reductive materialist holding an identity between physical states and states of that which thinks.

[23]Magee *Unmixing the Intellect*, 2003. "Spiritualist" refers to the family of positions on Aristotle's theory of perception whereby the act of perceptual cognition is spiritual, intentional, etc. More on this in the following chapter. Spiritualism is consistent with various forms of dualism (substance dualism, property dualism, etc.), but a "dualism" tends to concern the nature of the mind (or, in our case, *nous*) as being of a different kind than the rest of the natural world. One could be a dualist about mind but deny spiritualism, for on Aristotle's view mind is not required for perception because non-rational animals enjoy perception but lack *nous*. Accordingly, one could hold Aristotle to a materialist, or quasi-materialist theory of perception yet claim that he is a dualist about *nous*. So much for the logical space. As we will see, Aristotle is not a spiritualist, nor a dualist, yet the category of "materialism" is still not apt to describe Aristotle.

is a reductive materialist, then it does not follow that we cannot account for the four-fold criteria of explanation. Magee assumes that because the reductive materialist claims that ultimately all is matter that one is thereby relegated to only being able to provide material explanations. This is false. Aristotle's general explanation of the four causes in *Metaphysics* Δ goes as follows:

> We call a cause (1) that from which (as immanent material) a thing comes into being, e.g. the bronze of the statue and the silver of the saucer, and the classes which include these. (2) The form or pattern, i.e. the formula of the essence, and the classes which include this (e.g. the ratio 2:1 and number in general are causes of the octave) and the parts of the formula. (3) That from which the change or the freedom from change first begins, e.g. the man who has deliberated is a cause, and the father a cause of the child, and in general the maker a cause of the thing made and the change-producing of the changing. (4) The end, i.e. that for the sake of which is... (1013a24*ff*).[24]

It is hasty to deny that Aristotle explains the four causes in a manner consistent with materialism. That is, it is no stretch to explain the shield in all four of its causal elements—material, final, efficient, and formal—while at the same time being wholly consistent with reductive materialism. Just as modern materialism admits of formal elements, the form of the saucer and the shield are also consistent with materialism. If formal explanations in general pose no threat to materialism, why would we think that this does not apply in the case of the soul? It seems, that is, that Magee assumes that the formal elements of the body—i.e. the soul—need to be given a material cause to be consistent with materialism. But given that all causes are consistent with materialism, this does not hold; materialists are

[24] Αἴτιον λέγεται ἕνα μὲν τρόπον ἐξ οὗ γίγνεταί τι ἐνυπάρχοντος, οἷον ὁ χαλκὸς τοῦ ἀνδριάντος καὶ ὁ ἄργυρος τῆς φιάλης καὶ τὰ τούτων γένη· ἄλλον δὲ τὸ εἶδος καὶ τὸ παράδειγμα, τοῦτο δ᾽ ἐστὶν ὁ λόγος τοῦ τί ἦν εἶναι καὶ τὰ τούτου γένη (οἷον τοῦ διὰ πασῶν τὸ δύο πρὸς ῾ὲν καὶ ὅλως ὁ ἀριθμός) καὶ τὰ μέρη τὰ ἐν τῷ λόγῳ. ἔτι ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἡ πρώτη ἢ τῆς ἠρεμήσεως, οἷον ὁ βουλεύσας αἴτιος, καὶ ὁ πατὴρ τοῦ τέκνου καὶ ὅλως τὸ ποιοῦν τοῦ ποιουμένου καὶ τὸ μεταβλητικὸν τοῦ μεταβάλλοντος. ἔτι ὡς τὸ τέλος· τοῦτο δ᾽ ἐστὶ τὸ οὗ ἕνεκα.

permitted formal explanations too. Magee assumes that the formal account of the soul is not explicable in terms of materialism, but this issue is exactly what is at stake in the debate. Thus, in order to avoid begging the question, Magee's claim needs argumentative support. It follows then that Magee's first point fails as a reason to think that Aristotle could not be a reductive materialist.

Furthermore, to say that reductive materialism denies explanations at higher levels, which Magee insists[25], is also false. Indeed, there is a certain kind of materialism—eliminative materialism—that denies any *epistemological* worth to ascriptions of higher level or intentional phenomena. And it does so because it denies any *metaphysical* status to folk-psychological entities, such as beliefs, desires, etc.[26] This is the aptly named *eliminative* materialism, championed by Paul and Patricia Churchland. Whereas clearly Aristotle does not hold an eliminative materialism—he does not think that talk of beliefs and desires should be jettisoned in lieu of a complete neuroscience!—it remains to be seen if he holds a reductive materialism.

As for (2), Magee argues that it follows from (1) because it is the same view with the added qualification that it is not merely the constituting matter that accounts for all things, but also the manifold and complicated ways in which it can be organized.[27] Thus we go from a basic reductive materialism to what Magee sees as a *harmonia* theory. Magee is right that Aristotle rejects the *harmonia* theory of the soul in *de Anima* I.4. Despite Aristotle's criticisms of *harmonia*, however, it is an open question whether Aristotle's theory itself ends up being a kind of *harmonia* theory.[28]

More importantly for the task at hand is that Magee is hasty in identifying reductive materialism with some kind of *harmonia* theory. Aristotle, in *de Anima* I.4, is taking to task

[25]Magee, 2003, 6.

[26]Folk psychology, as the term suggests, is the everyday manner in which we ascribe beliefs, desires, intentions, etc. to other people (or, more specifically, other minds). For the difference between reductive materialism and eliminative materialism, see Churchland 1996. For a defense of eliminative materialism, see his 1979 1and 1981.

[27]*Op cit*.

[28]See Charlton (1985) for a discussion of Aristotle's relation to *harmonia*. Although Charlton argues that Aristotle rejects the *harmonia* theory, he discusses the "traditional and modern commentators" that hold Aristotle to it.

the view that the soul is a kind of harmony, where harmony is taken to be “a blend or composition of contraries” (407b30). We do not get any further exposition of a harmony account of the soul in Aristotle and he probably saw no need to expound it further given its widespread popularity; it was a well known view.

We do, however, get a brief treatment of it in Plato’s *Phaedo* (85e), where we find Socrates engaged with Simmias on the issue of the immortality of the soul. The soul is mortal, on the *harmonia* account, for although being separate from the body it is separate in a metaphorical sense. The soul is to the body what harmony, or more specifically attunement, is to a lyre—i.e., a given attunement is the product of the constitution of the lyre, specifically, the tension of the strings relative other strings, the density of the wood, its resonance, etc.. When properly arranged, the wood, strings, resin, etc., produce a specific *harmonia*. Likewise, the soul is a product of properly constituted bodies. The soul is dependent on the body, but it is like the divine nonetheless because it is invisible (as is *harmonia*). But the soul, like *harmonia*, is not deathless. Indeed, the lyre loses its specific attunement well before being completely destroyed.

By filling in the theory with the account in the *Phaedo*, we can see that the *harmonia* theory of soul is not akin to reductive materialism, but rather, to a form of naïve emergentism. The main idea behind emergentist theories of mind is that mental life emerges from properly constituted matter. More specifically, when certain biological processes achieve a certain level of complexity a new kind of phenomenon emerges; consciousness and mentality.[29] Key here is the idea that what emerges is not explainable in terms of the underlying processes from which it emerged. Thus the mind (or soul) on the emergentist view is not reducible to the sum of the body’s parts or properties. Like emergentism, the *harmonia* theory holds that the soul emerges from a body that is aptly made or disposed. Accordingly, the *harmonia* theory which Aristotle thinks is unable to account for originating movement (408a) is not a species of reductive materialism, for reductive materialism flatly holds that the mind is explainable by its

[29] For a brief summary of emergentism, see Kim 1998 52-54.

underlying component parts.

Magee thus misses the mark with (2) as well, and it remains to be seen whether we can say of Aristotle that his philosophy of mind is materialist in nature, and more specifically reductively materialist.

Functionalism

By far the most influential interpretation of Aristotle, nowadays, is functionalism in some form or other.[30] Indeed, the state of the debate can be seen as either the affirmation or denial of Aristotle's functionalism. Forged as an alternative to a troubled Cartesian dualism and the equally troubled reductive materialism, functionalism has enjoyed much support in its various forms since the last third of the 20th century—both in terms of modern theories of mind and interpretations of Aristotle. The motivation for, and contributions of, functionalism are that it is an *ontologically neutral* theory of mind. That is, it was forged in response to the quagmire of the debates in the metaphysics of mind in the 20th century, primarily in response to the ontological theories of dualism (*viz.* Cartesian substance dualism) and reductive materialism (i.e. identity theory).

Functionalism thus defines mental states generally, not by their constitution (or what they are made of), but by their functions or the roles that they play in the cognitive systems in which they are realized. Specifically, the identity of a mental state is determined by its causal relations to inputs and outputs (sensory stimulation), other mental states, and behaviour.[31]

For reductive materialists pain (e.g.) is identical with some distinctive kind of neural activity (C-fiber stimulation-to borrow the oft-used and outdated example from the heyday of the identity theory). For the functionalist, someone could be in pain by experiencing C-fiber stimulation, but given that pain is not identified with any one physical thing, some other

[30]For the original functional interpretations of Aristotle, see Putnam (1975), Nussbaum (1978), and Wilkes (1978). For a good introduction of the debate, both for and against functionalist interpretations of Aristotle, see Nussbaum and Rorty (1991).

[31]For present purposes I will treat "functionalism" as one unified doctrine. We need not worry about sub-species of functionalism, how and why they differ, and which may apply best in describing Aristotle. More on this below.

creature with B-fibers (e.g.) performing the same functional roles as C-fibers, could also be said to be in pain. Indeed, functionalism's neutrality on the nature of the thing that can realize mental states leaves room for things like silicon-based Martians and computers to feel pain—it is free of the chauvinism of reductive materialism.[32] This is what is often called the compositional plasticity thesis of functionalism: the underlying constitution of the thing in question does not matter in determining its mental states—they are defined in terms of their relations to causal inputs, behavioral outputs, and other mental states.[33] Thus, according to functionalism, mental states are multiply realizable.

There has been much resistance to functionalism. Opponents of functionalism have made several *reductio*-type arguments such as Block's China-Brain and Searle's Chinese Room arguments which purport to refute the multiple realizability thesis and the claim that thought can be reduced to a set of functions (respectively).[34] Functionalism has also been attacked by inverted spectra arguments claiming to show that two people can have functionally isomorphic mental states but which differ qualitatively.[35] The general theoretical problems with functionalism are of no consequence, of course, in determining whether Aristotle is a functionalist. We need not worry about these problems here, for whether Aristotle is committed to functionalism does not hinge on the theory's ultimate viability. After all, Aristotle could hold a flawed theory. The troubles with functionalism that we are concerned with are interpretive: those that challenge the idea that Aristotle maintains the view. We will return to these below.

Many thinkers see a direct connection between modern functionalism and Aristotle's hylomorphic approach to living beings.[36] The standard story is to view the ancient arena of philosophical psychology as analogous to the modern. Just as modern functionalism is a

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[32]Ned Block (1980).

[33]*Ibid.*

[34]*Ibid*, and Searle (1984).

[35]See Block (1980).

[36]The most notable contributions in large and ever-growing body of literature are: Putnam (1975), Nussbaum (1978), Nussbaum & Putnam (1991), Cohen (1991), and Shields (1990). In what follows I pay closer attention to what I take to be the more definitive articulations of the interpretation: Nussbaum and Putnam, and Shields.

response to dualism and reductive materialism, Aristotle too carved out a middle ground between the naïve[37] reductive materialism of Democritus and the atomists and Plato's dualism.[38] Interestingly, the debate and controversy of the issue of functionalism and Aristotle stems from two influential papers that do not directly discuss the issue.

One could reasonably say that the modern debate stems from Jonathan Barnes' interpretation that, properly understood Aristotle is neither a dualist nor a materialist. Barnes argued that, although Aristotle did not posit a mental substance like that of Cartesian dualism, it is wrong to infer from this that he is a physicalist.[39] Given the anomalous nature of *nous*, Barnes holds that Aristotle's conception of the soul cannot be conceived in purely physicalist terms. Since *psuchê* is not a separate substance, nor is it purely physical, Barnes claims that Aristotle carves out a middle ground between physicalism and dualism; *psuchê* is an attribute of the matter that constitutes the body. Barnes' position thus holds Aristotle to a primitive kind of property dualism: whereas there is no distinct substance beyond the physical (or roughly physical in Aristotle's case), a properly organized and properly functioning body, such as the living human body, has properties possessed by no other kind of physical object.[40] These properties are not physical, yet there is only one substance posited by this kind of dualist. It should be noted that Barnes does not think that property dualism to be "correct", but he does think that it is "at least as good a buy as anything else currently on the philosophical market. Philosophy of mind has for centuries been whirled between a Cartesian Charybdis and a scientific [i.e., physicalist] Scylla: Aristotle has the look of an Odysseus".[41]

Following Barnes, Richard Sorabji produced a rival interpretation in his *Body and Soul in Aristotle*.[42] Like Barnes, Sorabji argued that the categories of Cartesian dualism and

[37]Whether Democritus' atomism is akin to reductive materialism may be controversial and I do not intend to elaborate the idea here. I use "naïve" charitably: Democritus does not share the concerns of modern reductionists thus his lack of engagement on topics important to moderns should not be seen as some oversight on his part.

[38]As will be discussed in chapter V below, this analogy misses the mark for several reasons. I will note in passing here that although Plato does seem to hold a dualism, it is not Descartes'.

[39]Barnes, 1971, 32.

[40]The idea is that these properties are unique to any living being built with the potential for entertaining "mentality" (whatever that amounts to). See Churchland (1996, 10*ff*) for a brief summary of property dualism).

[41]Barnes 1971, 41.

[42]Sorabji 1974. This paper is likely the most influential in the current debate. Not only do we find Sorabji's

materialism are not readily applicable to Aristotle. In fact, since no modern category from the philosophy of mind attaches properly to Aristotle, Sorabji takes Aristotle's view to be *sui generis*.[43] Focusing on Aristotle's analogy that a house is different from the bricks of which it is built, Sorabji points out that Aristotle cannot hold a reductive materialism; the bricks can outlast the house, therefore the two are not identical. But the house is dependent on the bricks for its being, and thus Aristotle is not a Cartesian dualist either. [44]

Sorabji states explicitly that he thinks Aristotle does not fit into any modern theory of mind. This point, however, is denied by those who take Sorabji's work to support a functionalist reading of Aristotle.[45] Howard Robinson argued that Sorabji's interpretation implies functionalism, and he argues for his rival (dualist) interpretation.[46] Around roughly the same time, Hilary Putnam, one of the first to articulate functionalism, took himself to be following in Aristotle's footsteps. For he borrowed Aristotle's language and claimed that what functionalists are interested in is form, not matter (to extend the application of the language, dualists are solely interested in form, and materialists solely concerned with matter).[47] Given the functionalists' aim to side-step issues of ontology, the focus is to find the form of the mind and not worry about whatever matter may constitute it. Putnam's connection of functionalism to Aristotle was more assertion than argument. But it inspired Martha Nussbaum to articulate a textual interpretation of Aristotle that casts him as a functionalist. Robinson again (1983) argued against the functionalist reading, and by pointing to the (putative) immateriality of the active intellect from *de Anima* III.5 and an analogy from *de Anima* II.1 likening the soul-body relation to a sailor in a ship, Robinson insists that Aristotle is a dualist.

Nussbaum and Putnam team up to defend their functionalist reading of Aristotle against its

formulation of what he takes to be Aristotle's philosophy of mind, but the controversy surrounding the nature of Aristotle's theory of sense-perception stems from the contents of a footnote. More on this in the following chapter.

[43] Sorabji, 1974 64.

[44] *Ibid*, 78.

[45] The first in this line is H. M. Robinson (1978) who is critical of this aspect of Sorabji's interpretation. Burnyeat (1991a and 1991b) too argues against this interpretation. We also find some taking this implication from Sorabji as a good thing. Cohen (1991), for instance, is inspired by Sorabji's interpretation and argues in support of a functionalist reading.

[46] Robinson (1978). See also his *Aristotelian Dualism* (1983) for further articulation of his view.

[47] Putnam 1973.

critics, most specifically Burnyeat's claim that Aristotle's conception of matter renders any philosophy of mind that he may have obsolete and untenable. Nussbaum and Putnam's article (1991) is both a direct response to Burnyeat's pessimistic interpretation and a further development of their earlier views. Again, the difference between Aristotle's hylomorphism and functionalism is drawn out. Aristotle's approach is much broader than functionalism insofar as functionalism is concerned with the mental, but Aristotle's hylomorphism applies to more than just *psuchê*. Indeed, they point out that if you deny any significant role of matter in *psuchê*, then you must deny it when it comes to artefacts like statues and shields as well.[48] From this Nussbaum and Putnam challenge the claim that Aristotle takes the explanation of life as given—i.e. that life is inexplicable—which is Burnyeat's thesis. Aristotle does not reject materialistic reduction by positing intentionality as primitive or by taking the fact of life and mind to be inexplicable, just because his treatment applies to all things, or "across the board to all substances, whether or not they have "mind" or even life".[49]

Nussbaum and Putnam bolster this with a detailed textual argument showing that Aristotle does indeed factor physiology into psychology.[50] It is from here that they defend their functionalist reading anew. The thrust of their interpretation rests in the idea that Aristotle stresses the organization of living beings in his treatment of *psuchê*. This organization is the form of living beings, an understanding of which is key to understanding the nature of anything, including the soul. Thus whereas Platonic Idealism focused too heavily on form, and Democritus' atomism too much on matter, Aristotle's middle ground avoids the pitfalls of each and enables an account of *psuchê* that is not hindered by ontological commitments.

Although Nussbaum and Putnam's seminal articulation of Aristotle's functionalism has garnered much attention, it does not flesh out the specifics of *what* it is about Aristotle's psychology that renders it functionalist in non-general terms. Chris Shields' version, however,

[48]This is in direct opposition (again) to Robinson's dualism (1983).

[49]Nussbaum and Putnam, 1991 30.

[50]Importantly, Nussbaum and Putnam find evidence throughout the *Parva Naturalia* to defend the physiological aspects of cognition. They argue that the *de Anima* alone is insufficient to be definitive on the matter for here Aristotle is concerned more with the abstract or structural matters of the soul and he has dealt with the physiology elsewhere, such as in the *de Motu*, *de Sensu*, etc., (1991, 36*ff*).

does just that and more: he argues for a much stronger thesis than Nussbaum and Putnam. He argues that Aristotle ought to be considered the "First Functionalist" in a paper of that title.[51]

Shields' argument is grounded in the claim that Aristotle holds a thesis of functional determinism which Shields formulates as:

> An individual *x* will belong to a kind or class *f* iff *x* can perform the function of that kind or class.[52]

So, to borrow Shields' example, if the function of a knife is to cut, then *x* is a knife just in case *x* can cut. Shields' textual basis for this reading stems mostly from *Meteorologica* 390a10-15, where Aristotle argues that things are defined by their function—anything that sees must be an eye (e.g.).[53] Not just any matter is suitable to see and thus be an eye, but the suitability is determined by the matter's ability to perform the relevant function.[54] Shields takes Aristotle's functional determinism to commit him to a notion of compositional plasticity; a compositional plasticity that enables multiple realizability. Shields finds evidence for this claim in the *Metaphysics* where he takes Aristotle to be arguing that although humans are realized in flesh and blood, as far as anyone has seen, there is nothing "hindering" it to be otherwise.[55] What is important for producing "humanness" is not flesh and blood but any functionally suitable matter. This applies to the mental as well. Shields claims that Aristotle's functional determinism "entails that whatever plays the functional role of a given mental state

[51] Shields 1990. Interestingly, in an earlier paper (1988), Shields argued that although it is plausible that Aristotle is a functionalist, he defends the idea that Aristotle is a "supervenient dualist", which is described in a way similar to functionalism. The soul is somehow ontologically dependent on the material body, but a particular *psuchê* is not dependent on the particular body that it stands in relation to. I am not sure if Shields would concede an inconsistency or even contradiction holding Aristotle to both a kind of supervenience and functionalism, or if his view ought to be seen as an evolution from one to the other (their similarities do allow this more charitable reading).

[52] Shields 1990, 21.

[53] Although Shields uses this passage to articulate Aristotle's functional determinism, Aristotle makes similar claims throughout the corpus. See, for instance, *Nichomachean Ethics* I 7 and *Politics* I 2.

[54] It must be noted that Aristotle does place restrictions on the material constitution of certain things. The special organs of sense, for instance, must be made in certain ways in order to perform their peculiar functions (see the following chapter for more). This does not run counter Shields' thesis for the material restrictions still could be realized in different ways. An eye e.g. must be transparent, but satisfying this criterion leaves room for various manifestations of eyes—there could be many different transparent things that enable sight.

[55] *Ibid*, 23. This reading of the text is a bit hasty. Aristotle could be making the epistemological claim that we do not know if humanness could be realized in something other than flesh and blood.

type will count as an instance of that state".[56]

Aristotle's definition of anger as "a certain sort of motion of such and such a body—or part or faculty [of a body]—by this on account of that" (403a26-27) is evidence of his functionalism for it is defined relationally in term of inputs and outputs. Thus Shields sees in Aristotle an explicit formulation of what he calls a "minimal functionalist theory": "that mental states are to be defined relationally, with reference to causal inputs, outputs, and other mental states".[57]

An aside: Aristotle's definitions of the various emotions in the *Rhetoric* could be employed by someone like Shields defending a functionalist reading for the minimal functionalist criteria are explicit. Here anger is defined as "a desire accompanied by distress, for conspicuous revenge for a conspicuous slight at the hands of men who have no call to slight oneself or one's friends" (1378a30-2).[58] On this account one is angry when certain mental states (desire and distress) are placed in the proper causal relation, not only with each other and with the appropriate triggers (inputs), but to the kind of behaviour that anger produces, *viz.*, revenge. Although one *could* use Aristotle's seemingly functional definition of the emotions as evidence for his functionalism, I think that this may be a bit hasty. The *Rhetoric* does not support a fully-fledged functionalism for two main reasons. First, we only see complex definitions for the passions, not other mental states, such as memory (e.g.), which may turn out to be irreducibly mental. Second, given the subject matter of the *Rhetoric* there is more than usual emphasis on the associated behaviour of the emotions-both to recognize what emotion one is in and to cause such emotions in one's audience (the rhetoritician's audience). There is thus reason to think that this treatment of the emotions is geared for the specific purpose of rhetoric and is not reflective of a considered metaphysical view.

Back to Shields' reading. He distinguishes between two kinds of functionalism, weak and strong. Strong functionalism requires specific conditions of non-circularity. For instance, if

[56] *Ibid.*

[57] *Ibid.* 25.

[58] Ἔστω δὴ ὀργὴ ὄρεξις μετὰ λύπης τιμωρίας [φαινομένησ] διὰ φαινομένη ὀλιγωρίαν εἰς αὐτὸν ἤ τι τῶν αὐτοῦ, τοῦ ὀλιγωρεῖν μὴ προσήκοντος.

one is functionally defining mental state *x*, then when state *y* is referred to in the definition of *x*, *y* too must be functionally defined but without recourse to any mental state. Not only is this required to avoid circularity, but it is also necessary to maintain the *topic neutrality* (that it contain no ineliminable reference to the mental) espoused by functionalism.[59] Shields entertains the idea that Aristotle is committed to the strong version as well as the weak (for the weak version is entailed by the strong). This claim is contentious and left quite unsubstantiated, for Shields points us again to Aristotle's definition of anger which is construed in non-mentalistic terms. Shields concludes from this example that Aristotle therefore is *inclined* towards strong functionalism. This is a significantly stronger claim than that made by Nussbaum and Putnam. Shields is taking Aristotle to be a full-fledged, card carrying functionalist—indeed, a *strong* functionalist. Nussbaum and Putnam, on the other hand, take Aristotle to be genealogically connected, one might say, to modern functionalism.

Problems with Functionalist Readings of Aristotle

One obvious problem with the functionalist interpretation is Aristotle's explicit acknowledgment that the capacities of *nous* can only be realized in something that is unmixed, separable, and impassible. The human active intellect cannot be housed in an organ similar to those of the senses because the scope of its objects is open-ended. Aristotle's treatment of *nous* is motivated by the idea that we can think all things.[60] This combined with the Plasticity Principle[61]—that an organ must be all of its objects potentially but none of them actually—means that *nous* must be unmixed, separable and unaffected in order to be plastic enough to become any object of thought upon cognition.[62] The plasticity requirements for *nous* are much more stringent than those of the senses, for the objects of *nous* are virtually

[59] *Ibid*, 28. If functional definitions rests on mentalistic definitions then there is an ontological commitment to the mental, and thus these functional definitions are not a part of a true, ontologically neutral, functionalism.

[60] Shields (1995) calls this Aristotle's Plasticity Requirement.

[61] The Plasticity Principle is articulated in the next chapter. The idea is that Aristotle takes as a principal requirement of both the organs of sense and thought, that they be all of their objects potentially, and none in actuality, prior to any act of cognition.

[62] See the following chapter for Aristotle's treatment of perception. The connection of the Plasticity Principle with *nous* is also made in the following chapter.

unlimited. Leaving the details of Aristotle's view about *nous* aside for a moment, it is important to note that Aristotle's restrictions about *nous* strain its ability to be multiply realized. That is, no thing that is mixed, affected, and un-separated can fulfill the requirements that enable *nous* to think all things. Thus, although Aristotle defines the emotions functionally, and even if we assume that his functional determinism commits him to either a weak or strong functionalism generally, the interpretation ceases when we run into *nous*. Or to put it another way, *nous* is multiply realizable, but only insofar as that in which it is realized is unmixed, separable, and unaffected. Perhaps the charitable way to put this is to say that *nous* has *constrained* realizability. Nonetheless, this hinders Aristotle from being a pure functionalist.

There is a further problem in attributing the multiple realizability of the mental to Aristotle, which comes out of his biological commitments. For Aristotle, species are fixed and eternal, and thus the form of each species too is fixed.[63] Excluding *terata*, progeny resemble their parents in form and in ability. Humans are the only actual species capable of rational thought, and given the fixity of species, none can develop or evolve from the set of existing species. Thus it may not be contradictory to Aristotle's psychology that there could come to be some other creature equipped with *nous*, but it does run counter to fundamental features of his biology.

Is Ackrill's Problem a Problem for Functionalists?

An important, if not necessary, requirement for functionalist readings is that the soul-body relation must be contingent in order for the multiple realizability thesis to hold. Opponents of functional readings point to what has been called "Ackrill's Problem" to argue that this contingency is impossible in Aristotle. In a famous paper on Aristotle's definition of *psuchê*, J. L. Ackrill articulated a contradiction that stems from Aristotle's hylomorphic treatment of the soul.[64] Aristotle states that the soul is the form of the body (412a20), and this informing is

[63]This point may be controversial. It is clear from the *Generation of Animals* II.1 that Aristotle does not think that individual members of species are not eternal for all animals perish. But individuals partake in the eternal as members of species (731b36) that are eternal and perpetual in the sense that things participate in the "male and the female principles" (732a 12). See also *de Anima* II.4, 415a27*ff*.

[64]Ackrill, 1973.

of an essential nature—unlike an artifact, a body can only exist apart from its form homonymously, or in name alone. This account seems to conflict with Aristotle's view of matter as potentiality, and with his account of matter from the *Generation and Corruption* (320a) as the substratum that undergoes generation and destruction in change. Matter persists in change—it is that which loses or gains form. If we apply this to the case of living bodies, then matter is that which loses and gains soul. But this cannot be the case if bodies are essentially ensouled. The apparent contradiction then, is that the body *qua* matter must be able to gain and lose form (in order for change to occur), and the matter of the body *qua* essentially ensouled cannot gain or lose form.

Ackrill's problem does pose a threat for functionalist readings, not because of the contradictory accounts of matter in artifacts and living beings, but with what it tells us about Aristotle's conception of the living body, *viz.* that it is essentially informed or ensouled. One possible way out of Ackrill's problem is to take Aristotle's definition of soul to be a collection of capacities or powers, an idea we have developed in the previous chapter. If by "essentially ensouled" we take Aristotle to mean that the living body must have the potential to perform some minimal number (one?) of psychic functions, then there is no commitment to which particular function it needs to exhibit. If we reject the idea that the soul is a *thing*, then the body is able to be essentially ensouled yet also able to lose some (but not all) of its psychic functions. Thus we may not have solved the apparent contradiction[65], but we may have opened the possibility for functional readings just because all that Aristotle is committed to is that bodies are able to do one thing that is typical of living things. It does not bind "the soul" to the matter that constitutes the body simply because the soul is not a thing properly speaking. Although my body (e.g.) is necessarily informed, meaning that I have the potential to sense, think, move around, etc., losing one of these abilities does not mean that I lose soul. Nor does it mean that any or all of these capacities are essential—I can lose the ability to see (e.g.) without ceasing to be myself, or to be alive. The soul-body relation is contingent on our

[65]Whiting (1991) argues for a solution to Ackrill's problem.

reading of Aristotle's definition of *psuchê* in the sense that there is nothing necessary about the specific function(s) that a living being enjoys. Thus, Ackrill's problem does not seem to be a problem for functionalists more than it is for any other reading.

Nonetheless, there is a problem with Aristotle's conception of the soul-body relation and the contingency that functionalism requires. On our definition of the soul there is no necessary connection between any particular soul and any particular body, in the sense that bodies can lack certain capacities, so a body lacking eyes does not lack soul. Thus, there may be no necessity tying this soul (taken as this set of capacities) to that body. But if we approach this from the side of the body, there does seem to be a necessary connection between a particular body with its specific organization and constitution and the capacities that it enjoys. A body, that is, organized in its specific way, necessarily has the capacities that it does until it dies or is harmed or destroyed. It is not contingent that for the most part all humans enjoy the same psychic functions. We all have the same modes of sense, nourishment, reproduction, etc. This is because most humans are built as humans should be, on Aristotle's view, and as such are granted the abilities that come with the kind of body that they have.

One could object here saying that this is all true, but what is important for functionalists is that Aristotle is aware of many different creatures, each with their own unique material constitutions, that enjoy similar psychic functions. All animals sense, for instance, despite the variations in animal physiology that we find in nature. Thus there is no necessary link between a given body and the ability to sense. And, one could argue further, we have no principled reason why this does not hold for all psychic functions.

The problem with this argument is that it is an appeal to popularity of sorts. Yes, animals, in all their various shapes and sizes, do enjoy the ability to sense. But it does not follow from the fact that many different bodies support the ability to sense that there is no necessity between these various bodies and the functions they enjoy. That is, the material constitution of each and every animal is such that it produces the abilities that animals have. Each animal is organized in a manner specific to the enabling of their psychic functions. In each case, the

specific organization and constitution of the body will necessarily produce certain psychic capacities.

And the converse also holds for if not properly organized or constituted the animal will lack some or all of its psychic functions. The idea is that Aristotle is strongly committed to a body being properly organized in order to be ensouled. Indeed, the soul is a by-product of a properly organized body. And the fact that many plants and animals have psychic functions does not mean that this body-soul relation is contingent. Rather, each case is specific such that each animal or plant must be organized in a specific manner to enjoy its particular psychic functions. Just as the nature of *nous* holds Aristotle to (at best) a constrained realizability, his commitment to the physiology of perception limits the nature of that which can be said to have soul.

The original functional readings of Nussbaum and Putnam are still quite influential and make up the dominant materialist interpretation of Aristotle. This treatment by no means exhausts the various positions on Aristotle's philosophy of mind. Michael Wedin (1988, 1989), for instance, argues that Aristotle espouses a brand of cognitivism. Since cognitivism is a species of functionalism, I think that his view is treated by our general discussion on functionalism. Others, including Caston (1992) and the early Shields (1988) hold Aristotle to a supervenience theory of the mental. Since this view is grounded in intuitions about the mental—*viz.* that it is fundamentally irreducible to the physical—I need not deal with these here. The thrust of my thesis is that Aristotle does not share in our conception of the mental; including certain aspects (i.e. intentionality) that motivate these readings, the truth of my thesis entails the falsity of these rival readings.

2.3 Where does this Leave Us?

Despite the various problems in taking Aristotle to hold some theory of mind or other, there does seem to be much consistency between Aristotle's hylomorphic treatment of *psuchê* and materialism, as we have seen from our treatment above. We must also be clear, however, of

one very important caveat. Claiming that Aristotle (or any other ancient) is committed to a current or modern philosophical position is misleading at best for two reasons. First, strictly speaking, as we saw in the previous chapter Aristotle could not adopt any of the positions that we have examined because of the Greek words in play do not map very tightly onto their English cognates: a "physicalist" in psychology, for example, in Greek, would just be someone who thinks that the soul is natural. And so on.

Second, although the lack of congruity between the English and the Greek terms is no reason to dismiss possible logical consistencies, there are serious risks of anachronism in endeavors of this sort. If we take Matson's argument, for instance, by teasing out one (very weak) connection between us and the ancients, he makes the claim that Aristotle holds an identity theory. Clearly one wants more textual evidence for such strong claims, for as it is presented Matson can easily be said to be reading the past through a lens favoring his interpretation. Now, if Matson were to provide more passages supporting a consistency between Aristotle and identity theory, his argument would be stronger, but would it make his approach less anachronistic? Does having more points of contact safeguard one's interpretation against anachronism? The answer to these questions is "no", for at best we assume that Aristotle shares our philosophical concerns: that he is asking the same questions, trying to explain the same phenomena, and shares our views about what constitutes an adequate explanation. The point here is that consistency between Aristotle and contemporary theories of mind should not be the principal criterion of interpretational adequacy. We should strive first to understand Aristotle in his own terms, and we should try to understand the larger explanatory scheme of his psychology in general, and then perhaps we may see how he compares to this or that theory in contemporary philosophy of mind.

Given all of this, what are we to make of Aristotle's philosophy of mind? Despite the superficial consistencies between Aristotle's account of soul and dualism, reductive materialism, functionalism, etc., it will be shown that any such resemblances stem from assuming that Aristotle's *explanandum* is the same as contemporary theories of mind. We will

see that Aristotle's primary concern is not with the *nature* of the mental as seemingly standing in opposition to the physical. That is, he is not worried about the apparent differences of kind between the physical and the psychological, between the bodily and the intentional, etc. Rather, he is primarily concerned with solving the puzzles involved, in the processes by which properties of things become properties of perceiving and thinking beings. Aristotle is not a dualist, materialist or functionalist for the simple reason that he is not concerned with the metaphysics of mind. His worries are epistemological: how to explain the acquisition of content; they are not metaphysical: they are not about the nature of content. Thus, despite the similarities between Aristotle's approach and materialism, for instance, it is wrong to cast Aristotle as a "materialist". Materialism is a view forged in opposition to something that is alien to Aristotle—a concept of the mental distinct from the natural realm—and thus he can no more be said to be a materialist (similarities notwithstanding) than he could an evolutionary psychologist.

Chapter 3

Perception, Thought, and the Plasticity Principle

3.1 Introduction

In this chapter we will begin to develop an interpretation of Aristotle's theory of cognition by examining his conception of the sensitive mean. Relatively little attention has been paid to the mean in perception, despite its being central to how Aristotle separates the sentient from the insensate and the merely sensitive.[1] As we will see, just as the mean works to allow homeostatic thermal regulation, it serves to regulate the unsensed, dispositional states of the organs of sense. This allows for perception, which is a deviation from the default state of the organs of sense that occurs when affected from without. The upshot of this interpretation is a literalism—the view that the organs really and literally become their proper objects upon perceiving them—and it strives where others fail. Taking the most biting objections against literalism head on, we defend this view and show that Aristotle's explanation of perception needs no more than physiology: a properly organized body disposed with certain abilities. The mean is central to understanding the special kind of alteration that is both unique to and constitutive of perception.

From here, a connection between perception (*aisthêsis*) and thought (*noêsis*) is drawn which focuses on the functional parallels between them. Both perception and thought, that is, work by the same principle, the Plasticity Principle: the organs of each are none of their objects in actuality prior to perception or thought, but they are all their objects potentially. The relation between object and cognizer in the process of form reception is an isomorphism, and I argue that this is to be taken in a strict sense which denies any kind of representationalism or theory of intentionality to Aristotle.[2]

[1]The distinction being made here follows Aristotle's separation between things that perceive upon being affected by sensible objects and those, like plants, which, while being affected by objects do not come to perceive them, and things like rocks that are not sensitive at all.

[2]The intended use of this technical vocabulary will be made explicit below.

3.2 The Sensitive Mean

No one denies that the sensitive mean (*mesotês*) is central to Aristotle's theory of sense-perception. Commentators both ancient and modern at the very least acknowledge its importance in passing. J.L. Beare set the modern tone by noting: "For Aristotle this doctrine of *mesotês* is of cardinal importance in the theory of sense-perception. Without understanding it we must fail to grasp his explanation of how *aisthêsis* apprehends form without matter."[3] What is baffling is that Beare's comment notwithstanding, scant attention is paid to this principal aspect of Aristotle's theory of sensory cognition.[4] Further, while affirming the centrality of the sensitive mean to Aristotle's theory of sense-perception, Beare's insight ends there. The sensitive mean does not figure in any further explanation of either Aristotle's general theory of perception, or in the mechanics of sensory cognition. If we are to take Beare's claim seriously, which we should given that Aristotle is explicit about the central role of the mean in perception, then any adequate interpretation of Aristotle's theory of sense-perception must do more than merely pay lip service to the sensitive mean in general terms. Needed are detailed analyses of *what* the mean is, of *how* it works, or what it does that gives it its special status in Aristotle's theory.

This chapter is a detailed analysis of Aristotle's treatment of the mean[5]: the nature of the mean (what it is), how it works, and the role it plays in Aristotle's systematic treatment of sense-perception. It will become clear that the mean serves as Aristotle's condition of sentience—that which separates animals from plants and inanimate objects. Each of the

[3]Beare 1906, 232.

[4]There have been only two scholarly articles treating the topic specifically: Slackey (1961) and Brennan (1973). More striking is that manuscript length treatments rarely tend to give the mean more than merely a cursory treatment. Hicks (e.g.) spends only two paragraphs discussing the mean (1907, 414). The influential works of Ross and Hamlyn are guilty of the same (their respective takes on the mean is discussed below), which is symptomatic of the historical trend to merely mention the mean in passing. Given that the mean is central to Aristotle's theory of sense-perception, one would expect the literature to be riddled with varying accounts of it. Moreover, since understanding the mean is critical to understanding *aisthêsis* vis-à-vis the relation between matter and form, one would think that the mean would be a key battleground for the entrenched debates and controversy that stem from this relation.

[5]I make no claim to be giving an exhaustive account of the mean as it appears in its various guises throughout the corpus. My focus here is the sensitive mean and any possible connections between the mean as we see it in Aristotle's psychological works and that of the *Ethics*, for instance, is orthogonal to this inquiry.

special organs of sense is so constituted that its objects fall on a range between contraries such as white and black that sandwich the discriminating mean. So much is obvious from straightforward exegesis. What is not clear is *why* the mean works as Aristotle's condition for sentience, and *what* it is about the mean that moves Aristotle to takes pains to set a place for it on the sensitive range.

Prior to delving into analyses of the nature and function of the mean, it will serve us well to reflect on Aristotle's motivation for using the mean in his theory of perception. This motivation stems from Aristotle's fascination with a crucial difference between plants (and inanimate objects) and animals. In many places throughout the corpus Aristotle is very much concerned with how it is that warm-blooded animals maintain equilibrium in temperature. More specifically, he takes great pains to explain how living things, which are also things that produce heat, do not overheat. Thus we get much explanation of how refrigeration works in animals.[6] From these various passages it becomes evident that what Aristotle is trying to explain is the homeostatic nature of animals with respect to temperature. That is, he works to give an account of how animals maintain roughly a static temperature despite being continuously heated.

Be it due to metabolic processes or basking under the mid-day sun, being alive provides animals with plenty of sources of heat. Thus the animal body needs a mechanism of temperature control, otherwise animals, humans included, would suffer ever-increasing body temperatures. The corpus contains a number of accounts of the various processes that bring about heat in the animal body. Accordingly, there is much explication of how bodies are able to refrigerate or cool off.[7] Aristotle spends much time in various works discussing respiration, which is directly connected to regulating body heat (420b23). Similarly, in the *Parts of Animals*, for instance, Aristotle elaborates the physiology of the brain to explain that it functions primarily as a radiator. He writes:

> So far then this much is plain, that all animals must necessarily have a certain

[6]See *de Respiratione* 470a7*ff*, 477a11-31 (chapter 19), 480b18*ff*.
[7]See *de Sensu* 5 444a23, and *Meteorologica* 11 389a26*ff*.

> amount of heat. But as all influences require to be counterbalanced, so that they may be reduced to moderation and brought to the mean (for in the mean, and not in either extreme, lies their substance and account) (*Parts of Animals* 652b15*ff*)[8]

For our purposes the exact physiology of how brains work as radiators is not important. What is interesting, however, is that the purpose of the brain is to dissipate accrued heat in order to return body temperature back to the mean. The mean in this case is the average body temperature, or the not-too-hot and not-too-cold state that animals tend to find themselves in. What is also important is that this mean state is not merely the state in which animals find themselves more often than not. It is the state in which they *strive to be*.

The mean is central in the brain's activity of thermal regulation, for it is its end state—that to which its function aims. From this a crucial difference between plants and animals becomes evident. It takes brains to regulate heat. It does so, however, only insofar as brains function as radiators striving to maintain a mean body temperature. Although plants lack brains, the reason why this precludes them from the ability to regulate their temperatures is due to their lack of a mean. This should be no surprise, for Aristotle makes this claim explicitly:

> This explains also why plants cannot perceive, in spite of their having a portion of soul in them and being affected by tangible objects themselves; for their temperature can be lowered or raised. The explanation is that they have no mean, and so no principle in them capable of taking on the forms of sensible objects but are affected together with their matter. (*de Anima* 424a32-b4)[9]

Plants are ensouled, living beings, yet they fall into the same category as inanimate objects in terms of how they are affected by heat. What Aristotle calls an explanation here—that plants cannot perceive because they lack the mean—seems to be no explanation at all, for it

[8] Ὅτι μὲν οὖν θερμότητος τὰ ζῷα μετέχειν ἀναγκαῖον, δῆλον ἐκ τούτων. Ἐπεὶ δ᾽ ἅπαντα δεῖται τῆς ἐναντίας ῥοπῆς, ἵνα τυγχάνῃ τοῦ μετρίου καὶ τοῦ μέσου (τὴν γὰρ οὐσίαν ἔχει τοῦτο καὶ τὸν λόγον, τῶν δ᾽ ἄκρων ἑκάτερον οὐκ ἔχει χωρίς).

[9] καὶ διὰ τί ποτε τὰ φυτὰ οὐκ αἰσθάνεται, ἔχοντά τι μόριον ψυχικὸν καὶ πάσχοντά τι ὑπὸ τῶν ἁπτῶν (καὶ γὰρ ψύχεται καὶ θερμαίνεται)· αἴτιον γὰρ τὸ μὴ ἔχειν μεσότητα, μηδὲ τοιαύτην ἀρχὴν οἵαν τὰ εἴδη δέχεσθαι τῶν αἰσθητῶν, ἀλλὰ πάσχειν μετὰ τῆς ὕλης.

remains unsaid what it is about the mean that allows for perception. This has been received as a cryptic remark since antiquity, and the reason, I contend, is that it reveals ignorance about just what this mean is and what work it does for Aristotle in his theory of sense-perception. Understanding the nature of the mean, then, is crucial to understanding Aristotle's explanation. And because Aristotle's explanation works as his criterion to distinguish the sentient from the merely sensitive, coming to grips with the mean is integral to an interpretation of Aristotle's theory of sensory cognition. What follows is an attempt at just that: understanding the nature of the sensitive mean and its role in Aristotle's psychology. In the next section, we develop an argument showing that the textual evidence favours a richer understanding of the nature of the mean than has been appreciated by commentators both ancient and modern. The sensitive mean is a product of sense-organs properly constituted so as to be able to perceive their respective objects or sensibles. Further, the mean enables the homeostasis required for organs to perceive veridically. That is, the mean enables the organs to return to their neutral mean states prior to and after each act of sensation thereby allowing subsequent perceptions.

3.3 The Plasticity Principle

To begin this analysis we must keep in mind the big picture of Aristotle's project in the *de Anima* where we are introduced to the sensitive mean. The majority of Book II consists in detailed descriptions and explanations of the mechanics of the special organs of sense. I say "mechanics" because Aristotle's analysis is physiological—describing the material constitutions of the organs of sense in a manner such that he can explain how they come to take on the properties of their proper objects—and further, as our discussion below brings to light, sensory cognition amounts to the change peculiar to the properly constituted organs of sense.

Aristotle treats each of the senses in a like manner. Each sense works through a medium: the transparent for sight, air for smell and hearing, water or saliva for taste, and flesh for the

sense or senses of touch. Each sense also has a proper object or sensible: that which it alone can discriminate.[10] Each sense finds its proper sensibles falling on a range bound by a pair of opposites or contrary qualities (426b8). For instance, the contraries of sight are white and black, and those of taste are bitter and sweet. The proper objects which come within the purview of a given sense exhibit some quality such as colour or taste, and are manifest in varying degrees. It is clear that Aristotle holds that the sensible ranges are connected to the organs of sense. He writes:

> Each sense then is relative to its particular group of sensible qualities: it is found in a sense-organ as such and discriminates the differences which exist within that group (*de Anima* 426b8-10)[11]

Colour perception is to behold white or black, or any of the various shades in between these opposites, and the locus of the sense of sight is in the eye. Further, it stands to reason that the sensible ranges too are located in their respective organs of sense. The sense and its sensible range are in the organ. Thus in the tongue (e.g.) we find the range between the bitter and the sweet, and to taste is to perceive either opposite or any quality in between, and similarly for the other senses. Corresponding to the single range of each special sense is a pair of opposites, located in the organ of sense.

In order to explain Aristotle's account of perception, we must explain what he intends by saying "what has the power of sensation is potentially like what the perceived object is actually" (418a3), which he qualifies further by adding that senses must be "actually neither but potentially either opposite" (424a7-9).[12] In terms of the sensitive range, a sense is potentially any of its sensibles that fall on the span between opposites while actually being

[10] Touch is a special case in that it has several proper sensibles-hot/cold, rough/soft, wet/dry-and thus Aristotle proposes in *de Anima* II.11 that there must be more than one organ of touch, and this lies under the skin, and thus, technically speaking, there are several senses of touch.

[11] ἑκάστη μὴν οὖν αἴσθησις τοῦ ὑποκειμένον αἰσθητοῦ ἐστίν, ὑπάρχουσα ἐν τῷ αἰσθητερίῳ ᾗ αἰσθητήριον, καὶ κρίνει τὰς τοῦ ὑποκειμένου αἰσθητοῦ διαφοράς.

[12] τὸ δ᾽ αἰσθητικὸν δυνάμει ἐστὶν οἷον τὸ αἰσθητὸν ἤδη ἐντελεχείᾳ (418a3). The full sentence of 424a7-9 is "As what is to perceive white and black must, to begin with, be actually neither but potentially either" (καὶ δεῖ ὥσπερ τὸ μέλλον αἰσθήσεσθαι λευκοῦ καὶ μέλανος μηδέτερον αὐτῶν εἶναι ἐνεργείᾳ, δυνάμει δ᾽ ἄμφω).

none. Aristotle is explicating a principle at the heart of his theory of perception here. We can formulate it thus:

> ***The Plasticity Principle***: for any given sense, its organ must be such that it *a*) is potentially all of its objects, and *b*) can actually be none (prior to becoming any of its sensibles)

It is clear that the organ must potentially be any of the objects on its range simply because it has the power to perceive any and all of these qualities. But why does Aristotle require that it has to be none of the qualities in actuality prior to sense?

The reason is that if a sense is actually some quality like red (e.g.), then it could not properly perceive any other colour. In order to be able to properly perceive the sensible objects of sight, the eye cannot actually be any colour; it has to be transparent. Aristotle's idea here is that if the sense of sight were red prior to perceiving some other colour, say white, the perception of white (if even possible at all given that the sense is actually red) would be tainted by red such that one would not be able to perceive white veridically. White in this case would not seem like white, but would come off as pinkish. As Aristotle puts it, if the sense were red it would not be "fitted to discern" because it could not "put itself in place of the other", for the reason that as red it already is an "other" (424a5*ff*). The sense must not have any quality in actuality prior to sensing in order to be able to veridically discern its objects. Thus we get the two-fold criteria of the Plasticity Principle: being potentially all proper objects while actually being none. Because Aristotle makes this point repeatedly, it should not be ignored, and any adequate reading of Aristotle here must take account of this plasticity, for it is fundamental to the ability to sense.[13]

An organ of sense must be materially constituted so as to be capable of taking on the properties of any of the sensibles in its range. Aristotle's treatment of each sense in the *de Anima* gives us reason to think that this is the case. The eye is transparent (e.g.) because colour's effect is to change the transparent; the ear is built with a tympanic membrane because

[13] See also (e.g.) 422b14-16 and 423b31-424a7.

the effect of sound is to affect air, and so on. But the *de Anima* is not the only place where Aristotle discusses the relation between the material constitution of organs and perception. In the *Generation of Animals*, he explicitly discusses how the material constitution of the eye affects visual perception. Just as the amount of moisture in an eye is a determining factor in the eye's colour (779b25), so too is the amount of moisture connected to an eye's ability to see. Aristotle writes:

> Blue eyes, because there is little liquid in them, are too much moved by the light and by visible objects in respect of their liquidity as well as their transparency, but sight is the movement of this part in so far as it is transparent, not in so far as it is liquid. Dark eyes are less moved because of the quantity of liquid in them. For the nocturnal light is weak; at the same time also liquid is in general hard to move in the night. (*Generation of Animals* V.1, 780a1-7).[14]

Moreover, the eye's constitution determines how well its object is perceived, or if it is perceived at all.[15] An eye that is too liquid is materially ill-equipped to perceive properly because it is more difficult for it to be moved by its objects, as is the case with dark eyes and night blindness (780a12). Conversely light or blue eyes are too readily moved by bright objects, which lead to improper perception. Indeed, if too dry, an eye will develop cataracts, which is a permanent change in the organ's constitution and ability to perceive (780a14*ff*). Thus, the ability for sight, especially optimal sight, is directly related to the material nature of the eye, namely, the amount of liquid of which it is constituted. As we will see below, organs are built in ways that do more than merely enable the perception of their objects; organs are

[14] τὰ μὴν γὰρ γλαυκὰ δι᾽ ὀλιγότητα τοῦ ὑγροῦ κινεῖται μᾶλλον ὑπὸ τοῦ φωτὸς καὶ τῶν ὁρατῶν ᾗ ὑγρὸν καὶ ᾗ διαφανές. ἔστι δ᾽ ἡ τούτου τοῦ μορίου κίνησις ὅρασις ᾗ διαφανὲς ἀλλ᾽ οὐχ ᾗ ὑγρόν. τὰ δὲ μελανόμματα διὰ πλῆθος τοῦ ὑγροῦ ἧττον κινεῖται. ἀσθενὲς γὰρ τὸ νυκτερινὸν φῶς· ἅμα γὰρ καὶ δυσκίνητον ἐν τῇ νυκτὶ ὅλως γίγνεται τὸ ὑγρόν.

[15] The material constitution of organs will factor heavily in the debate taken up in the next section. Myles Burnyeat has argued that these movements and the material constitution of the organs do not constitute perception, but are rather necessary "standing material conditions" (1991b 413). However, as Caston (2005 288) points out, given that the eye is affected by its objects in both respects—insofar as they are moist and insofar as they are transparent—these cannot merely be the standing material conditions of perception but must factor into the perception itself.

materially constituted to be able to undergo the change of quality that amounts to perception.

When not engaged in perception, organs tend to be in a neutral state. Aristotle uses the mean to describe the organs in their potential states—the states in which organs tend to be prior to and after taking on any given quality on the sensitive range. There is some position, that is, in between the pair of opposites that is the mean state of the organ. Furthermore, the mean state is neutral or unsensed. Aristotle writes:

> That is why we do not perceive what is equally hot and cold or hard and soft, but only excesses, the sense itself being a sort of mean between the opposites that characterize the objects of perception. It is to this that it owes its power of discerning the objects in that field. What is in the middle is fitted to discern; relatively to one extreme it can put itself in the place of the other. (*de Anima* 424a3-7)[16]

It is because of the neutral and insensible nature of the mean that an organ is capable of receiving the forms of any sensible that falls on its range.[17] The organ's material constitution is what allows this to happen. The tongue (e.g.) is built such that it can take on any of the qualities on the range between the bitter and the sweet. Somewhere in between, however, there is the mean which is neutral in that, although properly speaking it is a sensible as all else on the range, it goes undetected, for it is the default state of the organ, or the state of the organ when not engaged in active perception. The mean state is necessary for the perception of sensible objects. What we perceive are deviations from the mean, and an organ "owes its power of discerning the object in [its] field" to the mean (424a6). If the tongue were to come

[16] διὸ τοῦ ὁμοίως θερμοῦ καὶ ψυχροῦ, ἢ σκληροῦ καὶ μαλακοῦ, οὐκ αἰσθανόμεθα, ἀλλὰ τῶν ὑπερβολῶν, ὡς τῆς αἰσθήσεως οἷον μεσότητός τινος οὔσης τῆς ἐν τοῖς αἰσθητοῖς ἐναντιώσεως. καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά. τὸ γὰρ μέσον κριτικόν· γίνεται γὰρ πρὸς ἑκάτερον αὐτῶν θατέρον τῶν ἄκρων.

[17] Some thinkers place the neutral mean outside of the range between contraries. Myles Burnyeat, for instance, admits that the transparent is what enables any given colour to be taken on or perceived. But he also holds that "transparency is not a quality on the same range as green and red. It is a neutral state, which enables the eye to be receptive to all the differences in the colour range" (2002, pp 30). Burnyeat is propounding the thesis that perception does not involve any material activity, and thus he must put transparency outside of the range for the range is the locus of change (more on Burnyeat's view and the problems therein below). Burnyeat, however, takes this for granted. He does not support his claim about transparency, being outside the range.

into contact with something having the exact same taste as itself, for instance, it would actually taste like nothing at all for there would be no change in the organ from its mean state. But because it is neutral, a sense is moved when affected by any object that falls in its ken, thereby coming to perceive any of its objects. To put it quite paradoxically, means, as neutral states, are un-sensed sensibles; indeed, they are insensible sensibles![18]

Now this reading of the sensitive mean may, at first glance, come off as being incoherent or even inconsistent.[19] On the face of it, it seems as is the Plasticity Principle requires that no form be actualized in the organ in order to allow for veridical perception. But at the same time, the mean state, although neutral, falls on the range of qualities and is thus the organ in the this state must be some actualized form. This apparent inconsistency, however, does not trouble the reading of the mean developed above. The mean, neutral state of an organ of sense is an instantiated form but this does not hinder subsequent veridical perception. The transparent, for instance, is an actualized form *qua* being transparent, for the transparent falls on the sensitive range between the contraries white and black. But the transparent is not a proper sensible of sight, and thus although it may itself be a form, its actualization does not violate the Plasticity Principle for what is required of the Principle is merely that the organ not be any of its objects in actuality. The transparent as a neutral, mean state, is itself not perceived, although it is an actualized quality stemming from the material organization of the eye required if animals are to perceive the range of colours.

The neutral aspect of the mean state should come as no surprise given Aristotle's commitment to the Plasticity Principle. The mean state must be neutral in order to allow for the perception of the objects of perception. On the Plasticity Principle, the mean is neutral because the sense cannot be any quality prior to actually taking on a quality, and it must be all of its objects potentially. Neutrality is thus implied by the Principle. Furthermore, the Plasticity Principle requires that the organ return to the mean state after any given act of

[18]The view that follows from this reading is that there is a real change in the organ upon sensation, which favours what has been dubbed a literalist interpretation. This topic is the focus of the next section and thus, I will pick up this discussion below.

[19]This worry was brought to my attention by John Nicholas.

perception. If the eye is not transparent, then the eye will not perceive its objects veridically. Thus upon being affected organs undergo the qualitative alteration required to perceive any of their proper objects. But since any subsequent perceptions also require neutrality in order for veridical perception, organs must strive to return to their mean states after being affected.

Just as the brain works to maintain a static body temperature despite fluctuating internal and external sources of heat, the organs of sense too work as homeostats to maintain the position of potentiality—the mean state—required for perception. Common to both is the mean, which marks the default and ideal state, all things being equal.

The mean, then, is the neutral or insensible state of the organs of sense prior to and after sensing, and this applies to all senses in a like manner. That is, just as there is an unsensed neutral state in the case of touch, so too are there unsensed states in the other senses. This is a controversial point, for the majority view in the tradition has been to think that this unsensed aspect of the mean state applies only to the sense of touch. Most recently Sheilah Brennan has argued that, while Aristotle's use of *mesotês* is similar across varied contexts, only in the case of touch is the mean state an unsensed quality.[20] Brennan is but one in a long line of those denying a parallel account of the insensate mean.[21] It is in this vein that Hamlyn claims that in order for touch to feel hot it must be sufficiently cold, and to feel cold it must be sufficiently hot. Hamlyn sees no problem in positing a neutral quality to the sense of touch, for this fits with common sense. Admittedly, however, Hamlyn fails to see how this can apply to any sense other than touch.[22]

Using touch as a paradigm case is responsible for the difficulty in seeing how parallelism applies to each of the senses. Indeed, if we take the example of touch as our basis, then we force statements such as: if the organ of touch must be sufficiently cold in order to sense heat, then it follows by analogy that the organ of sight must be sufficiently white in order to sense

[20]Brennan 1973.

[21]Thomas Slackey (1961) seems to be the only commentator maintaining a parallelism in Aristotle's account of the unsensed mean. However, Slackey's generalization needs substantiation. Furthermore, his treatment does not consider the role of the mean in the nature of the change unique to sense-perception.

[22]Hamlyn 1968, pp. 112.

black, or the organ of taste must be sufficiently sweet in order to taste bitter, etc. Clearly, phrased in this manner, parallelism seems quite an uncharitable reading of Aristotle for his account becomes implausible and absurd. But this is particularly problematic only because we have reason to think that Aristotle wants a parallel account, for he maintains:

> As what is to perceive white and black must, to begin with, be actually neither but potentially either (*and so with all other sense-organs*), so the organ of touch must be neither hot nor cold. (*de Anima* 424a10)[23]

So Aristotle quite explicitly holds a parallelism. Moreover, he is also explicit that the Plasticity Principle applies univocally across the board, and given that the Principle implies neutrality, we have yet another reason to think that Aristotle is committed to this parallelism. What we must do, then, is try to understand how this parallelism applies.

Worries in applying neutrality across the board are appeased simply by rephrasing our explication of the mean and its role in sensory perception. The guiding principle here is not that the mean has to be cold in order to sense heat as Hamlyn would have it, but simply that the neutral state of an organ must be such that it is potentially that which any of its proper sensibles are actually. The organ of flesh must then be sufficiently cold to sense heat merely in the trivial sense that what is neutral or insensible is not hot (nor any other quality). Hamlyn's point, then, should be restated to convey that the organ of touch must be sufficiently not-hot in order to perceive heat, just as it must be not-cold in order to perceive cold. Similarly, it is not that the eye has to be white in order to perceive black; it simply cannot be black. In other words, the eye, in order to be able to perceive any of its sensible objects, must abide the Plasticity Principle: it cannot be any colour in actuality and must be all colours potentially. Mean states are qualities, but they are qualities which we are unable to discriminate simply because they are the default states of the organs of sense. Naturally, the mean in vision is the transparent; in touch, body temperature; and so on. Thus, if we think of the neutrality of the

[23] καὶ δεῖ ὥσπερ τὸ μέλλον αἰσθήσεσθαι λευκοῦ καὶ μέλανος μηδέτερον αὐτῶν εἶναι ἐνεργείᾳ, δυνάμει δ' ἄμφω (οὕτω δὲ καὶ ἐπὶ τῶν ἄλλων), καὶ ἐπὶ τῆς ἁφῆς μήτε θερμὸν μήτε ψυχρόν.

sensitive mean as an unsensed property, Hamlyn's worry dissipates. Interestingly, sense-perception, on this account, is simply the perception of change—change in the respective sensible ranges that the special organs of sense are materially constituted to perceive.[24]

Let us bring our discussion of the mean together with Aristotle's fascination with homeostasis and his explanation of the difference between the sentient and the merely sensitive, or between animals and plants. The mean marks a functional difference between plants and animals, one which stems from the physiology of organs (including brains). Plants lack organs of sense, but the crucial element is not merely the possession of organs; it is having organs that are functionally homeostatic. Aristotle's solution is physiological, and in order for the Plasticity Principle to work, only a physiology of a certain sort will enable the affection from without that amounts to perception. Aristotle's mark of sentience is having a mean; a homeostatic mean which allows thermal regulation and the plasticity required for the qualitative affection peculiar to perception.

If sensitive ranges are "in the organ" then we are coming close to reading Aristotle's account of perception in purely physiological terms. That is, a full account of Aristotle's theory of perception is had by explaining how the material constitution of an organ equipped with a mean is able to take on the qualities of its proper object. Aristotle does not posit any cognitional or intentional elements in his account of sensory cognition. In what follows then we will assess Aristotle's theory of sensory cognition vis-à-vis our treatment of the mean. The nature of the mean is such that the perceptual change is a real change in the organs of sense, and it is also a literal change: the eye literally becomes red when seeing red things. But the literalism consequent on our fleshed out notion of the mean is unlike those that have come before. We will develop from it a theory of the alteration unique to perception in a way that puts the standard worries with literalism to rest.

[24] This is a good consequence because we know that this is what Aristotle holds, as we have seen above (in the passage from 424a3*ff*).

3.4 Aristotle's Mean Literalism

In what was to become a highly influential paper, Richard Sorabji is considered to have started the debate that has consumed scholarship on Aristotle's psychology since.[25] Sorabji takes a literal reading of Aristotle's claim that in sense the perceiver becomes *like* the object perceived. We are aware of seeing a red rose (e.g.) because the common sense simply sees the eye which has become red from being affected by the red rose. This forms the basis of a family of interpretations that have been dubbed literalisms. Common to all literalisms is the commitment to the idea that the organ takes on the property of its object literally and in the same manner as in the object.[26] The quality red is identical in the eye and in the tomato (e.g.). Literalisms differ on the formal and material roles involved in this process.[27]

Sorabji's initial formulation of literalism, and all subsequent versions of it, has met resistance from Myles Burnyeat, who is a champion of what has come to be known as the spiritualist interpretation. Burnyeat argues that whether or not there are any physiological processes involved in the organs of sense in any given act of sensing, these processes are at most necessary conditions for perception, but do not amount to perception itself. Burnyeat and other spiritualists agree with the literalists that perception is indeed a change, but they hold that this change is purely cognitional or intentional. Spiritualists then, take themselves to be in opposition not only to literalisms, but to any materialist or physiological theory of sensory cognition.

The last few decades have been host to several varieties of spiritualism. We need not, however, get into much detail on the variations of the species of this interpretation, for I will paint my argumentative picture in broad strokes such that it will apply to all positions in the spiritualist camp. My argument has two parts. The first is a positive argument for a new brand of literalism, *viz.* the literalism that falls out of our treatment of the mean. I will call this

[25]See Sorabji's "Body and Soul in Aristotle" (1974).

[26]For examples of literalism, see Thorp (1980), and Everson (1997).

[27]A full treatment of the variegated positions on both sides of the debate falls outside the purview of this essay. See Caston (2005) for a lucid and extensive survey of the various positions of the debate.

"mean literalism". The second part is both negative and positive. I show how a mean literalism can adequately deal with the major problems that afflict all other versions of literalism. This is thus another positive reason for literalism, and it works in part to take the intuitive appeal out of spiritualism in its various versions.

Our discussion up to this point justifies the claim that there are physiological processes involved in perception. We have not yet determined whether these processes amount to literal changes in the organ and whether these changes are constitutive of perception.[28] There is good reason to think that Aristotle maintains a literalism, for it is the only way to make sense of a peculiar passage found in *de Anima* II.8. In describing the reasons why the ear is built such as it is—with its spiral structure, tympanic membrane, etc.—Aristotle says that ears are affected by motions imparted to the air by other objects. Upon affection the outer membrane of the ear drum is moved, causing movements in the chamber of the inner ear which are then perceived as such. We have reason to think that aural perception is identical with the motions of the ear, and this reason is that if one is deaf one's ear does not reverberate. He writes:

> It is also a test of deafness whether the ear does or does not reverberate like a horn; the air inside the ear has always a movement of its own, but the sound we hear is always the sounding of something else, not of the organ itself. That is why we say that we hear with what is empty and echoes, viz. because what we hear with is a chamber which contains a bounded mass of air. (420a14-19)[29]

The ear has a ring to it because it is in constant movement. It has a constant motion which is the product of its nature to be able to sense sounds, and it is constantly affected from without by motions in the air. But we do not perceive the undisturbed movement of the ear (i.e. the natural state of the ear or the ear prior to sense) because we are accustomed to it; it is the insensible mean state of the ear. It is thus movement other than this that we perceive, or

[28] We will return to the latter issue in the following chapter.

[29] ἀλλ᾽ οὐ σημεῖον τοῦ ἀκούειν ἢ μὴ τὸ ἠχεῖν τὸ οὖς ὥσπερ τὸ κέρας· ἀεὶ γὰρ οἰκείαν τινὰ κίνησιν ὁ ἀὴρ κινεῖται ὁ ἐν τοῖς ὠσίν, ἀλλ᾽ ὁ ψόφος ἀλλότριος καὶ οὐκ ἴδιος. καὶ διὰ τοῦτό φασιν ἀκούειν τῷ κενῷ καὶ ἠχοῦντι, ὅτι ἀκούομεν τῷ ἔχοντι ὡρισμένον τὸν ἀέρα.

deviations from this insensible state of the ear that amounts to perception. We hear not the sound of our ear (the organ) but the sounding of something else. This test for deafness supports literalism because we come to know that someone is deaf if their ear is not actually sounding. Just as one could (at least in principle) see the whiteness in the eye of someone beholding Diares' son, an otologist testing for deafness could hear the sounds being perceived by a properly functioning ear. But the otologist hears nothing when nothing is being perceived.[30] That is, the otologist hears nothing when the patient perceives nothing assuming that the natural ring in her ear is the same as that in her patient's ear. If all human ears are built in a like manner and are functionally equivalent, then it stands to reason that the otologist would hear only the sounds caused by motions external to her patient's ear. She hears nothing when the patient is deaf because the patient's ear is not making any sound.[31]

The main reason that we should think that the change in the organs is a literal change is simply that it is the most straightforward way to read Aristotle's claim that in perception the organ "becomes like the object" (417a20, 418a5-6). The organ becomes *like* its object when it takes on the relevant quality of the object. The eye is like the red tomato that it sees in the straightforward sense that it too is red. In terms of the Plasticity Principle, the organ is potentially what its objects are in that it is able to actually become any of its objects. This is not merely the easiest way to understand what it is for an organ to become like its objects, it is the only plausible way.

Accounting for this likeness is something that the spiritualists cannot accommodate, and

[30]Another passage that is best read through a literalist's lens is *de Anima* II.10 where Aristotle notes that the physical alteration of a sick person's tongue (being too moist) alters her ability to taste. Furthermore, the sick taste of the tongue becomes added to any subsequent taste such that all tastes are accompanied or tainted by the taste of sickness itself. And this is all because a sick tongue cannot become sweet without escaping its sickness. In terms of the Principle of Plasticity we can say that a sick tongue does not function properly just because the state from which all perceptions are deviations from in not neutral but tainted with the sickness. See 422b1*ff*.

[31]Further evidence of Aristotle's commitment to both literalism and the Plasticity Principle is found in *de Sensu* II where he writes: "For the organ of smell is potentially that which the sense of smell is actually; since the object of sense is what causes the actualization of each sense, so that it must beforehand have been potentially such and such". (438b21*ff*) ῾ὸ γὰρ ἐνεργείᾳ ἡ ὄσφρησις, τοῦτο δυνάμει τὸ ὀσφραντικόν· τὸ γὰρ αἰσθὴτον ἐνεργεῖν ποιεῖ τὴν αἴσθησιν, ὥσθ᾽ ὑπάρχειν ἀναγκαῖον αὐτὴν δυνάμει πρότερον. The link between the Plasticity Principle and literalism is made explicit here. The organ of smell is potentially what the sense is actually. Assuming that Aristotle is trying to give a parallel account for all of the modalities of sense, which we have made the case for above, then the organ is potentially the actualization of sense.

which they conveniently omit from their accounts. Moreover, it is not clear if a spiritualist can account for this likeness. The manner in which the spiritual or intentional form is like the form as it is in the object is unclear. Spiritualists must maintain that the form is neither qualitatively nor quantitatively identical. If “like” is not taken as identity, it is unclear in what sense it is to be taken. Furthermore, if the spiritualist reading is right, then the intentional form is unlike anything else in nature[32], because the process of sensory cognition essentially becomes a process of metaphysical alteration on this reading (metaphysical in the contemporary sense). Thus in this sense, cognized forms, in being “spiritual”, are utterly unlike their non-spiritual objects. It is not clear how we can maintain a spiritualist reading while holding that cognized forms are like the forms in the objects.

The analysis of the mean in this chapter supports a physiological interpretation just because the organ’s material constitution is the determining factor in the kinds of physiological changes that it can undergo, and correspondingly, the determining factor in the objects that it can perceive. The eye is transparent just because the nature of colour is to affect the transparent, and the eye is thus built to perceive colours. Ears cannot perceive colours because the material constitution of the ear does not enable the perception of colours—there is nothing which is transparent and thus nothing able to be affected by colour. Further, our discussion of the mean supports a literalist interpretation. We have sufficient reason to think that this is the case given that sensible ranges are ranges of qualities located in the organs. Accordingly, the change on this range which enables the organ to become like its objects is the organ taking on the quality of the object. Changing from the mean to any given quality on a sensible range involves a literal change. Perception just is the insensible becoming the perceptible object.

[32]*Nous* may be the exception here. But note that whereas spiritualists argue that the *objects* of cognition are spiritual/intentional, *nous* is the organ that works with content. Thus any appeal to *nous* for support here needs to link the purported immateriality of the organ *nous* with that of perceptual content. And, if content is immaterial or different in cognition than in the object, it is remarkable that Aristotle does not notice the problem of intentionality in either his account of sensory cognition or intellection.

3.4.1 Filling in the Picture: Literalism and Media

Some of the problems of making literalism consistent with the various claims and arguments that Aristotle makes in the *Parva Naturalia* have to do with the media of sense. First, if literalism is true for the organs of sense, what of the media? That is, do the various media too literally take on the properties of the objects that they are conveying to the organs of sense? This has been used as the basis for *reductio* arguments against literalism. Alexander argues that we do not observe either the organ or the medium taking on colour. Indeed, he argues that this cannot be the case for if a white man and a black man were to face each other, the intervening space does not impede in their respective perceptions of the other. Thus, the medium does not change, at least not qualitatively.[33]

The second problem is that literalism brings into question the necessity of media. In his argument for the necessity of media (see below) Aristotle argues that they are needed because we do not see objects placed directly on the eye. If literalism holds, then when I see an apple I perceive "red" just because my eye becomes red, and presumably, this is due to the medium between the apple and my eye also being red. But if the medium becomes red, then why is it that we cannot perceive the red apple when it is placed directly on the eye? It seems that if literalism is true, then media are redundant.

The argument for the necessity of media runs as follows:

> The following makes the necessity of a medium clear. If what has colour is placed in immediate contact with the eye, it cannot be seen. Colour sets in movement what is transparent, e.g. the air, and that, extending continuously from the object to the organ, sets the latter in movement. Democritus misrepresents the facts when he expresses the opinion that if the interspace were empty one could distinctly see an ant on the vault of the sky; that is an impossibility. Seeing is due

[33] Alexander *DA* 62, 1-13. The distinction that commentators work with is between the medium becoming affected materially or qualitatively. The more controversial claim is the latter, which is denied by most, the exception being Themistius, who argues that the medium for touch must be affected qualitatively. See Themistius *in de Anima* 76, 32-77, 22.

> to an affection or change of what has the perceptive faculty, and it cannot be affected by the seen colour itself; it remains that it must be affected by what comes between. Hence it is indispensable that there be something in between—if there were nothing, so far from seeing with greater distinctness, we should see nothing at all. (419a12*ff*)[34]

In this passage Aristotle argues that colour is needed to set the transparent in motion, which is needed for sight. What is capable of becoming coloured is the colourless (418b27). Note that we get a formulation of the Plasticity Principle such that the medium and organ of sight are transparent in order to take on the colours of things. Whatever is visible is colour, and it is in colour's nature to affect the transparent.

The claim is that if an object abuts the eye there is no perception of colour. This follows from Aristotle's insistence that colour is situated on the surfaces of things. In *de Sensu* 3 he writes:

> But since the colour is at the extremity of the body, it must be at the extremity of the transparent in the body... whether we consider the special class of bodies called transparent, as water and such others, or determinate bodies, which appear to possess a fixed colour of their own, it is at the exterior bounding surface that all alike exhibit their colour. (439b10*ff*)[35]

The reasoning, then, is that if an object is placed against the eye then it effectively has no surface, thus no colour, and hence, no ability to change the transparent. Because of this, we

[34] σημεῖον δὲ τούτου φανερόν· ἐάν γὰρ τις θῇ τὸ ἔχον χρῶμα ἐπ᾽ αὐτὴν τὴν ὄψιν, οὐκ ὄψεται· ἀλλὰ τὸ μὲν χρῶμα κινεῖ τὸ διαφανές, οἷον τὸν ἀέρα, ὑπὸ τούτου δὲ συνεχοῦς ὄντος κινεῖται τὸ αἰσθητήριον. οὐ γὰρ καλῶς τοῦτο λέγει Δημόκριτος, οἰόμενος, εἰ γένοιτο κενὸν τὸ μεταξύ, ὁρᾶσθαι ἂν ἀκριβῶς καὶ εἰ μύρμηξ ἐν τῷ οὐρανῷ εἴη· τοῦτο γὰρ ἀδύνατόν ἐστιν. πάσχοντος γὰρ τι τοῦ αἰσθητικοῦ γίνεται τὸ ὁρᾶν· ὑπ᾽ αὐτοῦ μὲν οὖν τοῦ ὁπωμένου χρώματος ἀδύνατον· λείπεται δὴ ὑπὸ τοῦ μεταξύ, ὥστ᾽ ἀναγκαῖόν τι εἶναι μεταξύ· κενοῦ δὲ γενομένου οὐχ ὅτι ἀκριβῶς, ἀλλ᾽ ὅλως οὐθὲν ὀφθήσεται. This paragraph is important for more than just this chapter on sight and its medium, for it is the explicit reasoning behind the necessity of media quite generally in perception.

[35] ἐπεὶ δ᾽ ἐν πέρατι ἡ χρόα, τούτου ἂν ἐν πέρατι εἴη. ὥστε χρῶμα ἂν εἴη τὸ τοῦ διαφανοῦς ἐν σώματι ὡρισμένῳ πέρας. καὶ αὐτῶν δὲ τῶν διαφανῶν, οἷον ὕδατος καὶ εἴ τι ἄλλο τοιοῦτον, καὶ ὅσοις φαίνεται χρῶμα ἴδιον ὑπάρχειν, κατὰ τὸ ἔσχατον ὁμοίως πᾶσιν ὑπάρχει.

cannot see things which are so placed against the eye, and thus, media are required to enable perception.

There are two parts to this argument. The first, as we just saw, establishes why we need space between the object and organ. But Aristotle then goes on to say that this space must be of a certain kind. That is, it cannot merely be empty space, for if this were the case then there is no way to ground a relation of affection between the object and organ. If the interspace between object and perceiver were empty then we cannot explain how the object acts on the organ to affect the change required for sensation. This is the reason why Aristotle rejects Democritus' view. The eye cannot be affected by the object itself for as we have seen, even if the object were to touch the eye we have no sight, and the object cannot act at a distance. By elimination, we are left with the conclusion that the eye must be affected by "what comes in between" (419a19: *leipetai dê hupo tou metaxu*).[36] Thus using sight as his paradigm, Aristotle reaches the conclusion that media are necessary for perception.

Although the argument for the necessity of media is raised in the chapter on sight and its object, Aristotle intends it to apply the other senses in a like manner. He writes:

> The same account holds also of sound and smell; if the object of either of these senses is in immediate contact with the organ no sensation is produced. In both cases the object sets in motion only what lies in between, and this in turn sets the organ in movement: if what sounds or smells is brought into immediate contact with the organ, no sensation will be produced. The same, in spite of appearances, applies to touch and taste (419a25*ff*).[37]

Thus Aristotle at the very least intends his account to apply to all the senses.

The question then, is whether media are affected by objects and in turn affect the organs of

[36]Note that this argument is indifferent to the nature of perception. That is, it holds true for the literalist as well as the spiritualist, for it is non-committal about the further issues of the role of the organs in perception, and what amounts to or is sufficient for perception.

[37] ὁ δ᾽ αὐτὸς λόγος καὶ περὶ ψόφου καὶ ὀσμῆς ἐστιν· οὐθὲν γὰρ αὐτῶν ἁπτόμενον τοῦ αἰσθητηρίου ποιεῖ τὴν αἴσθησιν, ἀλλ᾽ ὑπὸ μὲν ὀσμῆς καὶ ψόφου τὸ μεταξὺ κινεῖται, ὑπὸ δὲ τούτου τῶν αἰσθητηρίων ἑκάτερον· ὅταν δ᾽ ἐπ᾽ αὐτό τις ἐπιθῇ τὸ αἰσθητήριον τὸ ψοφοῦν ἢ τὸ ὄζον, οὐδεμίαν αἴσθησιν ποιήσει. περὶ δὲ ἁφῆς καὶ γεύσεως ἔχει μὲν ὁμοίως, οὐ φαίνεται δέ.

sense, and if so, what is the nature of the affection in the media. It seems that Aristotle does think that media are affected. In discussing the necessity of sentience for survival in Book III of the *de Anima*, he notes that animals must be (and obviously are) able to perceive things from a distance as well as by immediate contact. To perceive from a distance, he adds, is possible only through media. To this he adds:

> This will be possible if they can perceive through a medium, the medium being affected and moved by the perceptible object, and the animal by the medium (434b28).[38]

Although he is explicit here that the medium is indeed affected by the object in order to affect the organ,[39] it is unclear from this passage whether this affection is of the same kind as that of the organ—a qualitative affection. The picture, however, can be filled in given the kind of change that the mean enables in the organs of sense, which we do not find in the media.

The medium of sight is affected by the object and in turn affects the eye enabling the eye to become like the object in the relevant sense taking on its colour. The medium, like the eye, becomes coloured—i.e. it is affected qualitatively—but it does not perceive because it cannot change in the way required for perception simply because it lacks a homeostatic mean. But if the medium, like the eye, becomes red, then we face Alexander's worry for we should see the interspace between the object and the eye too as red. It is in the nature of the transparent to take on colour. Upon perceiving a red object the transparent medium of sight thus becomes red too. But Aristotle is not threatened by Alexander's worry, for as he notes in the *de Sensu* passage above, things are only coloured on their "bounding surfaces". Thus, Alexander's worry is misplaced. The medium of sight is not itself seen for the simple reason that it is transparent save for its surfaces.[40] The coloured surfaces are thus those where the medium is

[38]τοῦτο δ᾽ ἂν εἴη, εἰ διὰ τοῦ μεταξὺ αἰσθητικὸν εἴη τῷ εἰκεῖνο μὲν ὑπὸ τοῦ αἰσθητοῦ πάσχειν καὶ κινεῖσθαι, αὐτὸ δ᾽ ὑπ᾽ ἐκείνου.

[39]In the first two chapters of Book V of the *Generation of Animals*, Aristotle re-examines the nature of the activity in the media during perception. He concludes that media do affect objects just because they too are in motion, otherwise they would be un-moved movers.

[40]This idea is not mine. I am fleshing out an account inspired by Devin Henry's (unpublished) reading.

affected by the object and where the medium affects the organ. The idea, then, is that media are necessary for perception because the senses cannot act at a distance, nor can we perceive objects in direct contact with the organ, and the media, like the organs, take on the properties of the objects of sense.

What is both interesting and unique to the literalism implied by this reading of the mean is that it explicates the nature of the change inherent in any act of perception, to which we will return below. An accurate understanding of the mean allows us to elude the most threatening criticisms of literalism.

3.4.2 Against the Argument From Anachronism

The argument from anachronism[41] is a rhetorical favourite of spiritualists. They claim that any interpretation which requires that perception involve physiological changes or processes is guilty of anachronism. Roughly put, the worry is that in looking for the physiology of perception we are reading Aristotle through a post-Cartesian lens in which the mechanics of the body play a significant role in sensory cognition. Most spiritualists appeal to Burnyeat's formulation of the argument in which he claims that Aristotle's philosophy of mind should "be junked" not because Aristotle's conception of mind is too alien to be viable, but rather because we cannot reconcile his physics with our modern physics. Burnyeat argues that for Aristotle, perceptual qualities do not require explanation because they already exist as such in the world. It is only after the 17th century that qualities come to be mind-dependent, but Aristotle is a realist: colours (e.g.) are in objects in the same way that they are in cognizers. So the "material of animal bodies is already pregnant with consciousness".[42] Thus, those holding Aristotle to a functionalism, dualism, materialism, or whatever, fail to see that Aristotle's concept of matter is so alien to ours that we have a hard time making sense of it (that qualities are "out there" and are explanatorily basic). In the same vein, Burnyeat adds

[41] I borrow this term, as well as the "argument from extraordinary alteration" in the next section from Caston (2005).

[42] Burnyeat 1991, pp 19. For a similar argument see Broadie 1992.

that Aristotle's science does not ask the same questions that our science asks. As Burnyeat puts it, "to be truly Aristotelian, we would have to stop believing that the emergence of life or mind requires explanation".[43] The charge then is that to posit any physiological changes to explain perception/consciousness is anachronistic just because Aristotle's notion of matter is already pregnant with consciousness. So Aristotle (as well as his predecessors and contemporaries) does not even think that showing how matter becomes a quality is the type of thing that requires explanation.

For the sake of argument, let us assume this to be right.[44] I agree that Aristotle's explanatory concern is to show how properties of things come to be properties of percipient beings. Even so, it seems that either the charge against literalists is unwarranted, or it applies in the same manner to spiritualist readings as well. Aristotle's undertaking, as we have detailed above, is to explain how sentient creatures are affected by sensible objects in ways that amount to perception. Aristotle must explain how perception is not typical affection from without, simply because plants and other non-sentient beings are also affected by objects yet they do not perceive. Aristotle finds himself thus explaining the different kind of affectability between sentient and non-sentient beings.

From this, however, it does not follow that positing physiological changes in the organs of sense is anachronistic. The reason is that part of the explanation of how objects become cognized is explaining how sentient beings become *like* these objects. Matter may be pregnant with consciousness, but my body cannot realize the perception of any given sensible object on a whim. My foot, that is, cannot perceive colours, and Aristotle is not ignorant of the fact that we have organs of sense, each of which is specialized to perceive a range of sensibles. Thus Aristotle tries to show how it is that organs are affected by the objects which they specialize in discriminating.

Further, one should tread lightly around charges of anachronism for one may be begging the question. One could argue that it defeats the reading that matter is already pregnant with

[43]Burnyeat 1991, pp 26.
[44]Burnyeat has been resisted on this front. See, for instance Caston (2005).

consciousness if we think that another step is needed once the percipient being is affected by a sensible object. Because Aristotle is not bothered by the seeming difference between matter and qualities (as we post-Cartesians tend to be) we should be surprised, shocked, and even outraged if Aristotle then goes on to posit something utterly non-bodily as the result of perceptual affection. If matter is pregnant with consciousness, then we need not posit an intentional realm for cognition, simply because awareness is already present in the animal body. More importantly, the very issue at hand is the reconstruction of Aristotle's view. Thus the charge of anachronism holds only if one ignores the arguments and reasons that another puts forward for rival readings.

3.4.3 Against the Argument From Extraordinary Alteration

Opponents of literalism (or any forms of materialism for that matter) tend to raise the argument from extraordinary alteration in some form or another. The idea is that perception, whether it involves any physiological change or not, is, in its essence, purely a change in cognition.[45] The worry for the literalist stems from Aristotle's insistence that the alteration that occurs in perception is an atypical alteration, or a different kind of change (*heteron genos alloiôseôs*) from typical alteration (417b6-8). The controversy between the different senses of alteration arises out of Aristotle's general discussion of sensation in *de Anima* II. 5 (416b32*ff*). In broad terms, perception is a change in the perceiving subject. Given the subject's affectability in relation to sensible objects, perceptual change is how the subject becomes *like* perceived objects. The cognition of red, for instance, is how a subject becomes like the ripe tomato that she perceives. Furthermore, Aristotle articulates his analysis in terms of degrees of actuality and potency. Using knowledge as his model, Aristotle distinguishes three different states of knowing:

1. Not having knowledge

[45] Or, as Aquinas puts it, perception is an *immutatio spiritualis*. For his full interpretation, see Aquinas' *In de Anima* 18-75, §§551-4.

2. Possessing knowledge

3. Actually using knowledge

Garden variety kinds of alteration involve the gaining of one quality at the expense or loss of another. Going from (1) to (2), that is, is a change in quality, for one gains the quality "having knowledge" and loses the quality "not having knowledge". Thus if I learn a new language I gain the property "knows Swahili" at the expense of losing the property "does not know Swahili". And this, for Aristotle, is a case of ordinary alteration.

Conversely, the change of quality in perception is either a "preservation" (*sôtêria*) or a "development" (*epidosis*) of a quality. The alteration unique to perception occurs without the loss of another contrary quality. A hot stone tempered in frigid water takes on the quality "cold" at the expense of losing the quality "heat". The organ of temperature on the other hand, becomes cold without losing any quality of heat. In terms of actuality and potentiality, ordinary alteration is a move from (1) to (2), whereas perceptual alteration moves from (2) to (3). In terms of the knowledge example, using the knowledge that one already possesses does not destroy the property of having that knowledge. When I actively employ my knowledge of grammar, for instance, I do not lose the property "has a knowledge of grammar". This holds analogously for perception. When I look at Diares' son and perceive "white", I do not gain the quality "white" at the expense of any other; I simply gain the quality "white". The same goes for any and all instances of perception, and the maintaining or development of qualities as opposed to the loss of qualities, is what makes perceptual alteration a different kind of change from ordinary alteration.

The alleged problem for the literalist is how to account for this different kind of change. If perception is type identical to physiological change in the organs of sense, then it is not clear what is out of the ordinary about this kind of alteration. That is, if the perception of red is identical with the eye merely and literally becoming red, then it seems that this is ordinary alteration—the matter of the eye takes on the quality red and loses whatever quality it had prior to sensing the red object. On the face of it, there seems nothing out of the ordinary for

the change in the organs of sense, and for this reason literalists have been criticized for not being able to say how the alteration that occurs in perception is other than ordinary alteration.[46]

I contest, however, the idea that Aristotle does not classify perception with ordinary alteration because unique to perceiving beings *qua* perceivers is the sensitive mean. The mean, that is, is what is responsible for and allows the special kind of alteration inherent in perception. Furthermore, the mean is the mechanism that allows for the literal change to be a different kind of change, and one that amounts to perception.

The nature of this different kind of change as it relates to the sensitive mean becomes apparent if we admit that the nature of an organ of sense is to be functionally homeostatic. As is the case with the brain in thermal regulation, the mean state between contraries is where organs strive to be; it is both where inactive organs tend to be and where they strive to be after being disturbed from this state in the act of sensing. Upon perceiving some sensible form the organ changes in order to be like that form, but does not become that form at the expense of any other. The organ takes on the relevant properties of the object, but it is not like ordinary alteration in that the property is adopted only temporarily. The organ is potentially like what the object is actually, and when the organ changes from potentiality to actuality the change in the organ is fleeting. The form reproduced will soon fade and the organ will return to its mean state. This is unlike typical kinds of change. When things unlike organs change and move from potency to actuality, they remain that way until destroyed or until they undergo this process anew, or until they gain another property at the cost of the first. For organs this is not the case; in returning to the mean there is no new move from potentiality to actuality. Rather, it is a move from the actuality of form perceived back to the state of potentiality that is the mean state.

The crucial difference between alteration in plants and inanimate objects and the perceptual alteration of sentient beings is simply that sentient beings have organs equipped

[46]Burnyeat (1991) uses this to support his negative thesis that literalism cannot be the case, and as evidence for his positive thesis that perception amounts to a quasi-alteration, or a spiritual change in the subject.

with means. Although plants are living beings able to grow, reproduce and nourish themselves, they are like rocks and chairs in that they lack the mean and thus are incapable of perception. Having dynamic organs of sense lying on a range between contraries is what enables animals to sense; it is what separates all things with sensitive soul from things that enjoy merely the faculties or capacities of the nutritive soul. Having a mean is necessary for being sentient. An organ is capable of perceiving the forms of its proper sensible only because it is so constituted as to be able to change into any quality that falls on its range. Having a mean is thus the crucial element in being sensible for the reason that the mean allows the organs of sense to undergo the special kind of change required for perception. Without the mean plants are like stones; they lack the ability for perceptual alteration.

The qualitative reading of the mean developed here can account for the special kind of change involved in perception. While perception as an extraordinary kind of change has puzzled many commentators, Aristotle's reasoning here is simple: the difference between the stone and sensitive flesh is that whereas the stone is hot before taking on the quality "cold", flesh never had the quality 'hot' in the first place. The mean state of any organ of sense is the insensible or neutral point between opposites. As such, change from this neutral state to any quality on the sensitive range is not a change from one quality to another but rather a change to a quality from the unsensed mean state. The eye, in taking on the quality red (e.g.), undergoes a change from the mean state (the transparent) to the quality red. In doing so, there is no lost quality but only the gaining of red. This, then, is not a typical kind of change.

Given that the change in perception cannot be a move from (1) to (2) but rather from (2) to (3), we can formulate Aristotle's criteria for perceptual alteration thus:

> (*i*) The different kind of change in perception must be a change from (2) to (3), or from having property *X* but not exhibiting it, to exhibiting X, and
>
> (*ii*) The change in perception cannot be typical alteration, *viz*, it cannot be the gaining of one property at the expense of another.

On our view, given that organs are materially constituted on ranges between contrary qualities, they can potentially have any quality on their ranges. It is in this sense that they do not possess the qualities that they are able to have. When the organ is affected from without by a sensible object, it realizes one of its specific potentials and takes on a quality. This does not involve the destruction or loss of another property, for the mean acts as a non-property in its neutral state, thereby satisfying (*ii*). Further, the neutrality of the mean state allows for seeing red even if I do not actually possess red, thereby satisfying (*i*).

Although spiritualists advance the argument from extraordinary alteration against physiological interpretations, including literalisms, the charge can be reversed. There is a reason, that is, to think that spiritualisms fail to cope with the extraordinary alteration in perception. The reason is as follows: other than being of a different ontological kind than physical objects, the cognition of a spiritual form is still merely a case of typical alteration. In perception (on this view) I do not merely gain the property "spiritual form *X*" at the loss of "spiritual form *Y*". It does not follow from the fact that cognized forms are immaterial on this view that the change from one spiritual form to another amounts to a case of alteration as described in moving from (2) to (3). Indeed, on this reading perceptual content (sensible forms) are extraordinary in that they are unlike the forms as found in their physical objects. But what we would call metaphysical extraordinariness[47] is not the extraordinariness that Aristotle has in mind when claiming that perception is a different kind of change. The reason is that although the *content* of perception on the spiritualist view is different from how we find it in the object, the change from one such form to another is just as ordinary as the stone taking on "cold" at the expense or loss of "hot".

The key distinction to be made here is between the extraordinariness of content and the extraordinariness that Aristotle claims is inherent in perceptual change. Spiritualists import the purported extraordinariness of perceptual content or cognized forms into their reading of the change from one such form to another, and it does not follow that because the content of

[47]By "metaphysical extraordinariness" I mean some difference in kind or the nature of the thing in question, such as the difference between the spiritual and the physical.

this change is different from typical change that the process itself is a different kind of change. It is the process or the kind of change that is claimed by Aristotle to be extraordinary. It is not, *pace* Spiritualists, the product of the change that is extraordinary. The point, to put it simply is that Aristotle's claim is that perception is a different kind of change, and not a change into a different kind. Thus, although intuitively appealing, spiritualisms cannot accommodate (*ii*), for it seems that perception on their view is the ordinary changing between extraordinary content, which is merely the gaining of one spiritual form at the loss of another. Thus, Spiritualists fail to adequately represent Aristotle's account of perceptual alteration.

I will take a moment to anticipate a possible objection to my reading of *de Anima* II.5. Myles Burnyeat has argued that we should not ignore the ordering of the chapters in the *de Anima*, and that we should not import nuances found elsewhere into chapters such as II.5 to help explain how Aristotle is using or developing the concepts in the chapter. Specifically, Burnyeat argues that there is a reason why Aristotle does not talk about neutrality and sensible ranges in II.5, and that is simply because it does not fit with what he is up to at this point in the treatise.[48] As Burnyeat rightly points out, Aristotle does not begin discussing neutrality until II.8 in the context of hearing, which is then taken up again at II.10. Neutrality, Burnyeat argues, is orthogonal to Aristotle's treatment of sense-perception in general, and that is why we do not find any talk of it in II.5. The potential criticism of my argument, therefore, is that I am not justified in describing the account of actuality and potentiality of II.5 in terms of the neutrality of the sensitive mean.

Burnyeat is right in holding that the ordering of the text is no accident, and any adequate treatment must only use that which Aristotle is working with (or that he has introduced earlier in the text) as interpretive tools. This, however, does not pose a threat to the interpretation developed above for we have been abiding by Burnyeat's caution to readers of the *de Anima*. *De Anima* II.5 is an account of perception in general, and it is followed by detailed looks at

[48] Burnyeat 2002 pp 30.

each sense in turn.[49] The exegesis of the degrees of actuality and potentiality that I employ is taken directly from the chapter in question. Talk about neutrality is warranted in this context simply because I am connecting the general with the specific—I am filling in the general account of perception as laid out in II.5 with how Aristotle applies this to each sense in turn. I am thus merely filling in a gap left by Aristotle's treatment of perception: reiterating the specifics in terms of the general account of perception that is II.5.

This approach should not be resisted for this is what Aristotle himself is doing in Book II. Chapter 1 is an account of soul in its broadest and most general sense, which is followed by chapters talking about the different kinds of souls, but still in general terms. The discussion of the nature of the nutritive soul is more specific than his general treatment, but is still quite general, for it applies to all living beings. Next we get his treatment of the sensitive soul in general terms (chapter 5), which is then followed by the account of how the organs of sense work. Thus our discussion, which applies the general account of the sensitive soul from chapter 5 to the specific treatments of each of the organs of the sensitive soul, is warranted given Aristotle's approach in *de Anima* II.4. As he puts it: "it is necessary for the student of these forms of soul first to find a definition of each, expressive of what it is, and then to investigate its derivative properties, etc." (415a14-16).[50]

Our *fleshed* out reading of the mean adequately accounts for the extraordinary alteration that is perception. Mean literalism, that is, presents us with an avenue to explain the unique alteration in perception within the bounds of a fully physiological explanation. This is significant, for the argument from extraordinary alteration serves the spiritualists not only as

[49] Chapter 6 is the exception. Prior to examining the senses in turn, Aristotle parses out the distinction between proper, incidental, and common sensibles (418a7*ff*).

[50] Ἀναγκαῖον δὲ τὸν μέλλοντα περὶ τούτων σκέψιν ποιεῖσθαι λαβεῖν ἕκαστον αὐτῶν τί ἐστιν, εἶθ᾽ οὕτως περὶ τῶν ἐχομένων καὶ περὶ τῶν ἄλλων ἐπιζητεῖν. For similar reasons we ought not be troubled by objections to the effect that trying to explain the mechanism of perception falls outside of the scope of Aristotle's explanatory agenda. This type of objection is akin to the argument from anachronism, for the worry is that we may be trying to explain something that Aristotle does not. We do, however, have more than the mass of physiological detail in Book II to support this endeavour. The following passage form *de Sensu* 3 says it all: "Of the sensibles corresponding to each sensory organ, *viz.* colour, sound, odour, savour, touch, we have treated in *On the Soul* in general terms, having there determined what their function is, and what is implied in their becoming actualized in relation to their respective organs" (439a6*ff*).

fodder for their negative campaign against literalists and all other physiological or materialist readings of Aristotle. It also undergirds their main arguments for positing a spiritual element to sensory cognition. The passages in *de Anima* II.5 that we have examined are what Aquinas uses to establish his *immutatio spiritualis*, and they lie also behind Burnyeat's quasi-alteration argument. These passages, along with liberal readings of the "form without matter" business, bolster the spiritualist reading. So it is no small matter to account for perceptual alteration in terms of the physiology of perception, and the trick is simply to let the mean inform how to read Aristotle on this. This should come as no surprise. If the mean is the crucial element in being a perceiving being, which it is, then it stands to reason that it factors into the account of how perception works. And in doing so, we find no reason to posit more than what is warranted by the texts, i.e., some "spiritual", "intentional", or non-bodily elements to sensory cognition.[51]

As an interesting aside, the above elucidation of the sensitive mean and the mechanism of perception puts us in a position to solve the problem of mirrors. The problem lies in understanding why it is that mirrors do not perceive yet they take on the form of what is reflected in them. In *On Dreams* (459b24*ff*), Aristotle breaks from a discussion of dreams as residual sense-perceptions to raise the issue of mirrors. Mirrors reflect things, and thereby take on the forms or properties of things. As an organ of sense the eye too takes on forms of the things it sees. This similarity notwithstanding, the problem lies in differentiating between eyes and mirrors. Mirrors meet the Plasticity Principle because if we assume that their objects include all reflected images, then like organs they are potentially what their objects are actually, yet they do not perceive. Why is that? Mirrors are not living beings and thus lack organs. But the reason they do not perceive is that like plants they have no means. We now understand what Aristotle intends by this. Things without means do not perceive simply

[51]Caston (e.g.) uses the case of extraordinary alteration as reason to think that there is a cognitional or intentional element in sense-perception, but since he thinks that spiritualists too hastily dismiss the role of physiology (which he accepts), he adopts what he calls an "analogical reading", in which he affirms both physiological and psychological aspects of cognition. However, by showing how a physiological interpretation (in this case also literal) can account for perceptual alteration, my argument runs counter Caston's treatment as well.

because they cannot change in the manner peculiar to the homeostatic organs of sense.

3.5 *Nous* and Isomorphism

We have yet to expound the relation between object and subject, or perceiver and thing perceived, on Aristotle's account of cognition. The literalism that we have developed supports an isomorphic relation between the object perceived and the perceiver. In perceiving *X* one becomes *X*, and in doing so the form that we find in the object is reduplicated in the subject. Perception, that is, literally is the reduplication of the same form. The act of perception is how one acquires the same in quality as that which she perceives. Thus, Aristotle does not maintain the act-object distinction: there is no difference in quality between the act of perceiving and the object perceived, for perception is the literal taking-on of forms.

In this section we will elaborate the nature of the isomorphism inherent in Aristotle's account of cognition. We will see that the brand of isomorphism that he espouses in his theory of perception—a *strong* isomorphism—is the same as that which we find in his account of intellection, or thinking. Thus, despite the apparent dissimilarity between *nous* and the organs of perception, we will see that there is a single account of how each takes on its respective forms. Furthermore, we will discuss briefly the reasons why Aristotle describes *nous* the way he does. We will see how *nous*, which seems an apparent hiccup in an otherwise naturalist account of the soul, should be assessed with regards to what we may describe as Aristotle's metaphysics of mind.

The mean literalism that we have expounded (or any literalism, for that matter), is, by its nature, a commitment to some kind of isomorphism. The organs of sense take on the forms of their objects quite literally, and as such, the form is reduplicated in the perceiver. The reduplication is just that: taking on forms is not a "spiritual change", or a kind of transduction.[52] Furthermore, the reduplication of the forms is a presentation of the forms, not

[52]We have dispelled the spiritualist interpretation above. Victor Caston argues that (in the case of *noêsis* at least) cognition is a process akin to the contemporary notion of transduction in which there is no literal taking on of forms, but rather information is passed on from object to *nous* through a process of encoding. More on

a *re*-presentation as many would have it.[53] A commitment to isomorphism follows from Aristotle's fastidious explanation of the body's material constitution, and his commitment to the Plasticity Principle. In becoming plaid, for example, the eye becomes identical in form to that which it perceives (in this case, the tartan of a clansman's kilt).

As with the organs of sense, Aristotle begins his treatment of *nous* with determining its objects. Taking his cue from Anaxagoras, Aristotle notes that the mind can potentially think all things. Whereas Anaxagoras takes this to mean that the mind must be "pure from all admixture", Aristotle takes this to mean that the mind cannot "have a nature of its own, other than that of having a certain capacity" (428b21).[54] Before thought, the organ of thought is nothing in actuality.[55] When idle, or not engaged in thought, that is, *nous*, the organ of thought, is actually no thing, but given that it can think all things, it is potentially anything. Thus, *nous*, like the special organs of sense, adheres to the Plasticity Principle.[56] *Nous* cannot have a nature of its own—i.e., it must be separable, unmixed, and impassible (430a17)—just because being materially constituted, no matter in which way, would inhibit it from becoming any of its objects. As Christopher Shields puts it, this is Aristotle articulating the Plasticity requirement of *nous*: "*Nous* has no intrinsic feature capable of precluding its thinking any given *noêton*".[57]

It must be noted that Aristotle does not use the Plasticity Principle to support any empirical or prior convictions about the nature of *nous*. It being unmixed, that is, is not a product of Aristotle doing metaphysics, but rather a consequence of the logical constraint that is placed on *nous* given that is has any possible thing, including itself (*de hauton*), for an object.[58] Thus

transduction and Caston's argument below.

[53]Caston (2005) is committed to a representational account, as is Shields (1995), which we will also discuss below.

[54] ὥστε μηδ᾽ αὐτοῦ εἶναι φύσιν μηδεμίαν ἀλλ᾽ ἢ ταύτην, ὅτι δυνατός.

[55] οὐθέν ἐστιν ἐνεργείᾳ τῶν ὄντων πρὶν νοεῖν.

[56]See also 429b32-34 for another expression of the Principle in the case of *nous*.

[57]Shields, 1995, 311.

[58]This point is being made here because many have taken Aristotle to be dabbling in dualism in his treatment of *nous* (recall our discussion in the previous chapter). But apparent similarities with dualism aside, Aristotle is clearly not motivated by that which motivates most dualists: defending their intuitions about the nature of mind. He is, rather, trying to give an account of how it is that we can think all things. And, given his commitments to isomorphism, this leads to the logical necessity that the thing that thinks, in order to be able to think all things,

just as the organs of sense have specific material constitutions to enable their becoming like their objects, *nous*, given the open-ended nature of its objects, cannot be limited by any particular constitution. The eye is transparent to enable it to become any colour, but *nous* cannot be transparent for that would hinder its ability to cognize other objects, such as itself (for it could presumably cognize itself *and* the transparent, not itself as the transparent).

Although *nous* seems anomalous given the picture we get from Aristotle's treatment of the senses, his motivations are the same in each case and the Plasticity Principle drives him to posit the specific constitutions of the organs and the lack thereof for *nous*. It is thus from a similarity between *noêsis* and *aisthêsis* that Aristotle derives his description of the nature of *nous*. This interpretation runs counter to the main trend in the literature. Shields, for instance, establishes Aristotle's Plasticity Requirement from the dissimilarity between *noêsis* and *aisthêsis*. Shields takes the claim that *nous* is "none of the things existing in actuality before thinking" as the basis for his Plasticity Requirement.[59] This, he argues, is what differentiates Aristotle's account of *aisthêsis* from *noêsis*. Shields finds the claim that it must be nothing in actuality prior to thought a unique feature of *nous*; one in which he grounds his theory of intentionality. What Shields fails to notice, however, are the repeated instances of the Plasticity Principle articulated in Book II, as we have detailed extensively above. Shields is right that while being potentially all things *nous* must be none in actuality, but he errs in taking this to be a feature peculiar to *nous*.

Indeed, there are certain ways in which thinking differs from perceiving. The organ of thought is unmixed, separable, and impassible whereas the organs of sense are not. Furthermore, Aristotle mentions that thinking is "up to us" in a certain way in which perception is not (417b16*ff*). These differences, however, do not threaten the idea that the Plasticity Principle runs throughout Aristotle's account of cognition, both sensory and intellectual. That is, the differences are superficial to the functional parallelism that Aristotle

must be unmixed.

[59] Shields, 1995, 310. The translations is Shields'. The passage in question is 429a24: οὐθεν ἔστιν ἐνεργεῖᾳ τῶν ὄντων πρὶν νοεῖν.

is drawing. Both thinking and perceiving work the same way in order to take on the forms of their respective objects. The differences, or at least the apparently significant difference that *nous* is unmixed, stems from applying the same account of cognition to *noêsis* as he does *aisthêsis*.

Aristotle's account of *nous*, then, is similar to *aisthêsis* in its isomorphism and how the Plasticity Principle works in relation to each. One may ask, however, "if *aisthêsis* and *nous* are so similar, then why does Aristotle distinguish between them in his account of cognition"? The answer is found by looking at the different objects of each faculty. The organs of sense are specialized in that each has a proper object. But *nous* is general because we can potentially think all things. In other words, *nous* has all things as its proper object. Although much of our thought is rooted in that which is taken on or discerned from the senses, we are able to think of things that are not perceived *per se*, like mathematical figures.[60]

A further reason why Aristotle distinguishes between the two is that not all creatures are able to think, but all animals do perceive.[61] Thus, Aristotle needs to distinguish between thought and perception in a way that not only captures this apparent empirical fact (that not all creatures can think), yet do so in a way that allows him to explain how non-thinking animals can entertain certain kinds of content. Animals need imagination, desire, and memory, for instance, in order to do what they must to survive, but they enjoy these abilities without mind. Aristotle, then, distinguishes between *noêsis* and *aisthêsis* by their objects, and to incorporate and explain what he takes to be a brute fact about the diversity found in various animals: some (very few) animals think; most do not.

3.5.1 The Case for Strong Isomorphism

Aristotle bases his isomorphic account of *noêsis* in its parallel with *aisthêsis*. At 429a13, Aristotle notes that just as perception involves the reception of forms, so does thinking.[62] The

[60]Aristotle also notes at 429b9 that thought differs from sense-perception in that it can have itself as an object—thought can think itself.

[61]*Cf.* 427b7-9.

[62]Shields claims that this is but one of a few features that are shared between thinking and perception. But, as we have already mentioned, Shields fails to see Aristotle's use of the Plasticity Principle at work in his account of

way in which *nous* is receptive of forms (*detikos têv eidôv*) is generally interpreted in two different ways. The isomorphism that Aristotle subscribes to, to borrow terminology from Shields, is a strong isomorphism. Strong isomorphism is the thesis that reads the sameness in the claim that "sensation and the actuality of that which is sensed are the same" (425b26) as a numerical identity. That is, on any given noetic act, the form of *nous* is identical to the form of that which is thought. Thus, strong isomorphism takes Aristotle's claim that *nous* is potentially all things to mean that in thinking anything, *nous* actually shares the form of the thing thought.[63]

Strong isomorphism is contrasted with weaker versions, all of which hold Aristotle to some sort of representationalism. That is, these versions are "weak", just because the forms are not the same or identical, but similar in some way. Shields describes the process of taking on forms as one of encoding: "something encodes F-ness when it represents F-ness without itself becoming F in any direct or literal way".[64] When one thinks of the blue sky, for instance, some part of the soul encodes the blueness, but no part actually becomes blue. Thus, there is a similarity in the cognized form and the form of the blue sky, but this is not the identity that strong isomorphism holds.

Victor Caston also espouses representationalism; one which also uses a notion of encoding, but which differs from Shields' account. Caston argues that there are some shared relevant characteristics between the perceiver and the object. He takes cases where the forms are received without the matter as cases where there is a transmission of informational content.[65] The resulting state is like or about the object, but in a limited sense of likeness. Borrowing a notion from cognitive science, Caston holds that that the taking on of forms is a kind of transduction. Forms are not reduplicated in the perceiver, on this view, but forms pass

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perception.

[63]The parallel here with his literalism is striking in the application of the Plasticity Principle. The main difference between the two, however, is that the organs of sense are materially constituted to become their objects in an objectively real way. *Nous*, on the other hand, cannot be qualified in such a way in order to be able to adhere to the Plasticity Principle, and thus it is open to interpretation the way in which *nous* actualizes noetic forms.

[64]Shields, 1995, 319.

[65]Caston, 2005, 300.

on the information of their content. Transduction, then, is the process by which forms become encoded into the language of *noêsis*, or some such thing.[66] The objects of thought are not the forms as found in things, on this view, but an informational representation of their content. Despite the lack of sameness between forms, Caston's view is an isomorphism nonetheless, for the forms share content. It is still, like Shields' version, an intentional isomorphism.

Shields' and Caston's views both commit Aristotle to the idea that the processes of cognition involve the encoding of the forms cognized, and their shared focus is these processes with respect to *nous*. Aristotle may, however, be working with some sort of notion of encoding in dealing with the common sense's perception and discernment of contrary qualities in *de Sensu* VII. Aristotle's solution to the apparent contradiction inherent in the common sense (be it a faculty or organ here is of no consequence for the issue applies equally to both) when discriminating between homogenous qualities like white and black or heterogeneous qualities like white and sweet, is to maintain that the cognizer is one in number (which is needed to judge between different qualities) but is different in being or essence.[67] One way out of the problem, as pointed out by John Thorp, is to read an earlier passage from the *de Sensu* as positing the codification of qualities. The passage runs as follows:

> Again, if movements of contraries are themselves contrary, and if contraries cannot subsist together in the same individual subject, and if contraries, e.g. sweet and bitter, come under one and the same sense-faculty, we must conclude that it is impossible to discern them simultaneously. (448a2*ff*)[68]

The idea is that affection by objects imparts movements or stimuli (*kinêseis*) to the cognizer. But the problem of contradiction is not solved by appealing to the codification of qualities, for these too are contraries. Putting the resolution of the problem aside, interesting for the current

[66] *Ibid*., 304. This language is not Caston's, for he does not explain the nature of this information or the ability of the soul that allows it to be discerned. But some kind of decoding or reading of this information is necessary if it to be cognized. More on this below.

[67] *De Sensu* 449a17, 19. See Thorp (2008) for a lucid exegesis of the problem and clear discussion of the various attempts to solve the contradiction. We will also discuss this issue in the next chapter.

[68] ἔτι εἰ αἱ τῶν ἐναντίων κινήσεις ἐναντίαι, ἅμα δὲ τὰ ἐναντία ἐν τῷ αὐτῷ καὶ ἀτόμῳ οὐκ ἐνδέκεται ὑπάρχειν, ὑπὸ δὲ τὴν αἴσθησιν τὴν μίαν ἐναντία ἐστίν.

discussion is the fact that Aristotle is entertaining some rough idea of codification. It is not the contrary qualities themselves but the contrary movements that they impart which Aristotle discusses here, and which shows that he does have at least one way of conceiving of cognitive codification.

Despite what seems like a foray into representationalism, there is no conclusive evidence in this passage suggesting that strong isomorphism is wrong. The reason is that qualities do indeed impart movement in perceivers (which is not controversial), but we need not read into this any more than we do that which they impart on the media of sense. Just as some white object causes change in the eye of the perceiver through transference mediated by the transparent, the object of perception is the part of the eye that becomes white, which is white in exactly the same way as the object is white. Similarly in the common sense, Aristotle may distinguish between qualities and their stimuli, but there is no reason to think that the stimuli are the objects of cognition. Recall that for Aristotle all things are affected by qualities like colour and heat, but not all are built to perceive qualities. There may be transference of forms between object—organ—common sense—*nous*, in which the form is merely "in a sense" as it is in the object. But these forms are reproduced in the loci where perception, discrimination, unity, and thought occur. The encoding that representationalists like Shields and Caston read into Aristotle is such that the object of cognition is itself encoded—it is only the form of the object "in a sense".

3.5.2 The Rejection of Weak Isomorphism

The main reason why weak readings of form reception are inadequate has to do with the relation between representation and cognition.[69] On these views, cognition amounts to the representation of forms, but it seems that the cognition of any given form is different from the representation of that form. At the very least, an account of how representation amounts to cognition is wanting. We do not find this in either Shields or Caston, and more importantly, it

[69]There are other, more historical and textual reasons why these readings are dubious, such as the lack of fit between the terms "encoding", "transduction", and "information" with any attic Greek term or concept.

is absent in Aristotle. The reduplication of forms according to strong isomorphism, on the other hand, does explain cognition. For one perceives or knows of some form *X* when *X* becomes a part of one's body.[70] Indeed, what better way can one be said to know something than by becoming that thing in some way?

The main philosophical reason why weak readings are unsatisfactory then, is that in Aristotle, even if we admit that there is encoding going on in the processes of cognition, we have no picture of how the processes of *de*-coding works. Indeed, without such a story, one fails to ascribe to Aristotle a theory of cognition at all, for what one does provide is merely a partial explanation. How the information is unpacked or decoded is the philosophically interesting aspect of this process, one which is left unarticulated by Caston and Shields, and one that Aristotle is quite reticent about. The reason for his reticence is that he is not developing an account of informational encoding, and thus it is no surprise not to find any talk of decoding, or cognition of informational content.

The main textual reason why Caston's reading in particular fails, is that Aristotle would not be concerned about the nature of *nous* as he is if cognition amounts to a transduction of information, as Caston has it. That is, he would not describe *nous* as unmixed, impassible and separable if this is how he conceived of cognition. There is no problem for *nous* being qualified or having a definite material constitution and being able to think all things, if what one thinks is some sort of information about things. The organ of thought would only have to be constituted of matter suitable for taking on this kind of information, whatever that may be. To put it another way, there is no reason why matter, properly organized, cannot take on this information—all possible information. Clearly Aristotle is concerned about how it is that one thing can think all things, and he would not be compelled to describe *nous* the way he does if its object is information, and not all things, as Caston has it.

[70] As we will see in more detail in the next chapter, cognition grounds out in a kind of proprioceptive awareness that Aristotle takes for granted. Again, as is the case with perception, the explanation stops once content is acquired, for the scope of Aristotle's explanatory programme in the *de Anima* is not an articulation of the nature of contents of cognition, or the metaphysics of mind as it were, but with explaining how the body comes to be like the objects it cognizes—explaining the acquisition of content.

Both Caston and Shields are motivated to find Aristotle's theory of intentionality. As mentioned above, both their accounts attribute a weak or intentional isomorphism to Aristotle, but they do so only by ascribing to him a representationalism that he does not hold. Aristotle is not articulating a theory of content, nor is he worried about the problem of intentionality.[71] Aristotle's strong isomorphism does commit him to a theory of intentionality, even if he was not particularly concerned about such, but only in a trivial sense. So-called mental states do have *aboutness*, but due to the isomorphism between act and object, they are about themselves. Thus, the most we can say about Aristotle's theory of content is that it is empty, for it is not a theory of intentionality at all, or not a very interesting one. That said, however, Aristotle does have concerns about content. But he is not worried about the *nature* of content. In the next chapters, we will elucidate a problem of intentionality that we can rightly say is ancient. This is the problem of explaining the acquisition of content.

It is reasonable, then, to deny any representationalism or weak isomorphism to Aristotle. He holds, that is, a strong isomorphism, or an identity between the thing thought or perceived and the thinker or perceiver.[72] Shields argues, however, that Aristotle cannot hold the strong version, for two main reasons. First, he takes Aristotle's claim that "the soul is, in a sense, all things which exist, for these are either perceived or thought" (431b21-22) to indicate his strong reservations about the sameness of forms.[73] That is, he reads *pôs* to mean that the forms are similar "in a sense", which dispels any strict identity between them. We should not be surprised to see the use of *pôs* here, however, for the claim is that the soul is all things *potentially*. Without *pôs*, the soul would not be all things "in a sense" or potentially, but actually, and Aristotle does not mean that we are able to think or perceive all things.

[71] *Pace* Caston, 1998.

[72] This reading thus commits Aristotle to a direct realism. Even though cognition is mediated by the processes involved in thought and perception, the numerical identity of content is such that thought or perception ties the subject to the object directly, for she becomes the object of cognition in a way (or the part of the object in question). On this reading, one can readily explain Aristotle's lack of bracing against scepticism, of which he was probably quite aware. His theory of showing how thinkers and perceivers become like their objects, in strong and literal ways respectively precludes scepticism for the objects of knowledge become part of the knower. We will revisit this issue in our concluding chapter.

[73] Shields, 1995, 326.

The second argument against the strong reading is that Aristotle is explicit that, although similar, the forms differ in being (*to heinai* 424a26), which thus rules out a numerical identity. This too, however, is not surprising, nor does it threaten the strong reading. One should expect that the forms differ in being. In the object, colours and sounds (e.g.) are qualities (*poiotês*). But in perceivers, they are affections (*pathos*) or states (*hexis*), which are a different kind of quality.[74] The sky's quality "blue" is an affection once perceived, and may be a condition if it factors into one's knowledge. Note that the form itself need not differ to enable a difference in being. It is the same form in both instances, but their being differs relative to the context in which they subsist.

3.6 Conclusions

Aristotle's method for explaining thought parallels his treatment of perception. The Plasticity Principle is that by which the psychic organs are receptive of, and come to take on, their respective forms. As in the literalism that Aristotle subscribes to in perception, he also holds a strong isomorphism in his account of thinking. Just as there is no spiritual or intentional aspect to perception, there is no non-trivial notion of intentionality in the account of *nous*. Aristotle's use of the Plasticity Principle constrains the constitution of the psychic organs. Just as the eye must be transparent in order to perceive colours, *nous* must be unqualified prior to thought, else it would not be able to think all things. The irony, then, is that the functional parallelism between *nous* and *aisthêsis* which allows them to take on the forms of their respective objects, is what leads Aristotle to make *nous* the apparent hiccup in what otherwise seems like a naturalist theory of cognition.

The anomalous nature of *nous* is no clue to Aristotle's commitments in the philosophy of mind. *Nous* is, and must be, unmixed in order to allow the proper cognition of the objects of thought, but nowhere do we see Aristotle concerned for what this entails for soul-body relations. Furthermore, *pace* dualist interpretations, we must emphasize that *nous* is unmixed

[74] I mention both affections and states (or conditions (*diathesis*)) here, for Aristotle notes that certain forms of knowledge are conditions, which are kinds of states (8b30).

and separate, not immaterial or non-bodily.[75] The problems that this may pose for a materialist reading aside, it points to how Aristotle's agenda differs from that of contemporary philosophy of mind. Aristotle is working with the constraints of how the organs of the soul, in this case *nous*, can come to take on their objects. It just happens to be that *nous* must be unmixed for this to obtain. What Aristotle is not doing is establishing and defending a thesis on the soul-body relation, or staking a claim in the metaphysics of mind, in his treatment of *nous*.

Interestingly, Aristotle does not seem to pick up on the looming metaphysical problems introduced by applying the Plasticity Principle to thought. The reason, we will see, is that Aristotle's explanations of cognition are not metaphysical. He is merely trying to explain the acquisition of content, not its nature. Thus, what may seem at first blush evidence of a slip into dualism on Aristotle's part is in fact evidence that he does not share our concerns about the mind, particularly those which arise in treating the mental in what seems to be a framework of physics and physiology. Aristotle, that is, is naïve on the issue of the mental. We will return to this issue in the next chapter where Aristotle's Naïve Somatism—what we can ultimately say of his views on the philosophy of mind—is elucidated in detail.

We now turn to the filling-in and articulating of Aristotle's philosophy of mind (to use the words loosely). But a central issue regarding cognition remains open, for one may resist the above account and still want to say that there must be more to Aristotle's account of cognition—at least sensory cognition—for what has been given so far are the conditions that are necessary for cognition, such as the organs of sense being properly constituted. What has not been given, the argument could continue, are the *sufficient* conditions. What we have yet to rule out is that there is something over and above the physiological processes detailed above that constitutes perception. In the following chapter, we will see that not only is the organ literally becoming like its object necessary for perception, it is also sufficient. The reason is that there is a certain kind of consciousness that Aristotle takes for granted; one in

[75] Indeed, this language is not found in Aristotle. We do not find any form of non-bodily (*asômatos*) in the corpus. We do, perhaps however, find "immaterial" (*ahulos*) in one passage (*de Gen. et Corr.* 322a25*ff*) which is a discussion of the mechanism of nutrition and growth, but the reading has been disputed: it may be *aulos* meaning duct or pipe. See H.H. Joachim's edition, *ad loc*.

which the animal body is aware of itself in a basic way. Literalism is key to understanding Aristotle's views on how he thinks we are conscious or aware of our perceptions. Literalism, we will see, does not only suffice for perception, but for the perception that we perceive, or the reflexive awareness that accompanies sensory cognition. Combined with the elucidation of Aristotle's explanatory agenda—what he is trying to explain in his psychological works, and in the *de Anima* especially—we see that Aristotle is satisfied with an explanation of the acquisition of content which ends when the body, its specialized organs in particular, come to be affected from without.

Chapter 4

Content Acquisition and Somatic Proprioception

4.1 Introduction

In the previous chapter we developed a new interpretation of Aristotle's theory of sensory-cognition. Furthermore, we have defused the key arguments in favour of spiritualism and against literalism, thereby diminishing the appeal of rival interpretations. In the case of thought, Aristotle employs the same explanatory tools to show how *nous* becomes any and all of its potential objects as he does for the organs of sense. Cognitive organs are built such that they are able to become like any of their objects. Moreover, this "becoming like" is to be understood in the full, literal sense; Aristotle's isomorphism is strong, not weak, isomorphism: his theory does not understand cognition as mere representation or encoding.

Our analysis thus far has fleshed out the mechanisms by which Aristotle explains the various processes of cognition. What we have not yet dealt with, however, is the issue of whether these changes in the cognitive organs, in which they become like their objects, is all there is to Aristotle's explanation of cognition. That is, we have not yet asked one important question: why should we think that all these physiological changes—*viz.* the literal changes in the sensitive ranges of organs—amount to, or are sufficient for, perception? As for *noêsis*, why should we think that the changes in the organ of thought, i.e. *nous*, suffice for the cognition of its objects? As we discussed in the previous chapter, *nous* being separable and unmixed is no reason to think that the process by which it comes to be like its object differs from the parallel process for the special organs of sense, for the same principle guides his explanation of all cognition.

Nowhere does Aristotle mention that the separability of *nous* factors into the act of cognition other than its being required to be separable and unmixed in its potential or pre-cognition state, in order to become its objects. There is nothing special about separability that grants a full account of cognition to *nous* when it becomes its objects, as opposed to the organs of sense which become like their objects all the while being fully mixed with the body (to extend the analogy). For our present purposes then, we will lump perception and thought together in asking whether the changes in the organs of cognition amount to perception, or if

something over and above the changes is required. While we have established that there are bodily processes going on in perception, which are at least *necessary* for perception, we have yet shown why we should think that these processes are *sufficient* for perception.[1]

This is what will be elaborated in this chapter. I will defend the view that the changes in the organs do suffice for perception. On Aristotle's view, that is, once the body (or specialized parts of the body—*viz.*, the organs) becomes like the relevant forms of things, the process of cognition is complete. Aristotle does not require some further "mental", "intentional", or "psychological" (as it is taken to be opposed to the bodily) act. The reason is simply that he does not provide or explain this further step in the process of cognition. It simply does not factor into his ruminations about perception and thought. The reason, we will see, is that Aristotle's philosophical enterprise here is the more modest one of explaining how properties of things become properties of perceivers and thinkers. That is, the philosophical puzzles he engages with concerning cognition are epistemological rather than metaphysical. They have to do with how we come to know or perceive things, or aspects of things, that are distinct from ourselves.

How do we ultimately become like the things that we cognize if we are initially unlike them? How can I come to perceive blue if I am not actually blue prior the act of perception? How can I think about centaurs if there is no centaur "in" me? These, and similar puzzles, form the basis of the agenda of Aristotle's cognitive psychology. Nowhere does Aristotle worry about the nature of the thing that becomes like the external properties of things that one cognizes. That is, he does not worry about such once he has shown how the organs must be if they are going to be able to become their objects. Aristotle's philosophical concern, as we will elucidate below, is with the acquisition of forms (content), and not with questions of how

[1]It is interesting that while the issue whether there is something more to perception than the physiological changes in the organs has garnered much attention, not a single thinker has posed the same question for *nous*. If we think, following the spiritualist interpretation, that there is indeed something over and above the processes in the organ that is needed for cognition, why not ask the same for *nous*? Indeed, even if we read *nous* in dualist terms—being immaterial—we can still ask whether it changing into its objects amounts to cognition or if some further step is required still. The point is that demanding some spiritual or immaterial element does not explain cognition, unless we simply assume that a property of any and all immaterial things is the automatic ability of cognition. Accordingly, one should not posit it to make Aristotle's theory "more plausible".

processes of acquisition affect or restrict our metaphysical conception of that which acquires content.

This chapter has three main parts. The next section deals with the sufficiency issue: why we should think that the organs becoming like their objects suffices for cognition. Next, we fill in the details of how Aristotle's isomorphism grounds out in a basic proprioceptive awareness that he presupposes as part of the living animal body. We will then contrast this view with influential interpretations holding Aristotle to some sort of developed theory of reflective consciousness or other, and show that these interpretations fall short in various ways.

4.2 Acquisition and Cognition

We do have reason to think that all this physiology does amount to cognition. The reason is that Aristotle has a presupposition about what it is for an animal to be aware of its body, a presupposition that emerges from two interrelated thought experiments in *de Anima* II.11. In discussing touch, namely, the nature of the organ of touch, Aristotle argues that the fact that objects are perceived when they come into contact with the flesh does not rule out that there may be some further organ(s) of touch. He shows this through two thought experiments, the first of these runs as follows: imagine that a thin membrane is stretched tight across the flesh. An object coming into contact with this membrane will be sensed, but given that this membrane is not the organ it must be merely a medium for touch. The membrane parallels flesh—i.e. flesh cannot be the organ of touch but rather the medium. But Aristotle takes the thought further. Suppose that the membrane is grown (*sumphues*) onto or with the flesh such that any affection will be sensed much quicker than if it were merely spread over the flesh (423a2*ff*). Like the skin which is part of the living body, one could be led to think that the membrane is the organ, for sensation happens immediately when objects come into contact with it. One would then assume that the organ of touch is the membrane. Skin is like the membrane here in that although we are accustomed to perceiving sensations when the flesh is affected, we do so only by mistaking the medium for the organ due to the quickness with

which sensations are relayed to the organ.

For this reason Aristotle goes on to say that we would think that there are no media for the other senses if these media were as closely attached to their respective organs as the flesh is to the organ of touch. Thus, despite appearances, flesh is not the organ but the medium of touch. To make this point he employs another thought experiment, in which we are to assume that an air-envelope is grown around the body. If this were the case then we would not think that there were different organs for the various senses. We would think rather, that we perceived colors, sounds, smells, and tastes through the same organ. Thus, if the media of the other senses paralleled that of touch, we would mistake them for their respective organs. It is because the media of the senses other than touch are not part of the natural body that we notice the difference between these senses. And because flesh as the medium of touch is part of the natural living body, we mistake the medium for the organ.

Aristotle uses these related thought experiments to show that flesh is not the organ of touch and that the organ(s) must be embedded in the body beneath the flesh. The key to these thought experiments is that they work only given a certain presupposition, *viz.* that a living body is conscious of that place on it where it is affected from without, or that it is simply aware of any differences or changes that it undergoes. Aristotle takes it as a given that one is aware of colours and sounds once they affect the air envelope. This is a primitive notion of proprioceptive awareness—which we will articulate further below—which is simply the awareness one has of her body when her body feels things—motion, pains, tingles, itches, etc. In the thought experiments, our imagined subject would not think that she sees with her eyes, hears via the ear, or smells via the nose, for she would think she senses by means of the envelope or the membrane. The membrane and the air envelope are symphytic: they are *grown* on her body; they are a part of her body. As such she is immediately aware of any sensation, be it from colours, smells, sounds, etc., upon their striking the air envelope. Note that Aristotle nowhere explicates this notion, and the simple fact that one is aware of her body is taken for granted. Body sense, that is, is not something that Aristotle thinks requires

explanation; it is a primitive aspect of having a sensitive soul. Animal bodies are simply organized in such a way as to enjoy this basic sense awareness.

The idea then, is just as Aristotle does not require further explanation of cognition once sensible objects have affected it, the same holds for his account of the organs of sense. The organs are materially constituted to become their objects and as such, Aristotle has taken his explanation of cognition a step further than what is required in the thought experiments. Not only has he explained how objects affect living bodies (in terms of the natures of objects and the media that separate object and subject) but he has given a physiological explanation of how it is that specialized parts of the sentient body react upon being affected by the kinds of objects they are built especially for. When the eye is affected by colours it becomes like the colours quite literally, and the explanation ends there. The living body has taken on the form of the perceptible object and there is no further chapter to the story of the processes of cognition. For Aristotle, a satisfying explanation is had once the living body, which is presumed to be sensitive, itself takes on the properties of some part of the world outside itself.

The philosophical upshot of Aristotle's presupposition is that it sheds light on the nature and scope of Aristotle's explanatory project in the *Parva Naturalia*, and the *de Anima*. We have already discussed the Plasticity Principle, which holds that a percipient being must be none of its objects in actuality while at the same time being potentially all. As such, part of the explanatory agenda is to show how these potentialities are actualized, which involves change in the organs of sense according to the sensitive mean. Once this story is told, the explanation of perception is accomplished.[2]

What we can glean from this is that Aristotle's philosophical *explanandum*—that which is to be explained—in cognition are the processes by which properties of things become properties of cognizers. This falls within the ken of philosophical phenomena to be explained simply because Aristotle notes that an adequate account of it is wanting, and there are some puzzles that stem from these explanations that need explanation. The kinds of questions that

[2] We will see below that Aristotle further explains the fact that we perceive that we perceive, but as I argue below, this falls completely within the purview of the explanatory agenda that we are currently discussing.

Aristotle finds worthy of attention are those that have to do with the acquisition of content (the properties of objects that we come to perceive and know). How is it that we can perceive objects from a distance? How can objects be replicated in perceivers (in any way) when they do not seem to be affected or moved when they are perceived? These and other similar questions having to do with the acquisition of content are what consume Aristotle's philosophical thought on cognition. What we fail to see in the corpus are any questions surrounding what we could call the *nature* of content—any putative metaphysical issues that arise in these explanations.

What is similarly obvious is what Aristotle takes to be adequate *explanans* of this *explanandum*. Simply put, his *explanans* is showing how the animal body becomes *like* the various aspects of sensible objects that we come to perceive. This should come as no surprise given the lengths that Aristotle takes to explain how the organs are built such to abide the Plasticity Principle, and the puzzles he tries to solve in his detailed accounts of the media of sense.

But the most striking reason for thinking that Aristotle's explanation of the phenomena of content acquisition is his take on the debate whether like is known by like or unlike by unlike. For Aristotle, cognition is neither of the simplistic views that have come before. That is, Aristotle has argued that the like-is-known-by-like views of Empedocles and Plato and the unlike-is-known-by-unlike view of Anaxagoras are both inadequate.[3] Aristotle's more considered view incorporates aspects of both. In an exemplary Aristotle-*esque* moment, his answer to the question whether perception is of like-by-like or unlike-by-unlike, is "both, and neither". Prior to sense, the organ is its object potentially, and thus the transparent is unlike the red rose. But in being moved or affected by the rose, in actualizing the quality red, the organ becomes like the rose. Prior to sense the organ and its object are unlike, after or during sense they are alike (417a20-22). The lengths to which Aristotle goes to show how the organs of sense are built to become like their objects is significant, for the difficult question to explain

[3]See *de Anima* I.2 for Aristotle's discussion and assessment of the theories of his predecessors.

is how we acquire content. His explanation consists in detailing the nature of sensible objects, the media, the physiology involved, and the Plasticity Principle which describes the mechanism of the changes involved in content acquisition. No further explanation is given for the *explanandum* has been explained.

We need not posit any intentional or spiritual aspect to cognition because such simply does not fall into the set of things which Aristotle thinks requires explanation. Nor do any such factor into Aristotle's explanation of the *explanandum*. Perception is a change in the body and the change simply is that the body (specifically, the organs of sense) has taken on a property that it did not exhibit prior to sense. Or in other words, perception is the actualization of some property that the percipient creature has the potentiality to change into. Thus the story of content acquisition is also the story of how sentient beings are affected by sensible objects, and this includes how this affection differs from typical affection, all of which is explained by workings of that which is unique to sentient creatures: organs equipped with homeostatic means

Aristotle's explanation of cognition is thus rooted in a presupposed body sense. We will turn our attention to the elaboration of the nature of this assumed sensitivity. Our analysis of this body sense will form the basis from which we can determine whether Aristotle holds (explicitly) any other theory of consciousness, as well as serve as the basis from which to assess influential interpretations.

4.3 Body Sense as Somatic Proprioceptive Awareness

What exactly, is the nature of this body sense that Aristotle presupposes? This peculiar and basic kind of awareness of one's body is different from contemporary notions of consciousness.[4] It does, however, resemble what is discussed in the literature as somatic proprioception[5], from the Latin *proprius* meaning "one's own" and perception. Like other

[4]See Ned Block (1980) for a discussion of the various concepts of consciousness.

[5]For various aspects of proprioception, its relation to consciousness, and how it is viewed in philosophy and the cognitive sciences, see Bermudez (1998) Bermudez *et al*. (1995).

notions of consciousness, the meaning of somatic proprioception differs in various contexts, but we can distinguish (non-controversially) among three inter-related phenomena:[6]

1. *Proprioceptive Systems*: channels of information such as pressure, temperature, fatigue, etc. whose source is the body
2. *Proprioceptive Information*: all the information available about the body (which may come from proprioceptive systems or elsewhere)
3. *Proprioceptive Awareness*: the conscious experience of the body, characterized as experience of the body as from the inside.

From the thought experiments in *de Anima* II.11, it is clear that Aristotle assumes (3): one feels wherever on her body one is affected by objects, as is evident when the body is extended by the symphytic air envelope. It would be surprising to find Aristotle discussing (1) or (2). Aristotle could not talk about (2) as articulated because the concept of generic information is alien to him.[7] Indeed, it is not clear how Aristotle could make sense of how one receives information about one's body. We would have to parse it out in terms the information received as received forms. However, if so we are saying that the body receives forms from itself, and there is no organ of the soul whose objects are the sorts of things of which we are aware through proprioception—body temperature, fatigue, etc. Thus (2) would not make sense on his view.

As for (1), Aristotle does not discuss proprioceptive systems explicitly—which includes things like: information about pressure, temperature, relative state of the body, balance and posture, skin stretch, effort and muscle fatigue, general fatigue.[8] But we do find approximations. In the *History of Animals* VIII.12, for instance, we find a hint of it tucked into a discussion of animal behaviour. Specifically, Aristotle is discussing the claim that all animal behaviour is tied to either reproduction or procuring food, and specific behaviours are

[6]This distinction and its articulation are taken from Bermudez et al. 1995, pp14.
[7]See the discussion against Caston's transduction theory in the previous chapter.
[8]*Ibid*, pp. 13.

modified to accommodate the fluctuations in temperature from season to season. Animals are able to modify their behaviour just because "all animals have an instinctive perception (*aisthêsin sumphuton*) of the changes of temperature" (596b22). Aristotle mentions this inborn ability to perceive changes in body temperature in passing for we find no further explication of it. Now this could mean that he has explained it elsewhere; that it is explained by his general schema of perception; or that he takes it to be the kind of phenomenon that does not require explanation. Given that he does not treat this issue (at least not in the extant texts), then we can rule out the first option. Further, this inborn perception seems significantly different from his account of sense-perception in general. Indeed, we know that the Plasticity Principle is a requirement for Aristotle, but it is not clear how, if at all, this can apply here. The dissimilarity is that there is no organ for proprioception, and thus, we can rule out any idea that this is explained in terms of his general account of sensation.

That leaves us with the third option, *viz.* that Aristotle takes a certain kind of perception as primitive, namely, the proprioceptive awareness of one's body. This comports with our reading of the thought experiments in *de Anima* II.11, for what is assumed is simply the awareness of being affected on one's body. We see another example of this in the *de Somno*. In distinguishing between being asleep and being awake, Aristotle notes that sleep is unlike wakefulness because we do perceive in sleep, but we cannot help but perceive while awake: "everyone who is awake perceives either some external movement or else some movement within himself" (454a4).[9] This is interesting because it shows that Aristotle is aware that we perceive things about our body but he still doesn't think it requires an account or further explanation. As in the thought experiments from the *de Anima*, here too a primitive notion of body awareness is taken as basic. One difference between this passage and that from the *de Anima* is that here one's awareness of one's body is explicitly mentioned. But this just makes the fact that he does not see it as troubling or worthy of explanation that much more striking.

[9] καὶ τὸν ἐγρηγορότα ἢ τῶν ἔξωθέν τινος αἰσθάνεσθαι ἢ τῶν ἐν αὑτῷ κινήσεως. Certain passages from the *de Somno* have been used as evidence for a higher-order theory of consciousness. We will address these passages and interpretations below.

For Aristotle then, the idea is that there is no need for further explanation once contact has been made between properties of things and perceivers. The reason, as I have argued, is that Aristotle's concern is with the acquisition of content, and not the nature of content. What is important for our reading at this point is that there is somatic proprioceptive awareness at the root of Aristotle's theory of perception.[10] Perception occurs when the organs of sense take on the forms of their objects, and this is taken to be an actually and literally change. The body, in taking on sensible forms, is affected by objects in the world and thus becomes like aspects of these objects.

Thus there is some kind of somatic awareness that Aristotle seems to take for granted. He does, however, touch upon discussions about awareness of our perceptions. In *de Somno* 2, for instance, in discussing the differences between sleep and wakefulness he writes:

> Now, since every sense has something special and something common; special, as, e.g., seeing is to the sense of sight, hearing to the auditory sense, and so on with the other senses severally; while all are accompanied by a common power, in virtue whereof a person perceives that he sees or hears (for, assuredly, it is not by sight that one sees that he sees; and it is not by taste, or sight, or both together that one discerns, and that sweet things are different from white things, but by a part common to all the organs of sense; for there is one sensory function, and the controlling sensory organ is one, though differing as a faculty as a faculty of perception in relation to each genus, e.g., sound or colour). (455a12-22)[11]

[10]Just to be clear, by this I do not mean that Aristotle articulates his account of cognition with this in mind. My claim, which is the thesis of this thesis, is that this is a presupposition that he holds about the living body and that his account of cognition works on assumption of it. Again, I am not interpreting Aristotle's theory here, but rather unearthing that which is needed to fill in his account.

[11] ἐπεὶ δ᾽ ὑπάρχει καθ᾽ ἑκάστην αἴσθησιν τὸ μέν τι ἴδιον, τὸ δέ τι κοινόν, ἴδιον μὲν οἷον τῇ ὄψει τὸ ὁρᾶν, τῇ δ᾽ ἀκοῇ τὸ ἀκούειν, καὶ ταῖς ἄλλαις ἑκάστῃ κατὰ τὸν αὐτὸν τρόπον, ἔστι δέ τις καὶ κοινὴ δύναμις ἀκολουθοῦσα πάσαις, ᾗ καὶ ὅτι ὁρᾷ καὶ ἀκούει αἰσθάνεται (οὐ γὰρ δὴ τῇ γε ὄψει ὁρᾷ ὅτι ὁρᾷ, καὶ κρίνει δὴ καὶ δύναται κρίνειν ὅτι ἕτερα τὰ γλυκέα τῶν λευκῶν οὔτε γεύσει οὔτε ὄψει οὔτε ἀμφοῖν, ἀλλά τινι κοινῷ μορίῳ τῶν αἰσθητηρίων ἁπάντων· ἔστι μὲν γὰρ μία αἴσθησις, καὶ τὸ κύριον αἰσθητήριον ἕν, τὸ δ᾽ εἶναι αἰσθήσει τοῦ γένους ἑκάστου ἕτερον, οἷον ψόφου καὶ χρώματος).

It may seem surprising that Aristotle raises the issue of our being aware of our perceptions in a general discussion on the difference between being asleep and being awake. It seems, furthermore, that this awareness is a property of some inner sense or capacity. This does seem like Aristotle's discussion is moving into aspects of consciousness. Several commentators have linked Aristotle's treatment of sense-perception to consciousness, especially in the few passages where he raises the issue that we perceive that we perceive—in the *de Somno* passage above, and in *de Anima* III.2. We will turn now to the exposition and assessment of influential interpretations of these passages. It will become clear that it is mistaken to attribute any developed notion of consciousness to Aristotle based on these passages. The picture that emerges is one in which Aristotle's inquiry into the ultimate nature of perception and our awareness of perception grounds out, or is rooted in, the somatic proprioceptive awareness that we now know he takes for granted.

4.4 Cognition and Consciousness

There are two principal passages in debates about Aristotle's theory of consciousness: one from *de Anima* III.2; the other is the passage that we have examined from *de Somno* 2. The *de Anima* passage raises many questions and puzzles, and attempts to make sense of this dense paragraph tend to find some explicit theory of consciousness articulated in it. Most notably, Victor Caston argues that we find Aristotle expounding a theory of consciousness akin to contemporary higher-order theories. We will examine Caston's argument below; first it will be best to refresh ourselves of the passage in question. Aristotle writes:

> Since it is through sense that we are aware that we are seeing or hearing, it must be either by sight that we are aware of seeing, or by some sense other than sight. But the sense that gives us this new sensation must perceive both sight and its object, *viz.* colour: so that either there will be two senses both percipient of the same sensible object, or the sense must be percipient of itself. Further, even if the sense which perceives sight were different from sight, we must either fall into an

> infinite regress, or we must somewhere assume a sense which is aware of itself. If so, we ought to do this in the first case. (425b12-17)[12]

This passage has been used by Victor Caston to articulate an interpretation of Aristotle's theory of consciousness. Caston unpacks this dense paragraph into an argument that runs as follows:[13]

> **1**. Given that we perceive that we see, there will be a single perception of both our seeing and the azure of the sky.
>
> **2**. We perceive that we see either (*i*) by means of a distinct new perception, or (*ii*) by means of the original perception, the seeing.
>
> **a** Therefore, either (a) there will be two perceptions of the same thing (the azure), or (b) the one perception will also be of itself.
>
> **b** But there are not two perceptions of the same thing (the azure).
>
> **c** Therefore, (*i*) is false.
>
> **α** I perceive that I see and so have a perception of a perception.
>
> **β** Any perception of a perception is distinct from the earlier one (*viz.*, from the perception it is a perception of).
>
> **γ** Therefore, whenever one perceives, there will be an infinite chain of perceptions, each new one being a perception of the earlier one.
>
> **δ** But it is impossible to have an infinite chain of perceptions—any such chain would have to be finite.

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[12] Ἐπεὶ δ᾽ αἰσθανόμεθα ὅτι ὁρῶμεν καὶ ἀκούομεν, ἀνάγκη ἢ τῇ ὄψει αἰσθάνεσθαι ὅτι ὁρᾷ, ἢ ἑτέρα. ἀλλ᾽ ἡ αὐτὴ ἔσται τῆς ὄψεως καὶ τοῦ ὑποκειμενου χρώματος, ὥστε ἢ δύο τοῦ αὐτου ἔσονται ἢ αὐτὴ αὑτῆς. ἔτι δ᾽ εἰ καὶ ἑτέρα εἴη ἡ τῆς ὄψεως αἴσθησις, ἢ εἰς ἄπειρον εἶσιν ἢ αὐτή τις ἔσται αὑτῆς· ὥστ᾽ ἐπὶ τῆς πρώτης τοῦτο ποιητέον.

[13] This is my rendering of Caston's (2002) formulation. Premises a-c are found on pp 770-771, α-θ on pp 773-774.

ε Therefore, some perceptions—*viz.*, the last member of a chain of perceptions—will be a perception of itself.

ζ But there is no more reason for some perceptions rather than others to be perceptions of themselves

η Therefore, the first perception is already a perception of itself and there is no need to posit a second.

θ Therefore, (*i*) is false.

3. Given the conclusions (c) and (**θ**), (*i*) is false, and by disjunctive elimination, (*ii*) holds.

4. Thus, we perceive that that we see by means of the original perception.

For Caston, Aristotle is taking as evident the fact that we perceive that we see and hear, and he then explains how this can be so. On Caston's reading, Aristotle uses two *reductio*-type arguments (**a-c** form what he calls the "duplication" argument, and **α-θ** form the "regress" argument) to reject the first disjunct in (2). Although Aristotle ultimately accepts the second disjunct of (2), he does not see it as unproblematic.[14]

Clearly, there is more here than what is given from the texts. But Caston's formulation includes a parsed out interpretation of Aristotle's reasoning in the sub-arguments, as well as the supplementation of missing premises. According to Caston's construal, the duplication argument rests on the appeal to phenomenology that supports (b). Since we are not aware of multiple perceptions of the same thing, there aren't, as a matter of fact, multiple perceptions of azure. In his rejection of duplication Aristotle is also rejecting the idea that awareness

[14]In the paragraph immediately following the one in question Aristotle raises an *aporia* concerning this idea that it is by sight that we see. Further, if it is by sight that we see then Aristotle seems to be here contradicting what he states in the passage we considered from *de Somno* 2 (455a15-22) where it seems as if he is denying that we see by the same capacity that we see. We will return to both these issues below.

consists in something extrinsic to our perceptions.[15] As for the regress argument, as it stands, the inference from **α** and **β** to **θ** is unwarranted. Two enthymemes must be added: A) a perception of a perception is also of what the earlier perception is of, and B) whenever we have a perception we have a perception of that perception.[16]

From this formulation of the argument, Caston holds Aristotle to a theory of consciousness which is similar to, but distinct from, modern higher-order theories. An animal is conscious of perceiving, on this view, just in case there is a perception of the perception. Since this awareness is in and of the same act as the perception, we cannot say that consciousness comes after perceiving. To be sure, certain perceptions are conscious and others not, depending on whether one perceives that she perceives. Thus, consciousness is the higher-order perception, but the lower state 'instantiates' the content of consciousness.

Caston argues that the regress argument precludes the view that there is a distinct inner sense that perceives that we perceive. Awareness, then, is "intrinsic to the original perceptual activity" (779). Given that all perception involves this kind of awareness, Caston argues, Aristotle ascribes it to the "perceptual capacity as a whole" in the passage from *de Somno*. So to bridge the two passages, in the *de Anima* he says that it is by means of the seeing by which we perceive that we see, and in the *de Somno*, although he says that it is not by sight that we see, it is by this awareness that accompanies sight, which (I presume) is part of the "sight itself". Or to put it the other way, the "common power" which he talks about in *de Somno* is not a separate thing or organ, but of the "perceptual capacity as a whole".[17]

Before we get any further afield, we will take a moment to challenge the following two claims that Caston makes: 1) that there is no distinct and separate inner sense, and 2) that the regress argument precludes such an inner sense. As for (1), Aristotle is clear that not only does each special sense have its distinct object and abilities; they are "accompanied" by a common

[15]Caston (2002) pp 772. Caston draws a parallel with this passage and Plato's *Charmides* (167c-168a) and argues that the passage in *de Anima* III.2 should be seen as dialectically motivated by Socrates discussion with Charmides. We will discuss this explicitly below.
[16]*Ibid*, 774.
[17]*Ibid*. 779.

power (*koinê dunamis*).[18] There is a question whether this common power is something distinct from each sense but which works with each sense, as in some sort of inner sense, or if it is common in the sense of a capacity or ability that each sense has equally.[19] In this context it seems quite clear that Aristotle supports the former, namely, that there is a separate sense by which we perceive that we perceive. This is supported by the claim made a few lines down where he discusses "the sense organ which controls all the others".[20] Proponents of interpretations of the latter sort—that this common power is common in the sense that it is something that each sense does or is able to do—tend to read this as a capacity that we have to perceive our perceptions. Such readings, however, are hard-pressed to unpack what Aristotle means by it being a "controlling power". We can say charitably that perhaps this common capacity is a controlling power in the sense that it has authority over the inputs of the individual special senses; it is that which determines how the proper sensibles are to be taken or assimilated into consciousness. But this interpretation is charitable indeed, for it rests on notions of the assimilation and unification of content that we do not find in this passage. The most straightforward rendering is to take this controlling power as something distinct from the senses. And this is itself an organ of sense (*aisthêterion*). It is odd to read this as a capacity or ability to sense, and not as an organ of sense which is the typical way to render it.[21]

There is a distinct inner sense which enables awareness of our perceptions. In this context Aristotle is concerned about discriminating sleep from wakefulness, but we can take this organ to be that which is responsible for the discrimination of qualities and the unification of perception. We can, that is, see it as the organ which does that which is discussed in *de Anima* III.2—that which discriminates between white and black, sweet and white, etc.[22]

[18]Much hinges on how we render *akolouthousa*, which is here translated as "accompanies". We will return to this issue below.

[19]Caston, for instance, argues that this cannot refer to a separate inner sense but is rather a capacity for reflexive awareness shared by all senses.

[20]455b τοῦ κυρίου τῶν ἄλλων πάντων αἰσθητηρίου. Again, see below for a defense of this reading against rival interpretations.

[21]Juha Sihvola follows Caston in denying an inner sense and holds this higher-order perceptual ability as a activity of the perceptual faculty as a whole (2007 56).

[22]For a good discussion on this chapter and a solution to the apparent contradiction inherent in the unity of Aristotle's cognizer, see Thorp 2008.

Interestingly, in this chapter Aristotle discusses the fact that we are able to discriminate between sensibles which are proper to one sense, such as white and black, and we are also able to discriminate between those peculiar to different senses, such as white and sweet. This leads Aristotle to discuss what has since been called the unity of consciousness, for if the discriminating part of the soul is both white and black or white and sweet, then there seems to be a violation of the principle of non-contradiction.[23] What is striking for our purposes is that even though he is entertaining notions of inter and cross-modal discrimination and problems with the unity of consciousness, Aristotle never questions the fact of consciousness itself here. Presumably, this is because he has already treated the topic at the beginning of the chapter. Thus, consciousness, whatever it amounts to for Aristotle, is fully explained in his account of how we perceive that we perceive. The inner sense which enables the reflexive awareness of our perceptions is the same capacity by which percepts are discriminated and unified.

Back to the issue of inner sense, although distinct from token perceptions it cannot rightly be said to be a further special sense.[24] This is because its objects are many: the percepts of each special sense. And as we will see below, this awareness grounds out in proprioception or the basic awareness that one has of her body that Aristotle takes for granted. The inner sense does not work the same way as the special senses for it does not need to change in the way peculiar to the special organs of sense because the forms (objects) have already been assimilated into the living body. Thus, it is just a matter of being able to discriminate them in further ways, which is done by this other capacity of sense. So it is not a sense *per se*, but it is a capacity separate and distinct from token perceptions.

Caston thinks that whereas we see with the eyes, we perceive that we see via this further capacity embedded in acts of perception. On our view, we do see with the eyes, and this is sufficient for perception of colours, but the further perception that we perceive is separate from acts of the organs taking on sensible forms. This is supported from the passage from the

[23]See *de Anima* III.2 426b17*ff*.

[24]Indeed, chapter 1 of *de Anima* book III is an argument to the effect that there is no special sense over and above those treated in book II. See Kosman 1975 for a similar interpretation.

de Somno. The issue hinges on how we are to construe what Aristotle means by "common capacity". For Caston, this is the higher-order perception that accompanies perceptions but is nothing distinct from the activity of, for example, seeing. But the Greek is ambiguous. The common capacity (*koinê dunamis*) that Aristotle speaks of is said to "accompany" acts like seeing, and he uses the participle "*akolouthousa*", which is typically rendered as "follow upon" or "be consequent to" to describe it. As such, one could reasonably take Aristotle to be saying here that this capacity to perceive that we perceive follows from acts of perception. But given what Aristotle says about the organ that controls the special organs of sense, we should read this common power as following or being consequent to our first-order perceptions.

There is one final clue that we find in the *de Somno* that gives reason to resist Caston's reading. At 456a5 Aristotle speaks again of that which controls our perceptions, but here it is put in terms as a controlling perception (*tês aisthêseôs kurias*) Now, no matter how we render *aisthêseôs*, be it as activity or capacity, *kurias* makes it unambiguously clear that this is distinct from the perceptions themselves. We should read this as the product or output of the controlling organ of sense; we are aware that we perceive because the inner sense produces a perception of our perceptions.

As for (2), the worries of regress in the passage from the *de Anima* are no threat to our reading. The threat of regress holds only if that which perceives sight is a different sense than sight or a different perception than the thing seen. That is, a vicious regress looms only if we need to posit something other than the perception to perceive this perception, for this further perception too must be perceived, and so on. For this reason Caston argues that the higher-order perception is part of the token perception. But we need not follow Caston here. Given Aristotle's commitments to literalism and isomorphism, that which perceives sight sees when it does so, and it hears when it perceives products of the auditory sense, etc. So this reflexive capacity is different from sight in object and in being because it is of the perception of the object of sight (which is formally identical or isomorphic but different in being). But it is sight because its object—*viz.* sight—is being seen given Aristotle's literalism. The point

then is that Caston does read the regress argument correctly, for if perception requires a further and distinct perception to be perceived then this chain runs *ad infinitum*. But Caston fails to see that Aristotle's position here is rooted in his literalism and isomorphism, which does not lead to further awareness; awareness is had by the already sensitive living body.

Aristotle is developing the idea that we need this further sense to discriminate and unify perceptions. Thus it cannot be part of the token perception just because the scope of its objects includes the objects of all the special senses. The perception that we see differs from a token seeing in being (it is the same object) because it must be taken on by that which can then discriminate the form seen with others. The point here is simple: there has to be an inner sense or capacity just because Aristotle is committed to the idea that a sense is defined or determined by its object.[25] Indeed, to perceive that we are seeing is to entertain the same object in both sight and in this reflexive state, but because this reflexive capacity can entertain the objects of each special sense, as well as contrary forms from specific senses, it cannot be identical to the senses themselves.

Let us get back to Caston's reading of Aristotle and consciousness. As Caston is well aware, the inner sense reading (that the perception that we perceive is different from the act of perception itself) is supported by a literalist interpretation. A literalist, that is, is committed to the idea that the activity of the inner sense is identical to the activity of the perception, which is also identical to the activity of the object. For in all cases the actualization of azure, say, is the literal taking on or becoming azure. The literalist also has an easy answer to the question "what makes our seeing perceptible"? We perceive that we see the azure because upon perception the eye becomes azure, so just as the eye perceives the form in the object, there is an awareness of the seeing of azure due to the presence of azure in the body (the eye).

So whereas azure is perceived because it is a proper perceptible of sight, we perceive the perception of azure '*as of*' a perception of azure, to borrow Caston's words. For Aristotle

[25] Aristotle is explicit that the parts of the soul are distinguished by their objects (*cf.* 415a20-23). Also, we can construe Shields' functional determinism such that if the class or kind that a thing belongs to is determined by its function, and if the function of the organs of sense is to become like their objects, then the special senses too are functionally determined (see Shields 1991, 21).

then, "(*i*) the experience has some characteristic in virtue of which it is about this quality (or represents it) and (*ii*) this characteristic is itself, in some extended sense, perceptible".[26] On this reading the phenomenal character of one's experience outruns the intentionality or representation of colour (by this I take it he means there is more to the experience than its being about *x*: there's the "what it feels like"). For the experience is coloured in a way, which for Caston means that it is like or similar to the perceptible quality. It is not the same quality but the "mental paint used to represent coloured objects that gives our experience the phenomenal character it has".[27]

This strikes me as odd. Why would Aristotle, the great classifier, not have anything to say, or even try to say anything about this characteristic of perceptibility? Indeed, given the great pains that he takes to identify that which makes objects perceptible it is strange that he would give such a fragmented account of the matter here. At the very least one would think he would mention that our perceptions are perceptible in a manner different than objects. Now if we think that he is a literalist, on the other hand, this is not a problem for he is merely making the claim that the first-order perception is perceptible in the same way that its objects are. But the bigger point is that he is not concerned with reflexive awareness *per se*, but rather simply with wondering how we are able to perceive our perceptions, which is necessary for inter and intra-modal comparisons and discriminations, which he goes on to discuss in the chapter. Now this is very much *like* reflexive awareness, and indeed we may even call it such, but Aristotle's concern is not with trying to understand the *nature* of this higher-order capacity—that is, consciousness as a different faculty or power of sentient beings—he is merely setting up the explanation of comparison and discriminations. If he is working out some explicit theory of consciousness, it is even more striking that he does not run into the problem of consciousness. On his isomorphic account, one would think that he would be led to consider if there are any differences in kind between the content of higher-order (and even first-order for that matter) and its object(s). But he does not. The form in the perceiver (both

[26]Caston 2002, 790.
[27]*Ibid*. 791.

at the first and higher-orders) are the same as they are in the objects. So he doesn't run into the problem of consciousness here for two reasons: i) he is not concerned with the nature of this awareness that we perceive, and ii) his isomorphism commits him to the view that qualities in us are identical to the qualities in objects.

Caston grounds this line of argument in the *aporia* raised in the passage following that in which Aristotle discusses that we perceive that we see and hear. The *aporia*, according to Caston, is how the higher-order perception of colour can itself be seen when the original perception requires a coloured object to see. This is the question of literalism, for if the eye becomes coloured in a real way, then the eye becomes like the original perceptible object; it becomes perceptible itself. Aristotle's answer to the *aporia* is that which sees (*to horôn*) is coloured in a way (*hôs kechrômatistai*, 425b22-23). For Caston, Aristotle takes the perceiving part of the token perception, not to be literally coloured (*pace* our reading), but having some characteristic which makes it about colour. We see a stark incompatibility, Caston argues, between this and literal readings.[28] For the literalist, Aristotle's answer to the *aporia* is that the perceiving part (the eye) becomes coloured in a way—this is the token or first order perception—by which he means that the organ takes on the quality of its object, but in an atypical manner. John Sisko argues that "in a way" refers to the organ becoming like its object only temporarily.[29] Thus the eye is perceptible in the same way that its objects are: it is coloured.

Caston's main reasons for dismissing the literalist answer to the question of how our perceptions are perceptible are that being "coloured in a way" runs counter to a literalist reading, and Caston takes Aristotle to be engaging Socrates dialectically in *de Anima* III.2, which a literalist reading cannot account for.[30]

As for the former claim, we have already seen how literalism not only makes sense of this and similar remarks, but makes better sense of it than its rivals. Sisko argues that the literalist

[28]In a direct reply to Caston's article, John Sisko (2004) criticizes Caston's quick dismissal of the literalist alternative.

[29]Sisko, 2004 pp 515.

[30]*Op cit*, 789.

not only makes sense of these and other like remarks, but they support the literalist reading.[31] As we have mentioned, he sees this as Aristotle explaining that our senses take on the qualities of their objects temporarily. But he does not give any further explanation of how perception works for Aristotle. On our mean literalism, however, we have the mean serving as the homeostatic mechanism of change which explains the nature of this temporary adoption of the qualities of proper sensibles. Caston replies to Sisko by pointing out that these passages are notoriously used by spiritualists to defend their view of the quasi-alteration (Burnyeat) or some such view of the change in perception. Caston's rebuttal of this claim is weak, for it is no argument to point to "coloured in a way" being used by opponents of literalism. Charitably we can invoke the *arguments* adduced by opponents of literalism to support their interpretations, but since Caston adds nothing new here then our treatment of this issue in the previous chapter stands.

Caston's strongest argument against a literal interpretation is his claim that Aristotle is engaging Plato's *Charmides* in a dialectical manner in the passages from *de Anima* III.2. This connection is much more difficult to assess, but it is equally tendentious to make. We will thus examine and assess Caston's connection of *de Anima* III.2 to Plato's *Charmides*.

Caston notes the following passage from the *Charmides*:

> ...and so I suppose that sight, if it is to see itself, must itself have a certain colour, since sight could never see anything uncoloured (168d9-E1).[32]

Like Socrates, Caston takes this to be "patently absurd". He connects this with Aristotle's *aporia* in *de Anima* III.2. Caston translates the passage as follows:

> This [view] faces a difficulty. If to perceive by sight is to see, and colour or what possesses [colour] is seen, then if one is to perceive what sees, what originally sees will also have a colour (425b17-19).[33]

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[31] Sisko 2004, 516.
[32] Caston's translation, 2004, 524.
[33] *Ibid*.

Now if this is to be a problem for the view Aristotle had just defended, then that "which sees" (*to horôn*) must refer to the act of seeing (*opsis*), Caston claims. Caston takes Aristotle's conclusion to be that our original seeing must either be a colour or something coloured. From this he takes as evident that Aristotle, like he and Socrates, finds this absurd. So Aristotle's aim is to find something by which the seeing is itself perceptible without taking it to literally be coloured. Caston purportedly rebuts Sisko's literalist reading by re-emphasizing the supposed dialectic at work in this passage.

The dialectic between Aristotle and Plato is important for Caston, for he sees it as constraining the criteria of adequate interpretation; constraints that literalism cannot meet, he argues.[34] The literalist must reject the dialectic between the *de Anima* and the *Charmides*, and must also deny that the conclusion of the *reductio* is absurd, for it is plainly true for the literalist that the eyes must be something coloured or a colour. Now Caston thinks that Aristotle goes on to provide answers to the challenge of the *aporia* of how the seeing is itself perceptible and the answer is that it is coloured in a way (*hôs kechrômatistai*). To support his claim that this does not support literalism (*pace* Sisko) he points to the spiritualist appropriation of such qualifications about perception-that perception is an *alloiôsis tis*, *dunamis tis*, etc. And thus he rejects Sisko's claim that being coloured in a way is meant as being coloured temporarily, for while it may make the passage consistent with literalism, it fails to make sense of the dialectical context.[35] Further, Aristotle explains this qualification by appealing to the business of the "form without the matter". But this is no refutation. It is more of a restating of the claims made in the original paper—that what Aristotle means by it is that the content of our reflexive awareness outruns that of the object, for in seeing azure the seeing itself becomes perceptible, but in a way that is only derivatively related to the quality of the object. Again, this is a re-statement, not an argument. So the only argument he has against Sisko's (or any literalist's) alternate reading of *hôs kechrômatistai* is that it fails to pay attention to the dialectic.

[34] *Ibid*, 525.
[35] *Ibid*, 528.

Whereas Sisko may have failed to address this supposed dialectic directly, we will do so. Our literalist reading holds that it is not the fact that the eye is coloured that enables one to see, but rather the fact that it is *potentially* coloured (the Plasticity Principle). Unlike Aristotle, Socrates is working with the principle that like is known by like—a principle that Aristotle rejects, or more specifically, that he modifies. For Aristotle thinks that things are known by like and unlike, as we have explained above. Now if the eye is coloured in order for it to see, which is required if one holds that like is known by like, then one does run into obvious problems. In order to perceive azure, the eye would have to be blue, but then how does a blue eye come to perceive green, red, etc.? So Socrates' problem arises because he holds a strict like-like view of cognition. Aristotle's commitment to the Plasticity Principle weakens the dialectical connection for him. For Aristotle, the eye is only coloured during the seeing, and thus he is not faced with the problem that led to Socrates' *reductio* of this view: that sight is coloured (always). So whereas Socrates sees literalism as absurd, he does so only because of his commitments to cognition being of like-by-like. Aristotle's more considered and nuanced view does not run into Socrates' problem because the eye is only coloured temporarily and thus there is nothing hindering further perceptions of different colours. The eye is no colour in actuality prior to being affected by objects, but it is potential all colours. Aristotle does not share Socrates' worries, and thus, there is no dialectical connection between the passages.

Although Caston concludes that Aristotle develops a nuanced higher-order theory of consciousness in *de Anima* III.2, his treatment fails to secure the conclusion. Caston's unwillingness to entertain literalism leads him to look too far afield for the characteristic of our perception by which they are perceptible. Aristotle is not being cryptic; he need not elaborate further how they are perceived for it is the same account that he has given for the perceptibility of the objects of sense. Read through a literalist lens we do not find Aristotle engaged in dialectic with his teacher, and thus we have no reason to think that this is a *reductio* of literalism.

Aristotle's account of the so-called higher order perceptions is identical to that of ordinary perceptions. Just as the eye literally becomes like the coloured object, in being coloured it is the object of the higher-order awareness of our seeing. Aristotle needs this second level of perception in order to explain the unity of consciousness and the combinatorial powers we possess, which is why this issue arises in the same chapter where he discusses inter and cross-modal discrimination and problems with the unity of consciousness. Literalism allows for an adequate reading not only of sense-perception, but also of the reflective awareness of our perceptions. With it we need not follow Caston in elaborating a Baroque system of Aristotle's architecture of the mind, which is not warranted from the texts, and thus not true to Aristotle. Thus it should be rejected as an interpretation of Aristotle, regardless of the benefits it may have in overcoming certain problems in contemporary philosophy of mind.[36]

Caston, however, is but one who has discussed these passages in terms of Aristotle's views on consciousness. Not all interpretations, however, hold Aristotle to a fully-fledged account of consciousness. Richard Sorabji discusses the various ways in which Aristotle differs from Descartes on the matter. He reads the passage from *de Anima* III.2 as an endorsement of literalism. He writes:

> Aristotle's view of how one is aware of one's own seeing is rather surprising. For *DA* 425b12-25 equates the question of how we are aware that we are seeing (425b12; bI3), or, in other words, how we are aware of our sight (425bI3; bI6), with the question of how we are aware of the organ that sees (*to horôn*), 425b19; b22).[37]

Unlike Caston, Sorabji does not think that this awareness of our perceptions should be construed as Aristotle articulating some detailed treatment of consciousness. It is rather the simpler claim that we are aware of our perceptions the same way that we are aware of, or perceive, objects: because they are coloured. This, for Sorabji, "does not sound like a

[36]Indeed, Caston may rightly be said to be articulating an *Aristotelian* theory of consciousness, but this must be kept separate from what we say is *Aristotle's* theory of consciousness.

[37]Sorabji 1974, 71-2.

Cartesian act of mind".[38]

Another significant treatment of these passages in Aristotle and their relation to consciousness is that of A. L. Kosman. Kosman argues that there is a notion of self-consciousness inherent in Aristotle's treatment of how it is that we perceive that we perceive. Kosman notes that there is no consciousness or apperception required in order for the sensible forms to be cognized over and above acts of perception. We perceive with the special organs of sense, Kosman holds, and we are aware of these perceptions, not by some further act of some separate organ or inner sense. Rather, the reflexive awareness is a product of the special organs of sense being part of a percipient network of sorts. It is not by the eye that we see that we see, it is "rather the result of the eye's integration into a unified network of senses, each of which performs its special activity of sensing, but is capable of awareness by virtue of the common faculty of sensitivity shared by them all as elements of a percipient organism".[39] Thus Kosman reconciles the apparent tension between the *de Somno* and the *de Anima* for while there is no separate sense by which we are aware of our perceptions, it is still not simply by seeing that this reflexive awareness arises. Sensible forms are perceived by the organs, and the organs being part of a living, percipient body enables the higher-order awareness of perception.

Kosman's insight is that the living body is important for Aristotle's system of cognition for it is responsible for the awareness that we perceive. Kosman takes the living body to be what we have been calling the inner sense, which approximates our Naïve Somatist reading but fails to see that our perceptions and awareness of our perceptions ground out in an assumed proprioceptive awareness. Indeed, Kosman does not take the explanation any further. Like Sorabji, however, Kosman is right in not ascribing a nuanced theory of consciousness in these key passages. This is right, for there is no such theory hiding in these cryptic texts.

[38] *Ibid.*
[39] Kosman 1975, 517.

4.5 Conclusions

Taking a moment to reflect upon our discussion thus far, it is evident that just as we need not posit any non-bodily elements to fill out Aristotle's explanation of perception, we similarly need not posit some theory of consciousness to explain his treatment of how we perceive that we perceive. This fits with Aristotle's Naïve Somatism insofar as Aristotle is explaining the acquisition of content, and not the nature of content. It is for this reason that we find no notion of "mind" in Aristotle; no extra "mental" act required accounting for cognition and reflective awareness—i.e. "mind" as the inner, private, subjective realm that is putatively of a different kind than the objective, physical realm. Indeed, even Aristotle's *nous*, the organ of thought, although separable and unmixed, is not of a different kind than the objects it cognizes for Aristotle's strong isomorphism holds an identity between properties in things and properties *qua* objects of cognition. Aristotle's isomorphism forms a direct link between the object and thinker.

Interestingly, isomorphism renders the notion of subjectivity alien to Aristotle as well.[40] If properties are the same in thought as they are in the objects, then we ought not be surprised to find a want of the notion of subjectivity for there is no reason why Aristotle need be aware of it. The organs of cognition, perceptible and noetic, take no part in establishing a private realm for there is no such realm for Aristotle. What we see Aristotle doing in *de Anima*, then, is explaining what we moderns call the functions of the mind—perception, thought, imagination, etc.—yet he does so without ever asking questions about what would call the metaphysics of mind. Indeed, Aristotle gives an incredibly systematic and detailed account of the mechanics of perception and not once do we see him worried about, or even noticing the elephant in the room: the mind-body problem. Even if Aristotle were indeed doing metaphysics of mind (perhaps in some other treatise), one would think that he would feel compelled to pay lip service, at the very least, to the fact that his seemingly naturalist account

[40] Pauliina Remes (2007) gives an exceptionally original and illuminating treatment of subjectivity in antiquity. Remes argues that affections and experiences of the soul that are 'one's own' belong to the subject independently of their being private and qualitatively inaccessible to others.

of perception does not grant any special status to the qualitative aspects of perception. The more reasonable approach is to think that the does not mention the mind-body problem, or any of its cognates, simply because he does not see it; it does not show up on his philosophical radar. And he does not see it because the so-called nature of the mental as such—as that inner, private, essentially subjective realm that seems to be of a different kind than the objective, physical realm—is not on the list of phenomena to be explained. He does not see it as a philosophical *explanandum*, if he sees it at all.

We have shown that Aristotle does not explain, for he does not require, anything over and above the changes involved in the fact that the cognitive organs become like their objects for cognition to occur. There is no separate "mental" act, as it were. And we have also seen that this is because acts of cognition are changes in a living animal body, which Aristotle takes to be equipped with a basic sense of itself; a rudimentary and assumed proprioceptive awareness of the living animal body. Indeed, the reflective awareness, that many employ to hold Aristotle to a fully-fledged theory of consciousness, also grounds out in the body sense that Aristotle takes for granted. Thus, Aristotle is aware of, and discusses, our ability to perceive that we perceive, yet this is not a foray into the nature of the mental or consciousness, but something that is a part of the act of perception. Not surprisingly, then, it too is explained in terms of the literalism and the mechanisms used to explain perception.

Cognition is grounded in the basic proprioceptive awareness of which Aristotle presupposes is inherent in animal bodies. Aristotle is not doing metaphysics of mind and he is innocent on issues regarding the mind-body problem, qualia, etc., because he has other philosophical concerns which take pride of place. Thus we can articulate Aristotle's Naïve Somatism as follows: Aristotle does not have a philosophy of mind because he is not doing philosophy of mind (read "metaphysics of mind") for such does not show up on his philosophical radar; he does not deem it worthy of explanation if he notices it at all. Indeed, Aristotle lacks a concept of the "mental" akin to ours which may be why he does not run into the problems that contemporary philosophers of mind struggle to deal with. Aristotle's

metaphysics in cognition are assumed: the animal body comes equipped with a proprioceptive awareness in which all cognition—perception, reflective awareness, and thought—grounds out. Once we see this, we see that Aristotle's concern is with explaining how properties of objects become properties of cognizers, i.e., with the acquisition of content. The explanation, and the philosophical puzzle, stops when content is appropriated by the living body.

Aristotle's Naïve Somatism runs counter to the wealth of literature that has sprung up through the ages on Aristotle's ruminations on cognition. All thinkers holding Aristotle to some philosophy of mind or other assume that he is working with the same or relevantly similar concept of mind. But this cannot be taken for granted, as we have seen. The Naïve Somatism thesis thus raises several interesting questions. Is Aristotle alone among ancients in his philosophical concerns about cognition, i.e. what he takes as his philosophical *explanandum*? If Aristotle does not have a concept of the mental akin to ours, when does such a concept emerge in the history of ideas? The latter question, although interesting and important to answer, cannot adequately be pursued here, but we will turn to the former question in the following chapter. Upon examination, it seems as if content acquisition as *explanandum* is not unique to Aristotle and that despite varying philosophical approaches to cognition, none of Aristotle's contemporaries or predecessors worked with a concept of mind akin to ours.

Chapter 5

Reflections and Conclusions

5.1 Introduction

Taking stock of what we have considered so far, including our look at Aristotle's definition of soul, his theory of sense-perception, his account of thought and *nous*, and what we have discussed above, a picture of the scope of psychological explanation emerges for Aristotle. In *de Anima*, he examines his predecessors' views on the soul, criticizes them, and offers an alternative conception of soul, a conception according to which the soul is not a *thing* in any normal sense. Rather, the soul is a set of capacities peculiar to living beings, no more, no less. Thus there is a want of discussion in Aristotle as to the nature of soul, especially vis-à-vis the mind, and the reason is that there is no such *thing* to be found in his works. What we do find are explanations of how specific psychic functions work. Aristotle spends much time explaining nutrition, reproduction, growth, generation, corruption, the special senses, and thought, and no time on some supposed thing called the soul which houses or enables these functions; there is no such thing to be found.

What Aristotle takes to be the philosophically hard questions, in *de Anima* at least, are those involving psychic functions associated with the sensitive and rational souls. In particular, explaining how cognizers become like their objects is that which consumes most of Aristotle's philosophical psychology. We should thus not be surprised to see Aristotle explaining perception and thought while sidestepping or being unaware of the metaphysical minefield that consumes much contemporary philosophy of mind, for he is concerned with explaining the workings of the soul—that is, what living things do and how they do it.

5.2 Aristotle in Context

If my thesis is right, then we cannot say of Aristotle that he has a concept of "mind" or "the mental" akin to our contemporary notion. Particularly "lacking" in Aristotle's ruminations on cognition is any notion of the inner, private, subjective realm that has come to be our notion of

mind.[1] From this, one obvious question arises: is this unique to Aristotle, or is Aristotle working with the assumptions generally held in antiquity? Does Plato, for instance, in his famous separation between body and soul, conceive of the mind as inner and private, in contrast to what is "out there"? We may similarly ask whether the *explanandum* of content acquisition too is unique to Aristotle, for the issue of what the ancients take as the *explanandum* of cognition is directly related to various approaches in *explanans*. If other thinkers are concerned with explaining the seemingly peculiar nature of the mental, then their means of explanation will differ from that of Aristotle who is trying to explain how properties of things become properties of cognizers.

In this section we will briefly explore this question. We will begin by looking at what some Pre-Socratic philosophers have to say about cognition and thought. This treatment does not exhaust all thinkers that have come before, but it does focus on those that are more prominent in Aristotle's psychological works. Albeit speculative, given the fragmentary nature of Pre-Socratic accounts, our discussion will point out ideas from some key thinkers to show that they share Aristotle's conception of the phenomena that need to be explained in cognition. Again, given that we lack considerable detail in Pre-Socratic accounts we cannot rule out that some may have a different conception of what requires philosophical explanation. But we will work under the assumption that the extant texts are sufficient to show the general approaches of thinkers that have come before Aristotle.[2]

We will then turn the discussion to Aristotle's teacher and mentor, for if there is an ancient figure that has a concept of mind akin to ours, at least *prima facie*, it surely must be Plato. However, upon closer reflection we see that astonishingly, even the supposed great dualist of the day is not a dualist in the manner required for it to be said that he shares in our concept of

[1]Although this is the popular view of mind, some thinkers disagree with this conception of the mental. But the focus of this discussion is not to survey nor assess competing conceptions of the mental. Rather, what follows is an examination into ancient texts with an eye towards seeing whether this common notion of the mental can be found.

[2]It would be surprising to find Aristotle's predecessors working with a conception of "mind" as inner and private without him taking note of it. Indeed, one would think that in combing the *endoxa* of those who have come before him Aristotle would be compelled to incorporate this rival view into his discussion, as he does with Anaxagoras' idea that *nous* must be "pure of all admixture" in articulating his plasticity requirement (428b21).

the mental. For Plato, like Aristotle and those who have come before him, is occupied with explaining issues surrounding the acquisition of content and not, as it were, with the metaphysics of mind. Plato's dualism, I argue, is not a dualism that fits in our philosophy of mind.

5.2.1 Pre-Socratic Conceptions of *Psuchê*

Many thinkers have come before Aristotle and we will not survey all of their views. Our focus will be on those of which we have enough evidence to enable an understanding of their general philosophical outlooks. And of these, we will examine only those that have given close attention to explaining perception and thought.

Empedocles

The textual evidence for our knowledge of Empedocles is typically sparse, but it does provide us with enough information to give us an understanding of his philosophical system. Aristotle credits him with being the first to distinguish the four elements (or "roots", *stoicheia*)—fire, air, earth, and water—which are moved by two forces: Love and Strife (*Metaphysics* A4, 985a31-3). The elements and these principles are Empedocles' tools for explaining natural phenomena, including perception and thought.

As we know from Aristotle's mention and criticism of Empedocles' theory of perception, he maintains that like is known by like. Aristotle says of Empedocles that:

> For with the earth do we see earth, with water water, with air bright air, with fire consuming fire; with Love do we see Love, Strife with dread Strife.[3]

The elements tend toward their own, and he explains perception with the principle of like-by-like. Indeed, Empedocles, like Aristotle, gave physiological explanations for his theory of perception. He is aware of the special role of the organs of sense and he noticed that

[3] As quoted by Aristotle in *Metaphysics* B4 (1000b6), fragment 393 in Kirk, Raven, and Shofield (KRS), p. 311. γαίῃ μὲν γὰρ, φησί, γαῖαν ὀπώπαμεν, ὕδατι δ᾽ ὕδωρ, αἰθέρι δ᾽ αἰθέρα δῖον, ἀτὰρ πυρὶ πῦρ ἀίδηλον, στρογὴν δὲ στοργῇ, νεῖκος δέ τε νείκεϊ λυργῷ.

each sense has its own sensible object. Indeed, his theory of effluences (*aporroai*) is used to explain how it is that eyes cannot perceive sounds and why ears cannot perceive colours, etc. The reason is that a sense is affected once its sensible object reaches it, and it must go through pores or channels to reach the sense. The pores of each sense are of different shapes which correspond with the differing natures of their respective objects. Aristotle tells us of Empedocles' view that:

> Perception arises when something fits into the passage of any of the senses. This is why one sense cannot judge the object of another, since the passages of some are too wide, of others too narrow for the object perceived, so that some things pass straight through without making contact while others cannot enter at all.[4]

Thus, his like-by-like view and his theory of effluences work to explain phenomena associated with perception.

The parallels with Aristotle's account, although not surprising, are quite interesting. As we have mentioned above, Aristotle's considered view is that we perceive by both like and unlike, and he thus taking a stand in this ongoing debate. Like Empedocles, Aristotle tries to explain how the perceiver becomes like the objects perceived, and this is because Aristotle, despite having a considerably novel philosophical framework, still maintains the same *explanandum* as his predecessors. Both Empedocles and Aristotle are trying to explain content acquisition; where they differ is in what they take to be the proper and adequate explanation of how perceivers become like their objects. For Empedocles it is enough to have effluences that explain the proper objects of sense and the elements to explain perception. For Aristotle, a physiological explanation that considers the material constitution of the organs in the process of becoming like their objects is required. In both accounts, the explanation stops when the perceiver becomes like its object.

[4]Found in Theophrastus' *de Sensu* 7, KRS 391, p. 309. Ἐμπεδοκλῆς δὲ περὶ ἁπασῶν ὁμοίως λέγει καὶ φησι τῷ ἐναρμόττειν εἰς τοὺς πόρους τοὺς ἑκάστης αἰσθάνεσθαι· διὸ καὶ οὐ δύνασθαι τὰ ἀλλήλων κρίνειν, ὅτι τῶν μὲν εὐρύτεροί πως, τῶν δὲ στενώτεροι τυγχάνουσιν οἱ πόροι πρὸς τὸ αἰσθητόν, ὡς τὰ μὲν οὐχ ἁπτόμενα διευτονεῖν, τὰ δ᾽ ὅλως εἰσελθεῖν οὐ δύνασθαι.

The significant upshot of this comparison is that we see that we cannot say that an assumed body sense is peculiar to Aristotle, for the same is found in Empedocles. When the fire of coloured objects reaches the eye via the proper pores, perception occurs. The eye is presumed to be sensitive and stands in wait of being affected from without. The same goes for the other senses, *ceteris paribus*. Again, one could object here by appealing to our ignorance of Empedocles given the lack of extent sources. He may, for instance, articulate an intentional theory of cognition that takes the appropriated elements as a starting point and ends in some cognitional form after undergoing the full process of cognition. This cannot be ruled out given the nature of the evidence we are using in our reconstructions. But this is highly unlikely. It would be quite astonishing if there were any further or other significant aspects of Empedocles' theory of perception for the simple reason that we would likely hear of it in the relevant sources, such as in Aristotle or Theophrastus' description of Empedocles' theory. And if Empedocles did indeed have more to his explanation we should be even more shocked to see Aristotle entertaining the presuppositions that we find at the heart of his theory of cognition.

The Atomists

The Pre-Socratic atomists Democritus and Leucippus shared similar views on physics, perception and thought. Everything is constituted of atoms and void and the atomic theory of perception is explained in terms of the movements of atoms between objects. Souls are constituted of soul atoms, which are smoother and finer than other atoms, and which permeate the living body. It is thought that the atomists conceived of mind as a concentration of soul atoms.[5]

Perception is explained in terms of atoms and void. Objects continually shed images (*eidôla*) of themselves which float off and away from the object. If such an image successfully makes it to a perceiver, it is perceived as such for it makes contact with the perceiver who is privileged with soul atoms and thus is able to cognize the image as such. Leucippus explains

[5] See KRS, 429.

that the images ultimately come into contact with the sense-organs, and thus we may infer that, like mind, these too are concentrations of soul atoms.[6] Both perception and thought require that images be taken on by the body of the perceiver or thinker.

The atomic theory of perception is such that, necessarily, all sensation is reduced to touch, for the objects of each sense is a material image. Be it things seen, heard, smelt, touched, or tasted, perceptible objects are all constituted of atoms, and perception occurs only once contact with the body is made. Importantly, the same account holds for thought as well. Thus, given that all perception and thought necessarily ground out in touch (as we see in Aristotle's criticism[7]), we clearly see that the atomists, like Empedocles and Aristotle, have content acquisition as the *explanandum* of their theory of perception.

On this view it is quite clear that there is no subjectivity inherent in any aspect of the mental. The materialist account of soul gives us an *ipso facto* materialist account of mind. Mind, as a concentration of atoms, is a part of the body like all else, differing only in the ratio of soul atoms to body atoms, which is higher than elsewhere in the body. There is thus no private realm posited in the atomic account of cognition. Furthermore, Democritus and Leucippus also work with an assumed sensitivity of the living body for the simple reason that their *explanandum* is content acquisition. The account ends when the objects of perception and thought reach the body equipped with soul atoms. End of story.

This account must be qualified, in a minor way. The reason is that there are no qualities "out there" for the atomist, other than those that are peculiar to atoms themselves: size, shape, the capacity to resist, and weight. These qualities are imperceptible in atoms for the simple reason that atoms themselves are imperceptible. We perceive atoms, or more specifically, the effects that they produce, when they act on the body, usually in large groups. Unlike Aristotle and Plato, the atomist take sensible qualities, like blue or bitter e.g., to be the product of convention, which we gather from Democritus' famous remarks.[8] Democritus does not hold a

[6] *Ibid.*
[7] Aristotle *de Sensu* 4 (442a29), reprinted in KRS 428.
[8] See fragment 548 in Kirk, Raven, and Shofield, p. 411.

perceptual realism as Aristotle does, but his *explanandum* is content acquisition nonetheless. The textual evidence is notoriously scant, but we should not be surprised that Democritus, on our reading, does not undertake to explain how the phenomenal character of experience (*qua* mere convention) stems from the interactions between atoms that lack such properties. Democritus, like Aristotle, seems innocent of a concern with these issues that pertain to the nature of content. The atomists or Democritus at least, are not trying to show how properties of things become properties of perceivers, strictly speaking. But they are trying to explain the interactions between the atoms of things and those of cognizers.

5.2.2 Plato's *Psuchê-Sôma* Dualism

As we have seen in chapter II, there is no shortage of secondary literature examining the nature of Aristotle's so-called philosophy of mind, and we have also seen that there is significant variance in the theories that have been imputed to him. It interesting, in contrast, that considerably less attention has been given to examining the nature of Plato's philosophy of mind, and even significantly less debate as to what kind of theory of mind we should take him to hold. The general consensus is that Plato is a dualist *par excellence*, and there is less to discuss about his views compared to Aristotle because there is supposedly less room for disagreement.

But given the Naïve Somatism thesis, we have *prima facie* reason to re-examine Plato's thought about the nature and function of the soul. The questions we need to ask are whether he, unlike Aristotle, does work with a notion of the mind that more closely resembles ours, and whether the phenomena that Plato deems worthy of considered philosophical investigation are the same as Aristotle's. In this section we will answer these questions by examining some articulations of Plato's so-called dualism.

The connection between Plato's use of *psuchê* and the modern conception of mind is commonplace in the literature. Fred Miller Jr., for instance, remarks that "Plato's term *psuchê*, usually translated "soul", often corresponds closely to the modern term "mind", and his

dialogues tackle issues like those discussed by modern philosophers of mind".[9] Albeit par for the course in the literature, this claim rests on an unanalyzed notion of mind, for once we begin examining how Plato's conception compares to the modern concept, the similarities are shown to be merely superficial.

Many see Plato's dualism come to the fore in the dialogues concerning the nature of *psuchê*, particularly the *Phaedo*. The separation between body (*sôma*) and soul is the main theme of the dialogue, and Plato's language suggests that the soul is hindered by the body. Indeed, the soul can only function at its best once separated from the body.[10] The soul both pre-exists and survives the death of the body; the body is buried while the soul lives on; and the soul is "invisible" (*aoratov*) compared to the visible body. Plato provides plenty of details towards the separation between soul and body, and thus there is the *prima facie* connection with his treatment of soul and Descartes'.

But Plato's conception of *psuchê* is not identical to the Cartesian conception of soul. For Plato, like all ancients, *psuchê* belongs to all living things, whereas Descartes' soul is found only in rational beings. A further dissimilarity, which may squelch any attempt to liken Plato and Descartes, is that Plato's *psuchê* is tripartite and Descartes' soul is unitary.[11] The division of the soul, as we see it in the *Republic*, is between the rational part (*logistikon*), the spirited part (*thumoeides*), and the appetitive part (*epithumêtikon*).[12] The reasoning part is able to love knowledge and wisdom, and ideally it should govern the whole of the soul. The appetitive pursues immediate sensual pleasures and tries to avoid pain or suffering. The spirited part is intermediate, and is the seat of emotions connected with self-assurance and self-affirmation.

The reason why Plato's division may trouble dualist interpretations is that Descartes' soul is essentially un-extended or without parts, for it is essentially thought. At best there is only a

[9]Miller 2006, 278. Miller does go on to note that Plato's conception of *psuchê* does differ significantly from the modern "mind" or "soul", but his focus is with the difficulties in exact translation. He does not rescind his earlier claim that Plato's *psuchê* is basically "mind".

[10]*Phaedo*, 76c, 79b-d.

[11]Perhaps Plato conceives of the soul as unitary in the *Phaedo*, for there is no mention of the different parts of the soul in the arguments for the soul's immortality. For present purposes we will assume that the tripartite soul that we find in the *Republic, Phaedrus*, and *Timaeus*, for instance, is Plato's going conception.

[12]*Republic* IV. For Plato's argument for the separation of the parts, see especially 439c-e.

partial overlap between these conceptions of soul. Perhaps the difference can be reconciled if one of the parts of Plato's soul parallels Descartes' mind. If so, then it seems as if the likely candidate would be reasoning part of the soul. And given that thought and thinking are generally associated with the rational part of the soul we can ask whether Plato's *nous* is akin to Descartes' mind. If we change the focus in this way, then we see Plato's concept being narrower than Descartes', for Plato's *nous* (as intellect) is limited in comparison to mind which can be subject to emotions, pain and pleasure, false judgment, etc.[13] There is thus clearly a problem of trying to find a single "thing" in Plato that can be said to be the equivalent mind, in our modern understanding of it.[14]

But even if we overlook extensional problems between the different notions of soul, the main question for our purposes is whether Plato's conception of *psuchê* shows any signs of being relevantly similar to our going notion of the mental. Many take the mere separation between body and soul as sufficient evidence for Plato's dualism.[15] We find Plato in the *Phaedo* associating the soul with wisdom and immortality and the body with ignorance and corruption. Descartes, similarly, insists that the mind does not need the body, or is not dependent on it.[16] But given the differences we have examined, this is a superficial comparison needing substantiation to be taken seriously. Insisting on a separation between body and soul is insufficient to ground a dualist interpretation of Plato if we mean by that that Plato's dualism is like Descartes' dualism.

There have been attempts to articulate the nature of Plato's dualism. Michael Pakaluk has recently put forward the idea that Plato's dualism is a substance dualism akin to Descartes'.[17] Moreover, this dualism is argued for explicitly, Pakaluk holds, and Plato's argument for the separation between body and soul is a precursor of Descartes' real distinction argument.[18]

[13]Carone 2005, 228 makes this point rather nicely.

[14]See Broadie (2001) for an argument that Plato's notion of soul does not parallel Descartes for the main reason that the soul-body relations held by each differs significantly given the difference in the scope of their respective concepts of soul.

[15]We see this in contemporary philosophy of mind. For instance, in Putnam 1999, and Priest 1991.

[16]Descartes, *Discourse on Method* IV.

[17]Pakaluk 2003. See also Gerson 1986, and Miller 2006.

[18]See Pakaluk 2003.

Substance dualism, Pakaluk maintains, is both asserted and defended in Plato's *Phaedo*. The key passage for Pakaluk's interpretation is where Socrates is being charged for being reckless in not resisting death. Here there is clearly much rhetorical force stressing the separation (*apallattomenê*) between body and soul, but there is also an argument for substance dualism, according to Pakaluk.

To be clear, by "substance dualism" Pakaluk merely means the view that the soul can exist apart from the body, which is evident in Socrates' insistence that the soul outlives the destruction of the body. Pakaluk's interpretation hinges on how we are to read Socrates' view that the soul contemplates the Forms. It does so, he argues, without any recourse or dependence on the body, and indeed, even after the body ceases to be. Thus, just as Descartes claims that we can conceive of the mind without the body (and vice-versa), therefore establishing a real distinction between the two, so too does Socrates argue for the real distinction between body and soul.[19]

But we can challenge Pakaluk's inference from the soul being able to be conceived apart from body to the claim of substance dualism. Socrates thinks that the soul can contemplate forms without images or recourse to sense-perception and thus, independently of the body. He uses this to argue for the real distinction: that if we can conceive of X independently of Y then X is really distinct from Y. But Cartesian substance dualism does not follow from the ability to conceive soul apart from body. The reason is that this shows how they can be apart, but it does nothing to support the stronger claim that they are essentially distinct kinds of things (the substance-dualism claim).

The claim that the soul's being distinct from the body supports substance dualism is false. At best this inference works to show that soul and body are not the same thing, but it does not follow from this that they are constituted of two utterly different kinds of stuff. Moreover, it surely does not follow from this that the two things that are supposedly really distinct are body *qua* essentially extended matter and soul *qua* essentially thought. That is, even if we

[19]Pakaluk 2003, 98-108. He refers to Descartes' *Letter to Mersenne* 24 December 1640.

grant Pakaluk that Socrates is indeed arguing for a real distinction between body and soul (which he is not), Cartesian substance dualism does not follow.[20]

The reason why Pakaluk assumes that substance dualism follows from the separation of body and soul, I submit, is that he, like many others, assumes that Plato is working with a roughly similar conception of mind/soul as Descartes. But this assumption requires justification. What then, can we say about Plato's conception of the mind?

The bulk of Plato's descriptions of the nature of the soul are metaphorical depictions of the functions of soul, including the rational part.[21] But as to the *natures* of these parts we just get anthropomorphic characterizations that aim to capture the apparent conflicts of the soul. What can we say about what he says about the metaphysics of mind? Just as one can say of Aristotle that he holds a roughly materialist theory of the soul (e.g.), one *can* say of Plato that he has a roughly dualist picture of the soul. This stems from the separation of body and soul. But what is the nature of the soul if it is contrasted with the body? Is it merely and vaguely non-bodily?

Some have argued that Plato's distinction between body and soul rests on the idea that the soul is not merely non-bodily, but immaterial. Lloyd Gerson's treatment is a good example of such an argument. Gerson examines the arguments on the *Phaedo* that purport to establish the separation between body and soul, and his focus is on the claim that the soul must be "invisible" to cognize the Forms. Gerson denies that Plato is working with an Empedoclean like-by-like view of cognition, but rather works with the idea that anything visible (i.e. material and particular) cannot cognize immaterial Forms (immaterial and universal).[22] So we may have reason to think that Plato's soul is immaterial, and thus his dualism is a dualism between the material and sensible realm and the immaterial, intelligible realm of the Forms.

[20]A further reason why this claim does not follow is that for Descartes' substances, the one cannot admit of the other, to any degree. Thus, extended things do not admit of thought, and thinking things do not admit of extension, weight, etc. But for Plato, bodies and their parts, like everything else, are intimately related with their Forms. In participating in the Form of humanness, my body admits of the object of the soul's contemplation that is supposedly dependent of the body, according to Pakaluk. But Descartes' objects of contemplation—thoughts—are not admitable by anything material. Conversely, bodies cannot think or "participate" in thought.

[21]See, for instance, the famous Charioteer analogy of the soul in the *Phaedrus*, and the tripartite distinction in the *Republic*.

[22]Gerson 1986, 353.

But what we do not find, either in Plato or in Gerson's treatment, is any further reflection on what this soul is *qua* immaterial and distinct from the body. That is, there is no discussion about its nature other than having to be non-bodily (i.e. unqualified) in order to apprehend universal truths. There is no further questioning or discussion about what this immaterial thing is or how it relates to the body (other than being able to survive the destruction of the body).

At best then, Plato is a dualist if we grant that he conceives of soul as being immaterial, and thus his view of the soul-body relation parallels that of modern dualists. But as we have already argued, consistency is insufficient to establish any substantive categorization of an ancient theory of mind. That is, even if Plato holds an immaterial conception of the soul, it does not follow that his position in the philosophy of mind is dualism, or even if he can be said to be discussant with contemporary philosophies of mind.

Despite the *prima facie* evidence suggesting that Plato endorses a kind of dualism, we can question whether he has a relevant concept of the mental. If he does conceive of the mind as inner, private, subjective and at odds with the outer and objective, then it is strange that he (or any of his contemporaries) would run into the mind-body problem in any of its guises. Plato is not bothered by the relation between body and soul, between the apparent dissimilarity between qualities in things and qualities "in the mind", etc.

The reason, I contest, is that Plato's separation between body and soul is motivated by epistemological concerns. The soul must be like the Forms in order to apprehend truth, for truth is found in the universal and not in material particulars. Thus, the soul has to be like the Forms. But we do perceive things with the body, and the reason why Plato doesn't run into the mind-body problem or the problem of qualia here is that the products of sense-perception (be it sense-datum, quale, etc.) are not in the same category as "thought" (i.e. the act of the *logistikon* contemplating Forms). They are bodily. There is no mind-body problem in Plato for he is not concerned with the metaphysics of mind, but rather with epistemological issues in thought, and the problem he is dealing with in separating body and soul is epistemological in nature. The problem is that material, particular and qualified states of a body cannot grasp

universals.

Thus Plato may separate body and soul, but he does so for epistemological reasons, not metaphysical ones. His dualism, properly speaking, although based in the separation between body and soul is really a dualism between universal and particular and it is motivated by the possibility to have knowledge of the forms. What Plato's dualism is not, is identical to Cartesian substance dualism, nor is it a dualism of mind and body based on apparent metaphysical tensions or differences of kind between them.[23]

5.3 Conclusions

Like Aristotle, his predecessors too are concerned with issues surrounding the acquisition of content. And these, I contend, are better described as epistemological issues involved in explaining cognition. As I have argued in chapter III, the theory of intentionality that we can impute to Aristotle is an empty one, given the strong isomorphism that he subscribes to. That is, the *aboutness* of content is not philosophically interesting for Aristotle simply because the perceiving or thinking part of the body is simply and literally "like" the object it cognizes. This, in itself, is of no philosophical significance for Aristotle, for what he takes to be the hard task has already been explained at this point. He has shown how properties of thing come to be reproduced in cognizers, and thus he has explained cognition (in his terms). Indeed, cognized content is "about" or aimed at its object, but the identity of form between them renders this account of intentionality trivial. The case of mirrors, which we discussed in chapter III, makes clear what Aristotle's focus is with content. The philosophical puzzle that mirrors pose is that they are somehow able to become like the objects that they reflect, but we would not say that they thereby perceive those objects. The puzzle, in other words, is that mirrors are able to acquire content from objects yet they fail to perceive. We should note that Aristotle is not worried about the supposed *aboutness* of the mirror's content. That is, he does

[23]For an interesting thesis that also runs counter the trend in the literature, see Carone (2005) who argues that Plato is best characterized as a materialist! Although provocative and interesting, she too works with the assumption that, whatever Plato's theory of mind is, he shares in our concept of the mental.

not seem concerned with the mirror's ability to represent or be about things other than itself. What he does see fit to explain is how something that is able to acquire content still fails to perceive that content, and the reason, as we have discussed above, is that mirrors are not materially constituted to be able to change in the way peculiar to perception; the mirror lacks a mean. If there is a "problem of intentionality" that we can rightly ascribe to Aristotle and his predecessors, it is the problems inherent in explaining the acquisition of content, such as hearing or seeing a thing from a distance, and various associated puzzles, like that of mirrors.[24]

The conclusions of this thesis raise several questions. Some, for instance, warrant separate and extensive treatments of their own, such as: When does philosophical attention turn from the *explanandum* of content acquisition to issues surrounding the nature of mind? When can we rightly say that the notion of the mental (as we tend to see it today) comes about? We clearly see articulations of the mental in terms that parallel many contemporary views arise in the Middle Ages. It would be interesting to trace out the emergence of the concept of mind as well as unearthing the philosophical reasons that motivate these philosophical developments. But we can only speculate here. What is clear is that this thesis gives us reason to reconsider how we read ancient texts on psychology, Namely, we should not assume that the ancients are working with what we take to be commonplace concepts, nor should we assume that they are trying to explain the same phenomenon as we are today.

I have argued throughout this thesis that Aristotle's enterprise in explaining cognition is focused on explaining issues surrounding the acquisition of content, or showing how properties of things become properties of cognizers. I have also shown that the philosophical

[24]This interpretation may seem controversial to some, given recent and influential readings of the history of the concept of intentionality. Victor Caston (1998) argues that we find the ancients—at least as early as Parmenides—developing novel theories of intentionality in response to dealing with the various modes of the problem of intentionality. Caston's main example is what he calls the problem of presence in absence, in which ancient thinkers try to explain how we can think of things that are no longer present (memory) or that we have never perceived (imagination). Richard Sorabji's view (1991, 1995) also runs counter the one we are developing here. He argues that the concept of intentionality gets its first full treatment in Aristotle. Both these readings, however, take liberties with what is given in the works of Aristotle (*et al.*) to support such claims, especially against the present argument.

explanandum of content acquisition is not unique to Aristotle. The focus of this thesis is on Aristotle, despite similarities between his approach and those of his predecessors, and the reason is that if there is a philosophy of mind to be found and articulated (as such) in antiquity, then one ought to begin by looking at Aristotle. That he gives the most thorough treatment of the matter and does so in a naturalistic way, akin to modern approaches, is good reason to begin with his treatment. This similarity notwithstanding, this thesis has shown that we have much reason to think that the parallel between Aristotle and contemporary philosophy of mind ends there.

By trying to read a philosophy of mind into Aristotle we have seriously misunderstood his explanatory agenda. Again, the Naïve Somatism thesis should not be surprising given that what we get from Aristotle in the *Parva Naturalia* and *de Anima* are treatments of the soul in terms of physics and physiology. In *de Anima*, after the so-called definition of soul, the term is rarely seen, and the reason is that the explanation is concerned with specific workings and functions peculiar to living beings *qua* living beings, and not, as it were, with some entity that stands in relation to the body. This was made explicit in the first chapter where rival interpretations of the definition of soul were deflated. We have also seen that Aristotle's definition of soul as the first actuality of a natural body that is potentially alive is based in the living body. This body, although potentially alive, is already alive and has the potential to do the things unique to living things. The point: he's assuming that the body is already alive—he's not trying to explain the genesis of life—and this is fodder for the Naïve Somatism thesis.

In the second chapter we surveyed the wealth of recent literature that vies to place Aristotle's philosophical psychology in the most appropriate position vis-à-vis contemporary philosophy of mind. The literature was found wanting on two accounts. None of the various interpretations succeeds in tying Aristotle to a contemporary theory of mind, and all readings assume that Aristotle is trying to explain "the mental", which he is not.

Given the state of the literature, a new reading, or a re-interpretation of Aristotle is in

order, which is what we take up in the third chapter. Paying close attention to Aristotle's mark differentiating the sentient from the inert or merely sensitive, the sensitive mean and its role in cognition forms the basis of this treatment. Upon closer scrutiny, it turns out that the mean serves the functional role of enabling the homeostasis required for the organs of sense to perceive their proper objects veridically. Each organ is materially constituted to be able to become like its objects, but in a way that abides the Plasticity Principle. That is, in order for the organs to be "none of their objects in actuality but all of them potentially", organs must be equipped with a neutral or unsensed mean state which serves as the default state that organs tend to be in prior to sense. Explaining the change from this mean state to any of the sensibles on a given range forms the bulk of Aristotle's explanation of perception. As we have seen, the best way to read this change is through a literalist lens, and given the emphasis on the mean in our account, this mean literalism succeeds where others fail, and rises to the challenges of its rivals. Finally, we concluded the chapter with an examination of the parallelism between Aristotle's account of *aisthêsis* and *noêsis*. The functions of both are constrained by the Plasticity Principle, and any reason to hold Aristotle to dualism in his account of the mind is misplaced because he is working with this principle which purports to explain the acquisition of content, and not with the nature of the organ of thought.

The fourth chapter consists in extending the interpretation begun in the previous chapter. Here we answered the question whether there was something more to perception than the change in the organs of sense. The examination of certain thought experiments that Aristotle makes shows that he assumes the living animal body to be sensitive. That is, Aristotle's approach to explaining cognition rests on an assumed proprioceptive awareness that one has of her body. It is thus reasonable to think that his account of cognition grounds out in this body sense. Once the relevant parts of the body become like certain properties of external objects, cognition has been explained. Thus we also better understand Aristotle's explanatory programme by understanding these presuppositions. He is not trying to explain the phenomenal nature of perception or the nature of the content of perception and thought. He is

merely trying to explain how content is acquired. And he does so by detailing the physics and physiology of perception and the mechanics behind coming to literally be like the objects we cognize. We have also defused readings that hold Aristotle to a theory of consciousness. These interpretations fail to seriously consider the role of literalism and the nature of Aristotle's philosophical explanandum. Staying true to Aristotle, we are now in a position to see that literalism is not only the best reading of his account of perception, but also how he explains how we perceive that we see and hear.

Aristotle's Naïve Somatism, while at the same time an interpretation of Aristotle's theory of cognition and his so-called philosophy of mind, is also a philosophical archaeology of sorts. We have re-evaluated the context in which we find Aristotle's works, and unearthed a key presupposition that is principal to understanding his approach to explaining cognition. Contrary the going trend in the literature, and the general approach of doing reconstructions in ancient philosophy, in this case we did not "add" anything to what we find in the extant texts. That is, unlike the influential approaches of thinkers like Shields and Caston, Aristotle's Naïve Somatism is a reconstruction of his theory grounded in the supplementation of what is not read off the page. We have examined what we find in a new light (i.e. the sensitive mean) and unearthed some presuppositions that bring Aristotle's *explanandum* to the fore. Running counter the general approach we did not borrow contemporary concepts to add to Aristotle's view for this is not always the best way to get at what Aristotle is up to. Sometimes all we need to do is just a bit of digging.

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