Aristotle's Metaphysics of Living Bodies

by

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B.A., Vassar College, 2006

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Abstract

This thesis discusses questions about the legitimacy and scope of Aristotle's metaphysics as it applies to both living and non-living substances. Resolving such questions is necessary for articulating Aristotle's philosophical anthropology, and understanding the connections between Aristotle's major works. Terence Irwin provides one approach to establishing these connections, so I defend his account of Aristotle's *Metaphysics* from challenges that Aristotle's metaphysics of living things is mistaken and the scope of what things count as substances. I provide supporting arguments to show how Irwin's interpretation answers the first challenge and speculate how he could answer the second. By supporting Irwin, I hope to show that Irwin's argument, that a common philosophical method unites Aristotle's works, provides strong grounds for constructing Aristotle's philosophical anthropology.
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Abbreviations

DA  De Anima
GC  Generation and Corruption
EN  Nicomachean Ethics
Met. Metaphysics
PA  Parts of Animals
Phys. Physics
Pol. Politics
Acknowledgements

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Epigraph

The same joke applies to all who spend their lives in philosophy. It really is true that the philosopher fails to see his next-door neighbor; he not only doesn't notice what he is doing; he scarcely knows whether is is a man or some other kind of creature. The question he asks is, What is Man? What actions and passions properly belong to human nature and distinguish it from all other beings? This is what he wants to know and concerns himself to investigate.

- Plato, Theaetetus 174b
Introduction: Aristotle on Human Nature

What is Aristotle's theory of human nature? An obvious starting place to answer this question is the *Nichomachean Ethics*, where Aristotle articulates his theory that what defines man is his characteristic function (ἔργον) of reasoning (λόγος).\(^1\) From this definition, Aristotle presents guidelines about how best to develop the intellectual and moral virtues that characterize a good human life (εὐδαιμονία). The *Ethics* is complemented by the *Politics*, where Aristotle provides an assessment of the ways in which human beings live together. Together these works allow us to generate a picture of Aristotle's theory of human nature, but they do not give a comprehensive view of it because they are primarily sociological. What grounds does Aristotle have to establish his assumptions about man's characteristic function and his status as a reasoning, social animal? One way of approaching the question would be to envision what a hypothetical Aristotelian treatise on the topic, perhaps titled “On Man”, would contain. Such an account would draw heavily from the practical philosophy, but would also require investigation of the metaphysical and biological works. Creating such a hypothetical work might begin by connecting *Metaphysics* and *De Anima*, two notoriously difficult texts on their own, to the biological and practical works. Such a treatise would detail the metaphysical, biological, psychological, and ethical aspects of human beings. Piecing together these disparate works would be easier, however, if we can show how they could be said to be unified. The metaphysical works, as the central theoretical texts of Aristotle's philosophy, hold the key, as they provide the underlying method of inquiry.

\(^1\) See *NE* 1097b22-1098a18.
common to the other works. Forming a comprehensive picture of what it is to be a human being assumes that Aristotle's philosophy has a defensible level of continuity and that it is not a set of stand alone works. If Aristotle's *Metaphysics* possesses a regular method which can be seen in the other works, we have a common element from which to legitimate the creation of an account of Aristotle's philosophical anthropology.

Since developing such a comprehensive picture is far beyond the scope of a Master's thesis, here I only aim to take an initial step by examining some issues about the relationship between the *Metaphysics* and *De Anima*. To do so I will examine and defend a systematic reading of Aristotle's philosophy as presented by Terence Irwin,² whose account parallels my own interests in connecting Aristotle's texts. While his work is not aimed at discussing Aristotle's theory of human nature, it provides one means to establish a comprehensive reading of Aristotle's philosophy. Irwin argues that Aristotle's work possesses a philosophical continuity where the conclusions of the metaphysical works (*Metaphysics* and *De Anima*) establish the assumptions of the practical works (*Ethics* and *Politics*). The central issue is the role of the *Metaphysics*. Irwin regards the *Metaphysics* as a turning point in Aristotle's philosophy, one where he establishes his philosophical method with dialectic informed by carefully selected premises, which Irwin calls “strong dialectic”.³ By drawing on Irwin's argument that this strong dialectic is the common method among Aristotle's works, I hope to provide some groundwork for articulating Aristotle's theory of human nature.

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³ “In my view, the method of first philosophy is dialectical in so far as it begins from common beliefs and cross-examines them. But 'first philosophy' is not just another name for dialectic addressed to a special sort of question. It uses dialectical arguments with appropriately selected premisses; and the main task in giving an account of first philosophy is to give some idea of how these premisses are to be selected.” Irwin (1988), 19.
To start, I discuss Irwin's essay “The Metaphysical and Psychological Basis of Aristotle's Ethics”\(^4\) where he outlines how the theoretical works provide the assumptions that underlie the Ethics. Irwin's approach here provides a good study of how to look at the interconnections between Aristotle's works and the philosophical approach they share. However, if it can be shown that there are problematic inconsistencies or errors between Aristotle's texts, then Irwin's narrative of their continuity has no foundation. I explore one such problem in a challenge raised by J.L. Ackrill in "Aristotle's Definitions of Psuche"\(^5\) where he argues that Aristotle's hylomorphism in the De Anima is problematic when applied to living things. Ackrill disputes Aristotle's account of life by claiming that the distinction between matter (ὕλε) and form (εἴδος) that is supposed to explain life collapses. According to Ackrill, the matter that is to be informed by a soul must itself already have form to be potentially capable of possessing a soul. So the only sort of matter that can be alive is matter that is already alive, and Aristotle's hylomorphism of living things works only for already-living matter. This means that the distinction between form and matter cannot hold up, for Aristotle's distinction requires that form be something imposed on unformed matter. Ackrill thinks these errors stem from the inability of hylomorphism to account for organic changes that are inherent to life processes. If Ackrill is correct, then the metaphysical foundation of Aristotle's psychology, and thereby his theory of human nature, is flawed and untenable.

An answer to Ackrill's challenge is found in Irwin's later book Aristotle's First Principles.\(^6\) There Irwin holds that the key to solving challenges like Ackrill's requires

\(^{4}\) Irwin (1981).
\(^{5}\) Ackrill (1972/3).
\(^{6}\) Irwin (1988).
seeing the account of matter and potentiality (δύναμις) in the *Metaphysics* as multivocal. Ackrill's push that the role of matter for living things is no different for non-living things, rests on a misunderstanding of hylomorphism, according to Irwin. Not just any matter can be said to be the matter of a particular form. While tin and copper make up the bronze of a bronze statue, we cannot refer to the tin and copper as being its matter, because the bronze is what properly makes up its “proximate matter”. This proximate matter is not readily comparable between substances because the proximate matter of one substance cannot be the proximate matter of another, due to the fact that proximate matter is what identifies what something is. Hence Ackrill's challenge oversimplifies Aristotle's notion of matter and its relationship to form by assuming that the form-matter relations in artifacts can be applied to living things as is, without further consideration or qualification. However, because Irwin does not spell out the intricacies of how exactly his argument about proximate matter solves Ackrill's puzzle, I draw on supporting material to explain how Irwin's argument explains how Aristotle's metaphysics is of particulars and can explain living bodies.

My second chapter is a detailed discussion of matter and form to fill in Irwin's account of proximate matter. To start I examine the argument for particular forms, on which Irwin relies, in Wilfrid Sellars' "Substance and Form in Aristotle". There Sellars discusses the differences between Aristotle's hylomorphism and qualitative description. Whereas qualitative descriptions reduce things to a set of qualities appended to a quality-less substratum, hylomorphism's tripartite relationship of matter-form-complex does not assume that forms, or 'thing-kinds' in Sellars' parlance, are simply complex adjectives.

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7 Sellars (1957).
Rather the form describes what something is apart from any particular set of qualities and describes some actually existing thing, not a universal. Therefore the notion that matter and form are two separate things that come together to form a complex is misguided, as they are really rather two distinct aspects of description. The form outlines the quality-parameters of something, and the matter further refines this range, but the actual complex is the thing that possesses the qualities. When, for instance, a living being changes from alive to dead, this single qualitative change is such that the being is no longer what it was. Knowledge of what a thing is requires knowing both its matter and form and the relation between the two aspects. Form and matter are not what make composites, rather they are expressions of the processes of change that allow us to distinguish which changes are the relevant changes to the existence of a thing. Form and matter are not universals in any ideal sense, rather they are universals in the sense of being abstractions of particulars. Our idea of shoe, for example, comes from our encounter with various particular sorts of shoes. Sellars' argument shows how Ackrill's criterion for the relationship between matter and form, that some unformed matter must be informed by a form, is misleading. The closeness of the relationship between form and matter, and specifically how only appropriate matters can sustain a given form, requires discussing matter itself.

Aristotle's notion of matter is often interpreted as any sort of material stuff that makes up a composite in combination with the form, but if forms are particulars then matter cannot be just any material. Only certain matters are appropriate for certain

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8 Perhaps it would be better to speak of them as universalizations rather than universals, since the latter word, as a noun, implies something that exists rather than merely a concept or a method of description.

9 If this were allowed then any form could be constructed of any matter, and there would be no substantial difference between a house made of paper and one of brick. Further we would be allowing living things to consist of any sort of matter, not only that sort of matter that is suited to be alive.
forms. Comparing the matter of a statue to a living creature is akin to a colloquial “apples to oranges” comparison, because it cannot be done without addressing the complexity of Aristotle's discussion of various sorts of matters and their constitutive relations. To address this issue I turn to Montgomery Furth's *Substance, Form, and Psyche*\(^{10}\) where he identifies six types of matter, from the base elements to the complete bodies of living things. Furth's discussion of matter and Sellars' particular forms fill out Irwin's discussion by showing why Aristotle's use of the terms “life” and “matter” is not univocal. Aristotle's account of life is resistant to the analysis Ackrill wants to impose because Ackrill only discusses matter and life as a general theory, without acknowledging that life, like form and matter, is always particular. Ackrill's mistake comes from trying to compare the hylomorphic analysis of artifacts to that of living beings without realizing that Aristotle does account for the differences between the two different subjects. However, this raises an additional question about the scope of Aristotle's metaphysics: is it intended to explain only living things, only non-living things, or both?

My third chapter concerns whether or not Aristotle considers only living beings to be substances (οὐσίαι). Does Aristotle's metaphysics pertain only to certain things in the world or is it meant to explain all of them? According to Furth, the question of substance contains two aspects, the question of the nature of things and the identification of which things are substances. In Christopher Shields' "Substance and Life in Aristotle"\(^{11}\) both aspects of the question of substance are answered, as Shields holds that, for Aristotle, only living beings are substances. Shields defends the view that the criterion of substance

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10 Furth (1988).
is a binary qualification, and since artifacts do not satisfy the criterion they cannot be substances. This view contrasts with Irwin's, as Irwin considers substance to be a scalar parameter where the nature of a substance determines how substantial it is. Consequently, he argues that artifacts are lesser substances than living things but still importantly distinct from non-substances. Shields argues against this scalar view, holding that for an Aristotelian to solve metaphysical puzzles about growth and change requires knowing which things are substances before such interactions. One consequence of Shields' position is that if artifacts are not substances then they are no more determinate than unformed matter. If Shield's reading is correct it presents our previous concerns in a new light, as Ackrill's concern about hylomorphism failing to apply to living things from non-living things is turned on its head.

I argue against Shields, and in support of Irwin, that Aristotle's notion of substance is better understood as scalar. Shields' view depends on seeing Aristotle's metaphysics as joining the questions of classification and explanation. I think that the scalar view allows Aristotle a greater scope of explanation, especially in dealing with borderline cases, and that it is necessary to explain how substances can be compared to one another in terms of their matter and form. If the role of Aristotle's metaphysics is to provide a proto-science, the study of being qua being rather than being qua some particular aspect of being, then Shields' position is overly restrictive, especially as his position cannot distinguish artifacts and other non-living things from mere matter. I contend that Aristotle's *Metaphysics* is a descriptive metaphysics for explaining the natures of existing things and that Shields' view both clashes with Aristotle's goal and
diminishes his explanatory power. If the scope of Aristotle's metaphysics is limited to solving particular puzzles and being classificatory rather than explanatory, as Shields' argument implies, then this diminishes the strength of the position that Aristotle has a common methodological approach from which his theory of human nature can be put together.

Why specifically do I wish to turn to Aristotle to address the question of philosophical anthropology? I turn to Aristotle because he provides a more robust and varied account of human life than Plato or the Pre-Socratics. While they certainly can be said to have their own philosophical anthropologies, their discussions of human nature do not take on the scope and systematic approach found in Aristotle. Aristotle's philosophical approach is much broader, combining theoretical and empirical inquiry in a way unmatched by his predecessors. Certainly any historical narrative of the subject would have to acknowledge Plato, but the Platonic understanding of human nature as a tripartite soul remains at the level of metaphor and myth. The empirical leanings of Aristotle push him to connect the theoretical to the biological, grounding his theory in a way Plato did not consider necessary. Additionally, Aristotle's breadth provides an additional challenge of piecing together his metaphysics, psychology, sociology, and biology which is not possible with his predecessors or even his successors. Hence I think he provides the most difficult, but also the most important, starting point for constructing a history of philosophical anthropology.

Properly understanding Aristotle's metaphysics is key if we are to develop a picture of his philosophical anthropology. If Irwin's approach towards understanding
Aristotle is correct, he provides strong grounds for establishing such a project. The fruits of constructing such an account are many. Firstly, it presents us with an interesting contrast to the dominant theories of our own time, both philosophical and popular, which do not see man as a unique being with a particular role in the larger world, but rather an isolated individual seeking self-fulfilment. Secondly, it serves as a strong historical starting point for exploring the western view of the self and how those views have changed with time. Such questions are in many ways coextensive with questions about the role and purpose of philosophy itself and would form an interested approach to meta-philosophical questions. Finally, the study of philosophical anthropology seems necessary now, more than ever, due to the facts of a multicultural and globalized world, wherein politics, values, and cultures are ever more shared and contested. A comparative philosophical anthropology approach might be able to provide grounding for of theories of universal rights (by pointing out common elements and changes across times and cultures), and to combat the purveyors of cultural and intellectual relativism. For without knowing the history of how we have answered the question “What is man?” we have no foundation from which to forge an answer today and in the future.
Chapter One

A Metaphysical Basis of Human Nature

1.1 The metaphysical foundations for the Nichomachean Ethics

Where can the grounds for Aristotle's theory of human nature be found if not in the *Nichomachean Ethics*? The psychology of the *De Anima* might be a better place, but Aristotle's arguments there are based on his analysis of matter and form from the *Metaphysics*. The project of understanding Aristotle's theory of human nature requires piecing together a narrative of how Aristotle's texts build upon one another. One such attempt is given by Terence Irwin in his essay “The Metaphysical and Psychological Basis of Aristotle's Ethics”. There Irwin outlines how Aristotle's metaphysics and psychology form the basis for Aristotle's assumptions about human happiness via the *Nichomachean Ethics*. Irwin notes two assumptions in Aristotle's *Ethics*, that the good for man is happiness and this happiness is the characteristic activity of human beings, which is best manifested by the “realization of the soul according to virtue in action with reason.” Irwin argues that these assumptions are justified by Aristotle's conclusions in the *Metaphysics* and *De Anima*. Does this mean that Aristotle makes a continuous argument? While Aristotle himself warns in the opening remarks in the *N. Ethics* about autonomy of disciplines, Irwin claims that Aristotle is only warning us to resist: “efforts to subordinate these disciplines to some overall view of knowledge and reality.” Here Aristotle shows his anti-systematic and anti-reductionist attitudes, namely that there need
not be a single universal science from which we can derive all accounts. Perhaps Aristotle is not making an explicitly continuous argument from the *Metaphysics* to the *Ethics*, where the conclusions of one argument form the starting assumptions of others, but the similarity of philosophical method and style clearly exhibits continuity. Certainly, the arguments contained in each of the works themselves have their own specific goals and subjects of investigation. This does not, however, pose a problem for asking the question of how Aristotle's *Metaphysics*, and its application in the psychology of the *De Anima*, form the philosophical basis of Aristotle's *Ethics*.

Irwin's discussion begins with a review of Aristotle's hylomorphism. Each thing in Aristotle's *Metaphysics* consists of three aspects, the form (ἐἶδος), the matter (ὕλε), and the complex of both which is the existing thing. Aristotle's doctrine is often misunderstood as merely claiming that form is the structure of a thing and the matter is the material stuff that instantiates the form. However, Irwin emphasizes that a form is identified by its function (ἔργον): “A natural substance's form is its characteristic function rather than its structure or composition, which are features of its matter.” Only changes in form/function change something's identity because the form establishes the essential properties of a thing, by which we can explain identity changes. The matter, on the other hand, allows us to explain non-essential changes that do not result in identity changes. For instance, if the characteristic function of Socrates is walking, Socrates with two natural legs is the same as Socrates with two artificial legs, because nothing has changed about him so that he has lost the function of walking even though his legs have been entirely replaced. However, if Socrates loses his legs and can no longer walk, he has lost

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his essential characteristic and is no longer Socrates. Hence to know what a thing is, and judge when it has become something else, requires knowing its essence or function.

The analysis of form and matter is easily exemplified by artifacts. For example, the form of a tool is its function and its matter is its material makeup. Different kinds of matter do not necessarily imply difference in form, e.g. two screwdrivers of different materials, say plastic and metal, are not two separate kinds *qua* screwdriver, but they are two different things that share the same form. What identifies them both as screwdrivers is their ability to drive screws, their characteristic function. They may also have other functions, for instance some screwdrivers are excellent at opening paint cans, but these functions are not essential to all screwdrivers. In identifying living things, these general principles are roughly the same, as Irwin explains:

> The essential, explanatory properties of natural organisms are their form—their characteristic goal-directed actives aiming at their survival and maintenance. If this is true, then their form, not their matter, makes them the substances they are.\(^\text{17}\)

However, there are important and, according to Ackrill, problematic differences in the hylomorphic analysis of living beings. These differences in the application of hylomorphism between artifacts and living things is our main topic of investigation.

Aristotle uses identification by form and function in his doctrine of the soul (*ψυχή*) in the *De Anima*. The soul is an essence of a living thing and hence synonymous with its form. The possession of a soul defines life, so living things are essentially alive. When living things die they lose their soul and they become non-living matter. The soul of each sort of creature defines how it grows, sustains, and reproduces itself. What soul a

\(^{17}\) *Ibid.*, 40.
living thing possesses determines what it is and what its activities are. Each sort of a creature will have a soul, or form, which describes the essential characteristics and functions of that particular species. One important feature of Aristotle's account of the soul, which will be pivotal to our discussion, is that more complex creatures have more complex souls. For example, the soul of a plant does not provide it with the power of sensation and locomotion, which are two distinctive powers of an animal soul.¹⁸ The most complex soul in Aristotle's discussion is the rational soul, which is unique to human beings.

What are the distinguishing features of the human rational soul that set it apart from the animal soul? Irwin cites four differences in Aristotle between animal and human souls:

1. Animals lack reason and have only perception (DA 414b1-9).
2. They lack universal apprehension and have only perception and memory of particulars (EN 1147b3-5).
3. They lack deliberation and decision (prohairesis) (DA 434a5-10, EN 1111b8-9).
4. They lack rational desire or wish (boulesis), which belongs to the rational part of the soul (DA 423b5); but wish is the desire for the good; without it animals can only have appetite (epithumia), nonrational desire for the pleasant (DA 414b5-6).¹⁹

These differences explain why animals do not possess the ability to apply concepts reflexively, which denies them the capacity to possess knowledge of universals. Thus, animals are unable to deliberate between different options in conceiving of their good, and their good is always an immediate good. This is not to say they have no sense of what is good for them; they do exhibit desire for the immediate goods, such as food and sex, which are related to their survival. However, they are incapable of a 'full conception' of the good, which requires the ability to deliberate amongst multiple conceptions, both

¹⁸ See DA 414a28-415a15
¹⁹ Irwin (1988), 44.
immediate and future. Human beings have access to a conception of the good that differs by both degree and kind. The basis for these differences between animals and humans (and their different conceptions of the good) is found in the *De Anima*, which in turn finds its basis in hylomorphism of the *Metaphysics*.

By discussing the *Ethics* in terms of Aristotle's metaphysics and psychology we can see that the picture of the good for human beings as described in the *Ethics* develops out of how living beings are distinguished by their characteristic behaviours and abilities. The doctrine of the soul in the *De Anima* explains why true happiness (εὐδαιμονία) for human beings requires the use of their distinctive human capacities, not their animal ones. It also shows us how Aristotle's *Ethics* can account for human beings acting against their own good, which occurs when they act without a full conception of their good, driven by the more immediate goods of the animal and vegetative souls. This is why the life of reason over the life of pleasure is a happier life, but achieving it requires meeting the basic needs of the non-rational aspects of the soul.²⁰ As Irwin reminds us:

> Its [i.e., the *Ethics*] point is not that human beings should aim at the maximum possible difference from other living organisms but that living well for them will require the good use of characteristically human capacities and activities; the good use will be the use that promotes happiness.²¹

Irwin's argument shows how Aristotle's starting points in the *Ethics* are not just common assumptions (ἔνδοξα). “The argument of the *Ethics* depends on more than common sense. It depends on the whole view of natural substances outlined in Aristotle's metaphysics and psychology.”²² If Irwin is correct, then there are strong grounds from which to pursue the project of piecing together Aristotle's philosophical anthropology.

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²⁰ See *EN* 1178b35.
²¹ Irwin (1988), 49.
However, this makes these accounts interdependent, the *Ethics* on Aristotle's psychology and his psychology on his metaphysics. If it can be shown that the connection between the *Metaphysics* and *De Anima* is untenable, then a comprehensive reading of Aristotle becomes is a dubious project.

### 1.2 The problem of life for Aristotle

Aristotle's definition of life, or soul, provides the psychological framework for his theory of human nature. It is an application of hylomorphism to living things, with the soul taking the role of form. J.L. Ackrill argues, in his classic essay “Aristotle's Definitions of *Psuche*”, that Aristotle's account of soul results in the *aporia* that matter cannot “be picked out in such a way that it could be conceived as existing without that form.” Ackrill claims that Aristotle's analysis in the *De Anima* is problematic because it cannot do the metaphysical work it hopes to do and that, for living beings, the hylomorphic distinctions of matter/form (here body/soul) and potential/actual are not logically separable. This is because Aristotle's definition of the soul seems to imply that the matter of living things cannot become alive because the matter must *already* be alive if it is to possess a soul. If the matter of a living substance cannot be any matter other than that of that living substance, Aristotle's metaphysics cannot analyze living substances because their matter and form are not separable and Aristotle's psychology rests on a spurious distinction of body and soul.

Ackrill questions whether Aristotle's definition of the soul, given in the *De Anima*,

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23 See Ackrill (1972/3).
24 Ibid., 126.
holds up under close examination. He responds to an assertion by David Wiggins\textsuperscript{25} that Aristotle's explanation of the human soul as form and the human body as matter entails that the matter of man equates to flesh and bones.\textsuperscript{26} While Ackrill acknowledges such an interpretation is uncharitable, it nonetheless raises questions about what happens when Aristotle's theory is pressed.\textsuperscript{27} For example, this interpretation would entail that flesh and bones play the same role as wood and iron do in forming an ax. Ackrill thinks that if this is true, the analysis of living beings in De Anima collapses the very matter–form and potential–actual distinctions it tries to keep apart. Challenging this assumption, which is based on asserting the 'logical pressure' that hylomorphism has a univocal application across all things, will serve as the main goal of the rest of this chapter. Therefore, let us see what sort of trouble Ackrill thinks this challenge spells for Aristotle's theory of the soul.

Aristotle defines the soul in De Anima as "form of a natural body that has life potentially".\textsuperscript{28} Ackrill finds fault in this definition because it results in the problem that potentially living natural bodies must already be alive in order to be potentially living bodies:

The problem with Aristotle's application of the matter-form distinction to living things is that the body that is here the matter is itself 'already' necessarily living. … the material in this case is not capable of existing except as the material of an animal, as matter so-informed. The body we are told to pick out as the material 'constituent' of the animal depends on for its very identity on its being alive, informed by psuche.\textsuperscript{29}

\textsuperscript{25} Wiggins (1967).
\textsuperscript{26} See Ackrill (1972/3), 119.
\textsuperscript{27} “Indeed he [Wiggins] argues that Aristotle must, if pressed, accept it. He does not, I think, claim that this is what Aristotle really meant; and he allows that 'Aristotle would instantly repudiate this whole line of argument'.” Ibid., 119.
\textsuperscript{28} See Ackrill (1972/3), 119. Also DA 412a30
\textsuperscript{29} Ackrill (1972/73), 125-126.
If Ackrill is correct, then living matter already possesses form by virtue of the fact that it is living and it must already be alive if it is to be potentially alive. If, in picking out the relation between body and soul, the body itself already possesses form, then Aristotle's hylomorphism assumes a distinction that it cannot logically express. The separation of a living being into body and soul is not logically possible because the definition of a living substance requires matter that is already informed and alive. Further, this also means that there is no distinction between potentiality and actuality for living creatures either, according to Ackrill. Aristotle regards the first actuality as that of an animal in a dormant state, alive but incapable of actualizing its life-powers. The second actuality is an animal that is awake, but in both cases:

If being alive … is having certain powers (not necessarily exercising them) and to be an organ or a human body is to possess such powers, no distinction can be drawn for organs and bodies between their being potentially alive and actually alive. They are necessarily actually alive.\(^\text{30}\)

If being alive corresponds to the possession or exercise of particular powers, and those powers define life, how can life be separated from the possession of the powers that define it? Any possession of life potentially is life actually. Therefore we are forced to conclude that, in both hylomorphic distinctions of matter/form and potential/actual, Aristotle's account does not define life but assumes it.

How is it that Aristotle makes this error? Ackrill attributes the difficulty to the complexities of organic change, which he exemplifies by cake baking. These changes are more chemical than mechanical, and changes in living material result in irrecoverable transformations. For instance, the ingredients of a cake are non-recoverable because the

\(^{30}\) Ibid., 126.
matter of a cake is nothing like the raw ingredients used to make it, but this is not the case in artifacts:

Artefacts provide the easiest … examples of things whose ingredients or compounds evidently retain their character or identity from before (and also after) the 'lifetime' of the things. But not everything we can make is like this. The timber, hinges, and screws can still be seen when the cupboard is built, but the eggs and sugar are lost in the cake.31

The cake batter is a homogenous stuff with “new emergent powers and characteristics.”32 that the original ingredients do not possess. As such the complexities of organic change make hylomorphism ill-suited to explain these new emergent powers. If we make a mistake in baking a cake we cannot start over again, and we are left with a useless lump of non-cake matter from which the original materials are no longer separable. If Aristotle cannot explain the process of change in a cake, how can he hope to do so for a living creature? This is not the case with artifactual materials from which we can reconstitute and reuse the original materials. However, this insight about cakes is precisely the one we need to explore if we are to make sense of Aristotle's discussion of living bodies. If Aristotle can track such organic changes then his theory of living matter is more complex than Ackrill portrays.

Solving the puzzle raised by Ackrill requires understanding how to properly apply hylomorphism to living things. This requires, as suggested by Ackrill,33 reading further into the corpus, especially to see how Aristotle applies the hylomorphic account to the study of biology and the complexity of living beings. Delving into these details shows why drawing too close a parallel to the application of hylomorphism to artifacts and

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31 Ibid., 132.
32 Ibid., 133.
33 “It is quite likely that careful study of Aristotle's views on the actual processes of generation and growth would throw new light on some of his general doctrines.” Ibid., 131.
living beings is misleading. The terms of hylomorphism are used in a multivocal, rather
than a univocal sense. The use of the term 'matter' must be carefully qualified, as trying to
compare matter across differing substances without understanding what sort of matter it
is leads to confusion, like Ackrill's claim that the matter of living things must be
originally unformed. Only after properly understanding the relations between the
different sorts of matters in substances can we make comparisons. For instance, the flesh
and bones of a person do not play a totally equivalent role to iron in an ax, because the
flesh and bones are the heterogeneous structures with multiple functions whereas the iron
is homogenous and only has one. Also, what functions as the appropriate matter for one
ingredient may serve at a more elemental level for another, e.g. as iron does in the human
body. We must realize that drawing analogies about the functional role of matters in
different substances is simply that—merely drawing analogies—and we should not
expect some sort of logical equivalency between living and non-living things. What
forms the matter of a living being subsumes the types of non-living matters, and we can
only understand how this relation works by seeing various stages of complexity in the
matters of a living being.

Answering Ackrill's challenge requires showing how his logical pressure is
misguided. His assumption about the logical equivalency of matter between living and
non-living things is not true of Aristotle's metaphysics. This is especially apparent in
understanding Aristotle's notions of form and matter as referring to particulars which are
abstracted into general accounts. The articulation of the particularity of form and matter
forms the second chapter, however, before this I want to return to Irwin and the response
he offers to the sorts of puzzles like Ackrill's. While there have been direct responses to Ackrill by others, the response by Irwin from *Aristotle's First Principles* correctly articulates that the mistake lies in misreading the details of the *Metaphysics*. The solution to Ackrill's problem is found in recognizing the greater complexity of Aristotle's concepts of matter and form than can be obtained from reading of the *Metaphysics* alone, where Aristotle gives only a few examples of how to apply hylomorphism. However, we can glean from the rest of the corpus further examples that show that the *De Anima* is not, *pace* Ackrill, a flawed application of hylomorphic theory. Key to this insight is understanding the nature of hylomorphism's sensitivity towards its objects of inquiry, and that the concepts of matter and form are not to be taken in a *simpliciter* sense.35

1.3 Matter and potentiality as proximate

Irwin, in *Aristotle's First Principles*, proposes that Aristotle has no problem analyzing living substances, and that thinking that he does results from a misunderstanding of the central tenets of the *Metaphysics*. He claims that “If we have understood the *Metaphysics* correctly, these puzzles ought to disappear.”37 The types of puzzles he has in mind are like the one proposed by Ackrill, which is based on the confusion that Irwin characterizes as: “the only body that is potentially alive seems to be

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35 By *simpliciter* here I mean only that matter has no simple meaning by which we can equate the matter of one substance to another. Rather, matter can have many meanings, referring to wider or narrower capturing of the constituent elements of substances. For example, we can refer to the matter of a man as inclusive down to the elements or only exclusively what defines him as a species.
36 See Irwin (1988), Sections 122-133. The main discussion of Irwin's book is the role of the *Metaphysics* as a turning point in his philosophy. Here I only recount the relevant sections which provide a more detailed discussion of hylomorphism than Irwin's earlier essay (1981).
the one that is actually alive.” According to Irwin, Aristotle's discussion of matter and potentiality is best understood as referring to the relevant proximate matter of a particular substance. In order to correctly identify the relevant matter, and its related potentiality, we must refer to the proximate matter and not the remote matter. What is this distinction between proximate and remote matter? The proximate matter of a being is the matter we reference in the division of composite into form and matter, or the complete material body necessary to sustain that form. Remote matter is the matter that is in some way removed from the proximate matter, such as a part or a constituent matter of the proximate matter. In an ax, for example, the iron blade and wood handle together are the proximate matter, and for a living creature the proximate matter is its complete body. On the other hand, the iron and wood taken separately, and the compounds that make up living body, are remote matter. Hence, our discussion of the appropriate matter in each sort of hylomorphic compound is particular, the proximate matter of one cannot constitute the proximate matter of another. What qualifies as the matter of an artifact is not what qualifies as the matter of a living being, because, as we shall see, these are two very different sorts of matter that cannot be readily compared. There is an important metaphysical distinction between matter and living matter, one that we can only distinguish when we better understand how the concepts of matter and form are applied to the case of living beings.

Irwin's discussion of Aristotle's notion of proximate matter shows that the urge to

38 Ibid., 285.
39 This distinction forms the basis of Mirus's response to Ackrill, where he argues there is a clear discussion of the matter of living bodies in two senses, one as non-living matter, and another as living matter: “The distinction between flesh (for example) as a living part, and flesh taken simply as homogeneous body, can be traced throughout a number of Aristotelian texts.” Here referring to the biological works and Meteorology. See Mirus (2001), 366.
look for a functional equivalency between the matter of an artifact and that of a living being comes from a misreading of Aristotle's hylomorphism. A better explanation of Aristotle's theory shows that matter and potentiality are relative concepts. Potentiality describes something inherent to a specific substance. It is not possibility, since possibility merely describes accidental and external changes. For example, it is possible I could break my leg if I fall down the stairs. Breaking my leg requires certain external circumstances, e.g. falling down stairs, to occur because my leg does not break itself. However, my leg can heal itself after it has broken, which is a potentiality. Potentiality specifies latent powers that relate to, but do not determine possibility. It is often the case that potentiality for a change remains in the substance where external circumstances make that change impossible, like preparing cake batter without an oven. Without an oven, an external circumstance, it is impossible for the cake batter to become cake, but this in no way limits its potential to be cake. Irwin uses the following example to illustrate this point similarly, “If I am a builder, but I lose all my tools and cannot replace them for a week, then for a week it is impossible for me to build but since I do not change, I do not lose my potentiality to build.” Something that is a potential requires that it remain actualizable when future circumstances permit, even if they do not always allow for that potentiality to be actualized. This is why potentiality is so important for metaphysical identification, because as long as potentiality remains in an object it can remain the thing that it is. As long as the builder retains his knowledge of building he remains a builder, regardless of whether or not he can build at any particular time. The

41 Ibid., 229. Also see Met. 1048a13-24.
transformation of a substance signals not just a change in essential qualities, but also a change in potentiality.

Potentiality is something inherent in a substance, which requires the correct external circumstances to become actual.\(^\text{42}\) This is why we discuss the potentiality of the cake batter, and not the raw ingredients, as relevant to the actuality of the cake. Describing the possibility of the raw ingredients to become cake is less exact because of the greater number of external circumstances that must be accounted for. For instance, a recipe for baking a cake will not only list the ingredients but give a series of instructions we must properly follow, which are external circumstances that must be satisfied. If we set the wrong temperature and time, or beat the batter too long, we will not be preparing a cake, but some unpalatable concoction of sugar, flour, and eggs. So while we might outline a set of circumstances whereby raw ingredients become cakes that describes this possibility, there is nothing about the raw ingredients of cakes in themselves that allows them to become cake (they could become many other things). Only the proper external circumstances will allow the disparate ingredients to possess the potentiality of becoming cake. (Hence the modern convenience of prepared cake mixes.) The matter that is closest to the final product is the one that is potentially that thing, and the proximate matter tells us the proximate potentiality of something. As Irwin explains, “A proximate potentiality … explains much more of the actuality, leaving less to be explained by external

\(^{42}\) Another example from Irwin: “Though I have no proximate potentiality for speaking French, I have a proximate potentiality for learning a language that I can actualize only by learning some particular language, and my learning French (or German or English) actualize this proximate potentiality.” \textit{Ibid.}, 232. If my potentiality was for French I could only learn French. However, my potentiality is for learning languages, so my learning of French is an accidental property, while learning language is an essential property.
circumstances.”

Proximate potentiality is context specific and represents distinct stages in the process of change: earth potentially becomes soil, the soil potentially become the wood of the tree, and the wood of the tree potentially becomes a wooden bench in the hands of a carpenter. Earth is a constituent element of a bench or man, but is never the proximate matter a bench. It is only after a series of transformations that earth has become a matter that is capable of forming the proximate matter of a man, “as earth is not potentially a statue (for it must first change in order to become brass).” How the elements form a substance is a process dependent on many external conditions. For example, earth does not in itself have the potentiality to become a wooden bench. Earth is the matter of a bench only in a remote sense; it is only possibly a bench. When we analyze the bench we are not concerned with its remote matter. The bench properly understood under a hylomorphic analysis is composed of its particular proximate matter.

Recognizing different levels of matter gives us two advantages. First, in describing what something is, we are not required to drill all the way down to the most basic elements in order to provide a complete description. Rather, it is enough to identify the relevant proximate matter. Secondly, it also enables us to describe the process of becoming by referencing the underlying matter, even down to the elements. We could provide a metaphysical explanation of how of human being come from the elements, but this description is superfluous to identification as a human being, since for that we only

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43 Ibid., 231.
44 Met. 1049a18.
45 By breaking down the bench we can only analyze to a level below that of which we are analyzing. Bench > crafted wood > raw wood > tree > soil > elemental earth. To say that ‘benches come from trees’ is to describe something that is possible, but not something that is potential. For it to be potential we would have to find trees that grew into benches. See Phys. 193a13.
need to describe the proximate matter. The relevant matter for the explanation of what a thing is is the proximate matter, with more remote matters which can explain why the proximate matter itself is. The best description of potentiality and matter only refers to the most proximate matter:

In some contexts he [Aristotle] explicitly recognizes different types of matter; for he remarks that in stating the matter of a man we should mention his special matter, not fire or earth, and thereby state the most proximate cause (1044b1-3). Let us therefore call this the proximate matter, and contrast it with the remote matter (e.g. fire, earth) that constitutes it.46

Matter-form analysis requires discussing the proximate matter that pertains to its particular substance. This is because discussing the matter of men as earth or chemical compounds does little to tell us about the specific nature of the matter-form compound man. If we want to understand how man is a substance we need to understand how the form organizes the matter so as to actualize the composite thing man. Form does not mean that just any matter whatsoever can make up a composite, for example wood and iron cannot be the matter of a man. Rather, form is a determination of the specific kind of matter that is necessary for the compound to be an actual (living) man.47

Irwin's discussion contrasts with Ackrill's by showing the care we must take in hylomorphic analysis. We cannot look for a parallel between the artifactual examples and living things because their proximate matters are of different kinds. While a human being, a plant, and an insect are composed of some common remote matters, their proximate matters are not interchangeable. They all consist of the same elements, and share certain compounds, but each has a particular organic body with distinct structures.48 While 'flesh

47 See Met. 1044a15-1044b3 and 1045b19.
48 This makes their matter interchangeable at lower levels. One example of this is the fact living things consume the bodies of other living things, a process which requires the breaking down of the body of
and bones' can be the material of any living vertebrate, it is only this sort of flesh and bones that makes up this species. We cannot expect the bones of fish to operate in mammals and vice versa. Both apes and men have very similar flesh and bones, but their proximate matter is distinct because it is only the matter of a man's organs that makes him a man.

Understanding matter as multivocal shows why taking matter to be the same thing in different beings is not the right approach. The proximate matter of iron that is potentially a hammer is not potentially a man because it is not the appropriate matter for man: it cannot form a man. However, iron can be the proximate matter of a hammer, or other materials, because it is the appropriate matter for actualizing that form. Earth is not the proximate matter of an ax, though it is a remote matter of the ax, just as earth is the remote matter of man. Earth must become iron before being appropriate matter to manifest an ax. In two different substances, one inorganic and the other organic, the proximate matter of the inorganic can be the remote matter of the organic. Another way to characterize this is to see that iron, as matter, is possibly many things but only potentially something in the correct circumstances, for instance it is potentially a statue in the hands of a metal sculptor. (It is possible for iron to be a part of a man, as a constituent component of his blood and bones, if we can account for the long chain of external circumstances that describe how it became such.) Further, the proximate matter of living substances is not interchangeable in the way the iron of the ax is with the iron of the statue. As mentioned above, there may be strong similarities, but the proximate matter of

the eaten into matter that can be assimilated by the eater. See Met. 1045a3-5 and GC 321a10.

49 Earth would be even further remote in the case of a human being than an ax, as it is further away from the proximate matter, whereas earth would be only be one step away from iron. This is discussed further in the following chapter.
living substances is peculiar to their species. The necessity of a soul is due to the fact that the soul is the actualization of the particular proximate matter that creates a living organism.\textsuperscript{50} When an organism dies, the loss of the soul removes the thing that keeps that proximate matter in its current state. The dead body is not therefore mere undifferentiated matter, rather it is matter that no longer retains its potentiality for life. Its potentiality is decay into more remote matter, as the life that preserves the matter of the body no longer remains.\textsuperscript{51}

\textit{1.4 Conclusion}

Ackrill's discussion supposes that according to Aristotle's hylomorphic theory, matter is equivalent to, and not just similar between non-living and living substances. However, Ackrill fails to see that living and non-living substances are not readily comparable. He speculates that living beings must be built out of some non-living matter, because otherwise form and matter are inseparable. Ackrill's trouble can be alleviated by seeing that the supposed collapse of the matter-form distinction for living substances does not occur if we properly understand what makes up the matter of living things versus non-living things. When we realize that an organic body is the proximate matter, we see that it is not necessarily matter that is already living, but only that it is a matter that can live given the proper external circumstances. Iron is necessarily iron unless external change is brought to it, but this is not the case with living matter. Just as seeds do not grow without the right conditions, what is potentially alive is alive only as long as it is

\textsuperscript{50} It might be helpful to think of this as having some similarities to DNA. While the majority of the genetic code is the same across various species, e.g. humans and chimpanzees, slight variations in the code can have drastically different outcomes and are not interchangeable naturally. Genetic engineering, however, would make Aristotle's souls no longer essential.

\textsuperscript{51} See \textit{Met.} 1045a1-5 and Mirus (2001), 370.
provided the proper circumstances and provided those circumstances continually, e.g. food, air, tolerable temperatures, etc. Further, Ackrill seems to be searching for a distinct point at which a thing becomes alive, at which the non-living becomes living. This puts him in a position of searching for the origin of life itself. As such he questions Aristotle's capacity to explain the chemical changes which are supposed to explain this creation point for life. It is not clear, however, that Aristotle would have conceived of life in this way, especially given his awareness that life comes in particular kinds, which much of his discussion in the *De Anima* is devoted to distinguishing. To diffuse Ackrill we must show that Aristotle's meaning of life and matter are more complex and that matter and form are not as easily separable as Ackrill supposes they ought to be.

It is important to point out that, while Aristotle is not aware of the details of the processes of chemical change, his theory is not incompatible with them. Nowhere does Aristotle make the commitment that hylomorphism necessarily requires recoverability of the material, or that each transformation must be reversible, as Ackrill supposes. It is plausible to postulate recoverability for substances, it seems, only if we focus narrowly on the study of artifacts as being broken down into parts as their matter. The relative simplicity of artifactual examples can be misleading, as we will see, because they deal only with relatively simple sorts of matter and not the more complex matter of biology. However, the type of part-whole breakdown that seems built into Aristotle's hylomorphic doctrine in the case of artifacts does not work in the case of living beings. While hylomorphism makes claims about of parts and wholes of living creatures, the parts cannot be separated without irreversible change. We cannot remove the heart of a living
creature and replace it as easily as we can remove and replace the blade of an ax. The case of the principle of homonymy, which holds that a non-seeing eye or a dead man is not actually an eye or man, shows that Aristotle is quite aware that such changes are irreversible, and, that it is mistaken to speak of corpses using the same terms as those of living. The change from alive to dead, from potentially living to actually living is a non-recoverable change. Life moves from the potential to the actual, but does not do the reverse. In cases of hibernation and dormancy we only speak of the second actuality of the soul, but the first is not reversible. A creature is still alive in hibernation and its potentialities are not lost; they are simply non-actualized. In the case of death, however, all potentiality and actuality is lost, and the matter can neither be alive nor potentially be alive. Ackrill's argument makes a demand on Aristotle that he explain the death-to-life process, a process that Aristotle does not discuss because it is not possible, which is reflected by his metaphysics of life.

For Aristotle, there is no *simpliciter* sense of life, just as there is no *simpliciter* sense of matter. Understanding why this is so requires close attention to the matters and potentialities specific to particular organisms. Hence, the next chapter will try to

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52 Certainly modern medical technology can do this, but it does come with severe limitations in time and the problems of organ rejection. See notes 110 & 113.
53 See *DA* 412b18-23. Aristotle's homonymy principle reminds us that just because something is similar enough that we can attribute a common name to it does not mean this use is correct use. Ackrill speculates that if Aristotle dropped the homonymy principle he might get around his logical error, but by allowing bodies to be reanimated. See Ackrill (1972/3) 127-8. However, because Aristotle is trying to capture a truth about the world, that life does not come from death, he cannot commit to reanimation for the sake of logical consistency.
54 Aristotle allows for homonymous life, as in the case of brain death, so our discussion of life and death must always be aware of what sort of life and what sort of death is being discussed. This is a key topic of discussion in Chapter 2.
55 Mirus's distinction between living matter and dead matter illuminates this. See Mirus (2001), 367-370. Also relevant is Whiting's discussion of 'thin' vs 'thick' compounds. See Whiting (1992), 87.
56 See *DA* 412a22-30 & p. 17 above.
articulate a more detailed account of Irwin's discussion, specifically the particularities of form and matter. Ackrill claims that Aristotle's hylomorphic distinctions collapse as a result of thinking that matter and form are purely logical distinctions that are applicable without concerns about the nature of the particular object. However, this is not the case. For instance, in melting the bronze of the statue nothing fundamentally changes about bronze such that it can no longer again be something else. This is the sort of criteria Ackrill thinks Aristotle must hold, that living matter too must be capable of being something else, that somehow cat matter can be dog matter. The inseparability of the soul from the matter however, is a consequence of the fact that living matter does not possess actual separability, but this does not mean that it is therefore logically inseparable. Furthermore, the separability of soul from matter is different in living beings, because the form of a living being has its own logical peculiarities that forms of non-living things do not. This is why Aristotle does not give one general definition of the soul in the De Anima, but offers different formulae meant to capture the further complexity of this 'form' of a living being.\textsuperscript{57}

If we take hylomorphism as based on the analysis of non-living things, we miss Aristotle's more complex discussion of the particulars of form and matter. If a hylomorphic explanation is applied to living substances in the same way it is to non-living substances, it might be thought to call for a search for some non-living matter that becomes alive when ensouled, as if souls could be inserted into any matter and make that matter alive.\textsuperscript{58} Irwin's discussion shows why this is misleading and ultimately mistaken.

\textsuperscript{57} As Ackrill lists them: “(a) 'form of a natural body that has life potentially'; (b) 'the first actuality of a natural body that has life potentially'; (c) 'the first actuality of a natural body that has organs'.” See Ackrill (1972/3), 119.

\textsuperscript{58} “The contrast of form and matter in a composite makes sense only where the matter can be picked out
Things like seeds transition from non-living to living because they move from the first actuality of the soul to the second.\textsuperscript{59} They are non-living bodies that are only potentially alive given the correct circumstances. In animals and other more complex creatures however, it is true that life is necessarily living. For the complexity of their souls is such that the vegetative form of life is required before the animal form, and further they do not reproduce with bodies that are potentially living, only bodies that are actually living.\textsuperscript{60} In the case of human beings, our matter is already living, but this is because we are more complex and have more soul parts, and what properly qualifies as life for a human being is not just any life. Human life requires the possession of vegetative, animal, and rational souls. Hence Ackrill's statement is true, but only in a limited sense, because life for one creature is not life for another. Seeing this requires understanding that Aristotle's hylomorphism is a theory of particulars, a description of actual things in the world and not theoretical things. Like matter, there is no life as such, there is only life as it is instantiated by the wide variety of living things. It is difficult to postulate a general account because there is no life in general, only a homonymous one, as commonly expressed by our colloquialism 'being a vegetable.'\textsuperscript{61}

To see the basis for this we must further examine the *Metaphysics*, to articulate the account of particular forms and show why Aristotle explains life as something particular for each species.\textsuperscript{62} The reason proximate matter and potentiality are

\begin{itemize}
  \item \textsuperscript{59} In such a way that it could be conceived as exiting without the form.” *Ibid.*, 126.
  \item See note 55.
  \item \textsuperscript{60} “This power of self-nutrition can be isolated from the other powers mentioned, but not they from it.” *DA* 413a30.
  \item \textsuperscript{61} See *DA* 402a10 and 413a5-10.
  \item \textsuperscript{62} Irwin, (1988), 569-570.
\end{itemize}
particulars, but to explain them in such a way as to capture their uniqueness and show that they are neither reducible to parts nor subsumed by that of which they are a part. Additionally, I want to bolster this account of the particular forms by exploring the complexity of what Aristotle means by matter, especially in the case of biology. Hylomorphism is a doctrine that allows us to explain a wide range of phenomena, and at the same time allows a general account to be established. To do so requires seeing Aristotle's notion of form as not some sort of logical universal, but rather merely an abstraction from particulars, which the notions of matter and form reflect.
Chapter Two
Form and Matter as Particulars

2.1 Answering the puzzle of life

While the discussion of proximate matter shows us in general why Ackrill's concerns are misguided, Irwin himself does not explain the intricacies of Aristotle's metaphysics and how it can account for the complexity of living beings. Doing this requires spelling out some of Irwin's assumptions and providing more detail about what exactly Aristotle is trying to capture with form and matter. One key assumption of Irwin's is that Aristotle regards forms as particulars and as descriptions of existing things. They are not universals in the ether that become physical when they are instantiated by matter.\(^3\)

The account of particular forms shows why Ackrill's mistake comes from searching for too general of an account of Aristotle's metaphysics of life. If forms are particulars, then the soul, as the form of a living creature, is also particular and there is no life \textit{simpliciter}. Similarly, Irwin's discussion of proximate and remote matter is fleshed out by looking at Aristotle's classifications of matter and the relations among them, which shows why living and non-living matter cannot be compared like Ackrill assumes they can be. Taken together, these discussions show the complexity of Aristotle's hylomorphic method and supply greater detail about how Irwin answers the concerns of Ackrill.

The argument for particular forms I follow comes from Wilfrid Sellars.\(^4\) His

\(^3\) I think there is much to be said about the problematic viewpoint of seeing forms as instantiated by matter in Aristotle, or as somehow separable in some non-conceptual sense. This seems to be a hangover of Platonic metaphysics on to Aristotle, and certainly an issue that requires further attention. Also, see Irwin (1988), 569-70.

\(^4\) Sellars (1957) and (1963).
reading emphasizes the anti-reductionist nature of Aristotle's metaphysics. Rather than enumerating the qualities a thing possesses, hylomorphism describes things via three aspects: form, matter, and the composite. The three aspects are neither reducible to, nor exclusive of, one another. Rather, they capture what things are in an irreducible way, by identifying not just the qualities a thing has (the composite) but the parameters of what essential qualities it must have (the form) and what accidental qualities it can have (the matter). What Aristotle wants to describe is knowledge of what things really are, which requires knowing whether they are the things they appear to be. Knowing the form of a thing, the essential defining qualities, but being unable to determine what instance of the thing is the true one, for example, whether the sculpture of a frog or a living frog is the true frog, is not knowledge of it. This again shows the importance of the homonymy principle, because the fact that two things have similar properties does not mean that they have the same nature. Being able to determine the truth or falsity of substances requires knowing the why, or the nature, of a thing. Being able to make these determinations requires not just knowledge of forms, but also of the particulars from which we abstract the forms, for it is the identification of the particular things in the world that expresses our knowledge of them.

To complement the argument for particular forms I look at an outline of the complexity of matter in Aristotle. Montgomery Furth offers a reading of the *Metaphysics* as it relates to Aristotle's biological works, particularly how the *Metaphysics* attempts to explain the complexities of biological life. Just as forms are particulars and not

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65 See notes 54 & 71.
universals, so too is matter always some sort of particular thing. Hence, we cannot readily compare the matter of one thing to another without first understanding what role that matter plays in a thing, because often what forms the proximate matter of one thing may only be a remote matter of another. Furth outlines six different levels of matter, each possessing a different metaphysical status. Recognizing these various levels enables us to point out what the appropriate matter for a particular form is.

Taken together, these accounts allow for a more complete picture of the complexities and nuances of Aristotle's *Metaphysics*. They also give us more detailed footing from which to understand why Irwin's account correctly regards the types of riddles proposed by Ackrill as non-issues. It shows why there is no *simpliciter* account of life, just as there is none of matter.67 Understanding the particular forms of the *Metaphysics* sheds light on the complexities of Aristotle's account in the *De Anima* regarding the connection between life and the necessary parts required to actualize the appropriate sort of life for a living thing.

2.2 Forms as particulars

The goal of Aristotle's *Metaphysics* is to describe being *qua* being.68 By doing this we can describe beings as distinct from one another and from being and give accounts of what they distinctly are. Those beings that can be described this way are substances, substances which possess the three distinct aspects:

\[ \text{in one sense the matter, \ldots and in another sense the formula or shape [i.e. The form], \ldots and thirdly the complex [i.e. The composite] of these two, which alone is generated and destroyed and is without qualification capable of separate} \]

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67 See note 35.
68 See Met. 1004b.
Each aspect is distinct and taken together they allow us to give a full account of what something is. The form sets up parameters that define a thing, the matters accounts for its accidental properties, and the composite of both describe the existing thing. The parameters determined by the form limit what matter a substance can have. For example, if any matter will do, and form or shape is the exclusive determination of what a thing is, then the only substantial difference between an ax made of steel and one of paper would be their matter. However, only certain types of matter are correct for forming axes, for example paper axes are false axes, because they are mere imitations. In the same way, only certain organs and bodily matters are the correct matters for different living things. Not just any matter or set of living tissues can make up a living thing.

A better understanding of Aristotle's focus on the particular requires seeing that forms are particular and not universal. This also addresses the misconception that Aristotle's hylomorphism is some sort of reductionism, according to which knowing the form of a thing allows us to determine the rest of its qualities, or that knowing what a substance is requires only the ability to enumerate its qualities. Aristotelian philosophy combines the theoretical (form) and the empirical (matter) to describe existing things.
(matter-form composites). In “Substance and Form in Aristotle” Sellars reads Aristotle's hylomorphism as a theory that aims to explain things in terms of their constituent elements while not reducing them to those elements. He contrasts this to the type of reductionism that describes things as mere sets of qualities, a project to which Aristotle is opposed, because he resists:

\[
\text{a strong temptation to identify '}\text{S}_1\text{ is a K'} \text{ with '}\text{S}_1\text{ is Q}_1\ldots\text{Q}_n', \text{ which identification might be expressed by the equation (where } \text{S}_1 \text{ is an individual substance, Q}_1\ldots\text{Q}_n, \text{ its criterion qualities),}
\]

\[
\text{S}_1 = \text{K} = \text{S}_1 = \text{Q}_1\ldots\text{Q}_n
\]

It is intuitive to answer what a thing is by listing the qualities of the object of identification. This strategy operates on the hope that a sufficient number of qualities will be enough to distinguish something from another thing, despite their similarities, just as we might distinguish two cats by describing the colours and patterns of their coats. In order to provide a definition of what a thing is, we hope to find a series of qualities by which it can be identified and reduced to, e.g. K is just the set of qualities Q_1\ldots Q_n. At first glance it seems Aristotle's philosophy is also reductionist in this way: if what a thing is is its form, we need only describe the set of qualities that identifies the form. Matter and form just separate the qualities into two sets, but this does not change the fact that what the thing is is still the set of qualities identified by matter and form.

But Aristotle's account is anti-reductionist because he identifies what a thing is by its irreducible essence or form. An essence however, is not just particular set of qualities

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73 Irwin describes Aristotle as a metaphysical realist. See Irwin (1988), 5. Strawson calls Aristotle's metaphysics a 'descriptive metaphysics', which attempts to “describe the actual structure of our thought about the world.” This is in contrast to 'revisionary metaphysics' which aims to “produce a better structure.” Strawson (1959), 9.

74 Sellars (1957).

75 Sellars (1957), 693. Also see (1963), 261. “Socrates is not identical with his attributes taken severally.”
or properties which define a thing. For instance there is not some set within $Q_1...Q_n$ that can be picked out and dubbed something's essence. Rather an essence captures the parameters that define what is and is not a thing and identifies which qualities are possible qualities of a thing. In this way an essence is not merely descriptive of the actual qualities a thing possesses at any particular time. When the qualities of a thing fall outside the parameters set by its form it ceases to be the thing that it is, regardless of how similar it remains. For example, there might be only one qualitative difference between Socrates sleeping and Socrates dead, namely being alive versus being dead, but such a change from alive to dead, even if all other qualities remain the same, means Socrates no longer exists because being alive is an essential and necessary quality for Socrates to be Socrates. This explanation provides us with a means to determine how things that have equivalent properties can have distinct essences, and allows us to distinguish what something really is from the appearance of it. A purely qualitative description cannot distinguish between true or false axes because it does not tell us which qualities are definitive of axes and how to sort them out from non-definitive ones. Aristotle's notion of form resists the reduction of a description of a thing to nothing more than its set of qualitative descriptions, because form points out, in Sellars' words, “the fact that thing-kind words are common names and not a peculiar kind of adjective.”\(^{76}\) When we say 'Socrates' we are not referring to a particular set of qualities that we can later use to identify that same set of qualities as belonging to the same bearer of that name, but something else, namely, the nature of this particular being as a compound of form and matter. This keeps substances from being merely sets of qualities, or shorthand

\(^{76}\) Sellars (1957), 694. Also see (1963), 262.
adjectives, because the substantial description captures what a thing is regardless of the set of qualities that it may or may not possess. Sellars supports this interpretation by pointing out that for Aristotle substances must hold across time. Describing things via a set of qualities requires describing their time qualities as well, but in Aristotle, “a shoe is not a shoe at a time.”\(^\text{77}\) Substances have a state of independence from their accidental time qualities, and this independence is the ground of their substantiality. The name of a substance, when not homonymously used, signifies its nature, or form, which is the possible set of qualities that thing-kind possesses, giving it metaphysical status as a distinct thing. The nature of a thing grants its metaphysical identity across various sets of qualities that may or may not pertain to the substance at any particular time.

Aristotle's identification of the substantial nature of a thing points towards the irreducibility of things to sets of qualities. Hence, Aristotle refers to a substance as a 'this' (τόδε τι).\(^\text{78}\) When we refer to substances we are referring to particular instance of a kind of thing which cannot be reduced to solely its qualities: “Thing-kinds are not reducible to the qualities which are their criteria, these qualities have, as criteria, their own logical peculiarities.”\(^\text{79}\) To describe things by their qualities requires explaining what those qualities are, \textit{ad infinitum}, Aristotle describes it thus:

'What a thing is' in one sense means substance and the 'this', in another one or other of the predicates, quantity, quality, and the like. For as 'is' belongs to all things, not however in the same sense, but to one sort of thing primarily and to others in a secondary way, so too 'what a thing is' belongs in the simple sense to substance, but in a limited sense to the other categories. For even of a quality we might ask what it is, so that quality also is a 'what a thing is' – not in the simple

\(^{\text{77}}\) Sellars (1957), 695.
\(^{\text{78}}\) See \textit{Met.} 1030a5.
\(^{\text{79}}\) This implies that there are things that can be reduced to their qualities. In my view this includes the elements and other sorts of unformed matter. See Section 3.3 below. Also see Sellars (1957), 696. & \textit{Met.} 1030a18-28.
sense, however, but just as, in the case of that which is not, some say, emphasizing the linguistic form, that that which is not is – not is simply, but is non-existent; so too with quality.  

Identifying what something is requires describing both its status as a 'this', the form, and its accidental qualities, the matter. Further, we can identify qualities themselves, but not in the same way, as the thisness of qualities is not the thisness of substances, 'not in the simple sense'. Qualities are not substances and are not ontologically autonomous. Smooth, short, and large are all terms that have no sense without reference to something else; when we ask what a quality is our language requires we give it some sort of thisness in order to identify it. As Sellars notes, “notice that we speak of ‘a shoe' but of ‘a piece of leather'; 'a statue' but 'a chunk of marble'; and so on.” When speaking of a particular instance of a type of matter, it must be referred to with some qualifier, even if an indeterminate one, to make it a this. Such a qualifier changes what are mass nouns into count nouns, from a type into a particular instance of that type. When we speak of marble, as a mass noun, we are not talking about a particular instance of marble, but a matter-type.

Substances, on the other hand, do not require a qualifier to be a this. Their thisness is in the 'simple sense' of existence. Shoes and statues, for example, are determinate beings. A shoe consists of the form of a shoe and the matter of the shoe which are the constituent elements of the existent shoe. Further qualifications can be placed upon a shoe to specify the nature of each particular instance of it, but these are in addition to it

80 Met. 1030a18-27.  
81 Sellars (1957), 697.  
82 We must make matter a 'this' in order to reference it in any qualified sense. However, marble unqualified is never an instance. We are merely referring to a particular compound that makes up the matter of a 'this' as in this statue or block of marble. “‘Leather', 'marble', 'bronze' are not thing-kind words,” Ibid., 697.
being a shoe, to the simple is of existence, while qualities and substances both share in the second sense of 'is', the qualified is. What grants substances their primary sense of 'is', is that they have a form. The form determines the range of possible qualities (i.e. what qualities the complex can, but does not necessarily, have) that a thing can possess, which grants them the primary sense of 'is'. These are the qualities it can possess while remaining what it is, for instance a bronze ball cannot have the shape of a cube, but a bronze chiliahedron could qualify as a bronze ball. Sellars explains this point with the following formulation: “The form (taken universally) is not these qualities *simpliciter*, but these qualities determined with reference to substance *… in some appropriate material or another.*” The form determines the parameters of what matter-types and qualities belong essentially to what a thing is, but it is not therefore the sole or full determination of what a thing is. Knowledge of the matter allows a further refinement of the possible qualities, for instance, we know a rubber boot will be waterproof. Knowledge of form and matter alone, however, is not fully determinate of the existing actual thing, for perhaps this particular rubber boot is poorly made and therefore not waterproof. This is why the three aspects are all necessary to understanding what a thing is and being able to pick apart how the different qualities are determined by the relations between the form and matter.

The relationship between the three senses of substance is such that each captures

83 See Sellars (1963), 264.
84 Sellars (1957), 698.
85 See Irwin (1981), 38. “Unlike some philosophers [Aristotle] does not identify essential properties with necessary properties. For him some necessary properties are 'intrinsic concomitants' that belong to something necessarily, because of its essence, but are not themselves a part of the essence (Met. 1025a30-34). Aristotle offers no clear rules for deciding when a property is essential and when it is an intrinsic concomitant but he at least insists that reference to the essence explains why something has the intrinsic concomitants it has (DA 402b16-180).”
an aspect not reducible to the others. In the case of a shoe, the form identifies the possible qualities it essentially has (that it must be a foot covering of such and such material), the matter determines what those possible qualities are (a rubber shoe is potentially waterproof), and the actually compound shoe is the set of actual qualities possessed by the existing shoe (this shoe made of rubber actually is waterproof). The form is the baseline determinate set of qualities that makes something what it is and not something else, but the form cannot be determined without the other aspects which enable us to determine which qualities are the essential ones. The form determines what is/is not a shoe. Matter qualifies the shoe, and explains its accidental qualities. The composite is subject to time, which requires reference to the matter and form to establish which qualitative changes are essential and accidental. This is why the form of a shoe is not a universal, because the form itself does not stand on its own with any ontological independence, rather it is a universal only in the sense of being a concept in a mind. It is type of description that allows itself to be universalized, and hence other particular objects that are encountered can be compared to that description to see if they are shoes. Sellars' formulation of this is as follows:

Aristotle can say that the form of this shoe is, in a certain sense, the shoe itself. For, to follow up the above line of thought, the form of this shoe is the shoe itself qua foot-covering made of some appropriate kind of matter. The form is in this disjunctive sense (indicated by 'some') more 'abstract' than the shoe, but it is not for this reason a universal.

The particularity of forms is what allows Aristotle to avoid reductionism. What a thing is is determined not by the qualities that it has, but by certain conditions on what

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86 “Thus the “parts” [form and matter] are not incomplete individuals in the real order, but the importantly different parts of the formula … projected on the individual thing of which they are true.” Sellars (1963), 268.

87 Sellars (1957), 698. Also see (1963), 266-267.
kinds of qualities it can have. In other words, the form is like a minimal blueprint. The enumeration of the qualities of a shoe cannot determine the possible qualities it might possess, only what qualities it does possess. A mere list does not distinguish which qualities are the definitive qualities that pertain to answering what a thing is, unless we suppose that any change defines a new thing. The form of the shoe determines what possible matters it might be made of, but not the actual qualities that the compound of matter and form possesses:

The sense, therefore, in which the form of the shoe is present in the shoe, and is an incomplete entity incapable of separate existence, is not to be simply identified with the sense in which qualia, quanta, etc. are present in primary substances, nor is it to be identified with the sense in which universals are incapable of separate existence.\(^\text{88}\)

Forms are particulars because they cannot exist as forms without the compounds that manifest them. Sellars' notion of particular forms here should also remind us that forms are not idealizations of what it is to be a thing; there is no set of qualities which signifies a singular attribute of what something is, or its “shoeness”.

This is the reason why artifactual examples tend to mislead us, because they give us the idea that form is something imposed on any unformed matter. For it is easy to suppose that we can impose some essential qualities onto any sort of matter to make a shoe, and these essential qualities are what make the shoe on a statue the same thing as a shoe on my foot. However, this is incorrect because if this were so we could not determine false shoes from true shoes. If there is some universal essence, then the shoe of a statue is no different than the shoe that is actually covering a foot, because such an essence would not be able to explain the material conditions which distinguish the true

\(^{88}\) See Sellars (1957), 698. Also see (1963), 267.
shoe from the false shoe. What form is describing is not some singular essence that is itself a quality. Rather the form answers what it is about this particular complex that makes it truly a shoe and not something else. Indeed, the shoe on a statue and the shoe on my foot do have many common qualities, but what differentiates them is the fact that qua shoe one is made without the appropriate material for being a shoe. It is quite plausible for a craftsman to make stone shoes, but there is little hope that people would use them as shoes.

The interpretation given by Sellars demonstrates how Aristotle's hylomorphism is a metaphysical theory that explains how we identify particular things by their forms. Understanding Aristotle's account as anti-reductionist shows why puzzles like Ackrill's, which treat matter and form as non-particulars, are misguided by positing matter and form as non-particular concepts. Under Ackrill's interpretation, form and matter are two sorts of universals which come together to explain the existence of something and this requires that both form and matter remain logically distinct. The root of his puzzle of living matter is that the matter of a particular soul must be a particular sort of matter, and not any other matter. Sellars' discussion of particular forms, however, points out that the interdependence of matter and form is not problematic, but essential for being able to properly identify things. Particular forms allow each individual to possess a form in so far as each thing is a distinct set of qualities, but the form is not simpliciter, in the sense of being a thing unto itself, and the form of a shoe is not a form of this shoe here and now. Forms taken as thing-kinds are the sets of quality parameters whereby we can classify whether or not a thing is what it appears to be. A shoe may consist of different materials,
but not simply any material. While leather is suitable for a shoe, paper is not.\textsuperscript{89}

This interpretation of forms as particular to matter also serves to reinforce our criticism of the idea that the recoverability of the matter from the composite is a requirement for hylomorphism. In relatively simple artifacts this is easy, like metal statues, or disassembled cabinets. Processes of organic change, or even change in complex artifacts, however, do not allow for recovery. This not an issue for Aristotle because what makes up the proximate matter of a thing is unique to each thing. Recoverability only works at the basic level of non-organic compounds, so the screws and wood panels are recoverable from the cabinet, but they are not the proximate matter of the cabinet. It is their assembly in such and such a way that is the matter of the cabinet. Our notion of the matter and form of the cabinet may be inclusive of the components that make it up, but the separability of this componentry itself is not necessary for us to separate the matter from the form. The leap to thinking that the disassembled parts of the cabinet are its matter is more difficult to make when we study living beings. It is an error that arises from thinking of hylomorphism only, or at least primarily, in terms of artifactual examples. Matter is not synonymous with the material or, in our contemporary sense, physical components of something. Rather it an expression of the material conditions of a composite which are distinguishable from the form.

Better illuminating the complexity of Aristotle's sense of matter requires a distinct discussion of matter \textit{qua} matter. The material aspect of a substance, as we have stated before, is not just any matter but matter of a particular sort. We do not explain substances

\textsuperscript{89} However, if we could develop or manipulate the paper to make its qualities akin to those of leather, perhaps it could be the material of a shoe. However, by that time it is no longer likely to lie within the parameters for paper.
by reference to the elements, but we can explain their matter by the elements. If form is a determination of the appropriate matter for a substance, we must correctly understand to which sort of matter we are referring. It is only with knowledge of something's form and matter that we are able to make correct judgements about the substantial status of actual things. As Sellars reminds us to resist the temptation to reduce things to their qualities, his argument also shows us that we cannot reduce things to their forms. Knowledge of a form is necessary, but it is not sufficient to claim we know what a thing is. To this end it would serve us well to bolster our discussion of particular forms by looking at how Aristotle deals with various kinds of matter, and understanding how the most basic matters form and relate to more complex matters. This should also give us some greater insight into the separate roles of matter and form, and the way in which matter and form are so closely intertwined.

2.3 Making sense of matter

Montgomery Furth outlines the variety of matters in Aristotle's physical and biological treatises, where Aristotle gives matter a more thorough discussion. Furth's study shows how Ackrill was correct in acknowledging that study of the biological works sheds light on his puzzle about life.\textsuperscript{90} Examining Aristotle's discussion of matter shows why we should not expect the matter of living things to be comparable to the matter of non-living things, because these matters \textit{qua} matter are of different kinds. What functions as the matter of a substance is the appropriate material for that substance, but this

\textsuperscript{90} See Ackrill (1972/3), 131. & note 32. Also see Mirus (2001) for an alternative account that generally follow the same outline of matter.
material is always of a particular sort. Hence what functions as matter for one thing is not
directly comparable to the matter of another thing. We can compare the matter of two
substances *qua* matter, but not the matter of one to the matter of another *qua* substance.
The matter of one substance cannot be compared to the matter of another without first
identifying what sort of matter each is. This is the mistake contained in Ackrill's
assumption that the matter of man is flesh and bones in the same way that iron and wood
are the matter of an ax. While flesh and bones can be compared to iron, they are not
comparable as the matter of the different sorts of substances to which they may belong
because they are two different types of matter. As Furth claims: “This matter-form
analysis has about it in actual practice several distinct complexities that are not called into
play by the usual stock examples, such as bronze statues and spheres.”91 Matter, like
substances, can be more or less complex. We must sort out these levels of complexity
before we can hope to pinpoint what the relevant proximate matter of a thing is, and,
further, to understand how that proximate matter relates to its more remote matter. For
instance, a living creature consists of many kinds of matter, while a bronze ball consists
of only one. In comparing the proximate matters of two different bodies one must account
for the whole set of material structures that make up a body. Otherwise, we are liable to
make inappropriate claims about which matters make up the matter of a substance. For in
giving the account of the matter of man, we do not want to express it in terms of non-
living compounds.

What sorts of matter are there? There are two basic kinds, non-organic and

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91 See Furth (1988), 164.
organic. Organic matter is created by the processes of life and reproduction. The form of a living being is what provides the organizing principle of organic matter, explaining why the body has to have this particular arrangement and sort of matter to sustain itself. Life, for Aristotle, is not built up from random assemblages of non-living elements, but rather the form of a living thing “should be thought of more in terms of a form 'reaching down' into the matter than the matter being 'built up' into the form.” This “reaching down” is the soul of a living creature providing the essential parameters that define what the creature is, the possession of certain organs, bodily fluids, etc. Additionally, it tells us how it is that things cannot sustain life, by their lack of powers to preserve their material status or failure to develop the appropriate proximate body. What is 'built up' in the processes of life is the transformation of matter into the appropriate structure(s) that is essentially defined by the soul. Just as the form of the shoe tells us why shoes cannot be made of paper, the form of a living being tells us what types of matters are necessary for that living being to what it is, to be alive.

As Furth outlines them, there are six matter-types in Aristotle:

<table>
<thead>
<tr>
<th>Matter Type</th>
<th>Examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) elements</td>
<td>earth, air, fire, water</td>
</tr>
<tr>
<td>ii) compounds</td>
<td>stone, metal, seawater, etc.</td>
</tr>
<tr>
<td>iii) uniform organic matter</td>
<td>blood, sap, salvia, etc.</td>
</tr>
<tr>
<td>iv) uniform/non-uniform organic matter</td>
<td>bone, nail, organ matter, etc.</td>
</tr>
<tr>
<td>v) organs</td>
<td>heart, brain, liver, etc.</td>
</tr>
<tr>
<td>vi) organisms</td>
<td>cats, trees, human beings, etc.</td>
</tr>
</tbody>
</table>

Each type is distinct and irreducible to what is below or above it. Compounds are not mere combinations of such and such elements, just as organisms are not collections of organs. While there is transitivity amongst the levels, this does not mean that breaking

92 See Furth (1988), 76-83.
93 Ibid., 76.
down a living creature into its basic compounds and reconstituting it from those compounds is possible. The idea that we could have a recipe for life, like we do for cake, is a tempting analogy, but a false one according to Aristotelian metaphysics, because it implies we can cook up life given the right ingredients and procedures. This is because there is no way to build up raw compounds into something living without an organizing principle that accounts for all the various parts. A recipe of basic elements cannot account for the details of how the more elemental parts are built into more complex structures. Further, these matter types allow us to understand matter in two ways, one as just the proximate matter itself, and secondly as what makes up that proximate matter.  

The most basic bodies that can be identified are the four basic elements, earth, air, water, and fire. The elements are unstructured and homogeneous simples, “the apparently 'simple' bodies”. Pure elemental phenomena are merely heaps when aggregated and cannot be differentiated; there is no way to metaphysically track the separation of water from water because this does not create two determinate things. While there is this water and that water, when they co-mingle they remain water and there is no way to retain the original this and that water. In dividing one quart of water into two pints, we have not divided a single thing into two things because we can recombine them into the one. The two cups are only distinguishable by their locational

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94 Whiting's thesis about 'thick' and 'thin' compounds parallels this. “One, the 'thin' compound', is a compound of form and an organic body. The other, the 'thick compound', is a compound of form and the portion of compositional matter constituting it at a given time.” Whiting, (1992), 87.

95 These most basic bodies are combinations of basic properties, dry, moist, hot, cold: “Fire is hot and dry, whereas Air is hot and moist ...; and Water is cold and moist, while Earth is cold and dry.” See GC 330b5.

96 See GC 330b2. The elements are only apparently simple due to their constitution via the basic properties, which are not bodies. For a more detailed account of the necessary indeterminateness of the elements and the non-necessity of a concept of prime matter see Sellars (1963), 265-267.
difference and the shapes of their containers, accidental differences. This holds for fire, earth and air as well.

The combinations of elements produce compounds, such as metals and minerals, etc. While they do not possess form, they are not totally unstructured, for they possess form in a qualified sense. Compounds, like elements, lack a substantial unity, since dividing one brick of gold into two bricks of gold does not destroy what makes it gold, whereas such a division in an artifact or living being does destroy it. The definition of a compound is given by the ratio of the elements that combine to create it. When those elements are divided or the ratio is altered, the compound ceases to be, much like the way elements form compounds in modern chemistry. Metaphysically, compounds are heaps like the elements; our experience of a compound as such is as an unformed aggregate. Unlike the elements, however, they do have a structure by which we can explain their changes. Iron is transformed by a change of the ratio of its elements, like the compounds of modern chemistry. Although they have certain properties that can be put to use by animals and manipulated by natural forces, minerals qua minerals do not themselves possess any function. It is only as artifacts or as components of biological organisms that the compounds attain functions. Compounds, and perhaps mixtures, are as far as nature gets without forms. The more complex varieties of matter are matters created by

97 See GC 334a15-335a25.
98 “Notice we speak of ‘a shoe’ but of a ‘piece of leather.’” See Sellars (1957), 696.
100 For instance we might think of iron as the ratio $A_0E_4F_2W_0$, and when it becomes $A_2E_2F_4W_0$ then iron has become something else.
101 This need not be a fashioned artifact either. For a particular lump of stone might function as a landmark, and as long as it remains distinguishable as this particular lump of stone it retains that function.
102 I do not regard mixtures as relevant to this particular discussion, but if we did want a greater account of non-biological things in the world, we would have to discuss the status of mixtures and heterogeneous compounds.
biological processes, and hence are products of existing living things.

The next stage of matter is the basic uniform organic compounds like sap, blood, milk, flesh, etc.\textsuperscript{103} These are unstructured biological compounds and like compounds they are heaps, with their structure being no more than a combination of elements. However, unlike non-organic compounds they can only exist homonymously outside the living bodies that create them; they cannot be “what they are” on their own.\textsuperscript{104} Outside of a living body they cannot perform the functions that identify what they are, e.g. blood regulates temperature.\textsuperscript{105} They lack the greater sense of substantiality that non-organic compounds possess because they rapidly decay without preservation within a living body.\textsuperscript{106} Their sense of greater substantiality comes from the fact that their identity is dependent on being a part of a living being.

The next category is matters that are identifiable as both uniform and non-uniform. As such they represent a semi-stage between the uniform biological compounds, and the structured parts and organs. They are best considered as the ‘matter’ of organs and are unlike uniform matter in being an indeterminate part of the body, because they are a particular sort of matter that only functions in relation to the organs they constitute. This matter is uniform in being a part of bone or of a heart, and non-uniform in that it is a constituent element of the complete organ to which it belongs.\textsuperscript{107} This sort of matter is

\textsuperscript{103} See \textit{Pl} 647b10, “Of the homogeneous parts of animals, some are soft and moist, others hard and dry; and of the former some are moist permanently, others only so long as they are in the living body. Such are blood, serum, lard, marrow, semen, bile, milk when present, flesh, and their various analogues.”

\textsuperscript{104} Furth (1988), 78.

\textsuperscript{105} See \textit{D.A} 412b19-22. Also see \textit{Met.} 1036b30 and \textit{Pl} 640b35-37.

\textsuperscript{106} See Mirrus (2001), 370.

\textsuperscript{107} This can additionally be expressed by the fact that they are simultaneously mass nouns, in that they refer to an undetermined amount, and count nouns, referring to one instance of a thing. “Horn” means both an individual body part, and the material that is constitutive of that body part.
more determinate than purely uniform matter, as it forms distinct structures some of which are producers of the uniform compounds. Aristotle uses veins as an example:

in one way the part is homonymous with the whole, for example a part of a Vein is Vein [as with the uniform], but yet in another way it's not homonymous [as with the non-uniform – i.e., a part of a Vein is not generally a Vein].

A piece of organ matter is uniform and functionless. Its function only manifests as being in the whole organ or structure to which it belongs. In other words we might say that heart matter has a function only in being the matter of a heart, but this is not, properly speaking, a function like the function of the heart or blood. The difference between this matter and uniform biological compounds is that they have functions as such in a living body, while the matter of organs only has a function as part of the organ to which it belongs. Matter at this stage is also different in that it exists only as the matter of a singular part, unlike the uniform matters. It allows us to explain how it is that organs come to be, and that they are constituted of different matters and also explains defective tissues and organs. Cutting an organ in half destroys and organ, but it does not destroy the matter of that organ. This separability can be seen in the example of a procedure such as bone grafting, wherein some matter is moved from one organ (a single bone) to another. Hence organs that are not destroyed but merely damaged are repairable given that their damaged matter is replaced with healthy matter. It allows us to discern that even though an organ may be weak or defective, that does not mean that all its matter is so destroyed, as in the case of damaged organs.

The fifth level contains the complete structured parts of living organisms: the

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108 Furth's translation of *PA* 647b18-19. See Furth (1988), 80. For further examples see 654a32-b14 (bones) and 655b2-21 (keratin structures).
organs and structural parts, hearts, kidneys, hands, heads, etc. They are properly parts of living creatures, the countable heterogeneous structures. This includes both individual organs, and groupings of organs and homogeneous parts into systems, such as the heart, lungs, veins, and blood forming the vascular system. The organs determine the relevant powers of each particular living thing as well. Without eyes an animal cannot see, without the properly developed ears it cannot echolocate, etc. The lack of defining organs and their associated powers also determines whether or not a creature is the thing it appears to be. A deaf bat, for instance, is not distinguishable from a normal bat at first glance. However, it could not survive on its own and as such is only a bat homonymously, just as a human without the capacity for reason would be only be one homonymously.

The organs and uniform matters together form the organism, the complete being which is an individual this, the complete and living bat, cat, human being, etc. The various organs, systems and uniform parts are integrated together and function together, thereby creating and sustaining the life of the organism. This is the level at which soul grants identity to all the constituent matters, as it explains how matter develops into the appropriate proximate matter. For example, a dog is not a dog until the whole body has been developed and is actually functioning with the full capacities which are defined by a dog soul. Our reference to dog matter may include the constituent elements, the organs, fluids, compounds, etc., but these are in themselves not the matter of a dog. By themselves we can claim they are 'dog matter' in the sense of parts that belonged to a dog, perhaps one we have dissected. Similarly, when the organism dies and loses its soul, its parts cease to be what they are, except homonymously. However, after death the matter
remains *qua* matter. It consists of an assemblage of matters that might be put to use elsewhere, such as in the case of transplantation, but it is no longer the matter of that particular organism. Once the organism dies, the lower level things that support life cease to fulfil their function(s), and hence they decay without some sort of extra-natural force to preserve them.

As Furth shows, matter is not just any sort of material stuff. Rather matter has various kinds, of which there is a general hierarchy of complexity. Our use of the term “matter” can point out many things. It can be inclusive of the remote matters, if one wants to express a more complex matter in terms of its elemental composition, or point only to a particular subset, such as the relevant proximate matter. The proximate matter is not all-inclusive down to the non-organic compounds and elements, because these are shared with many other creatures and non-living things, so they cannot grant unique identity. To claim that iron is a constituent component of men, plants, and swords does not allow us to differentiate any of these things as distinct from one another. Rather this type of comparison, of the basic matters shared among distinct things, pushes us towards the claim that everything is the same, in the sense that there are elemental constituent parts of all things. This, however, is precisely not the direction we need to go if we are to make sense of beings *qua* being, because it dissolves particulars into their most common constituent elements. Our study of the various kinds of matter shows us why it is that the proximate matter is the relevant matter in Aristotle's metaphysics, because it is the one by which we differentiate the particulars. While it is true that cabinets maybe made up of a normal set of parts, namely wood, screws, and hinges, it is the arrangement of those parts
that makes a cabinet distinct from a door. Hence, Aristotle is able to claim that the proximate body is more or less synonymous with the form.\textsuperscript{109}

This is why the differentiation of species is based on their external features and bodies. However, the similarities of appearance and function do not mean that there is interchangeability among common structures in different species. For example, the heart of a man and a bird both perform the same function, but are not interchangeable.\textsuperscript{110} This is because for organic matter, there is a migration barrier that makes the matter of each species, and to a less extent individuals, unique.\textsuperscript{111} The matter of a plant cannot be the matter of an animal, unless it is first broken down into a more basic matter and then reformed, which is embodied in the digestive processes that form sustenance and growth of organisms.\textsuperscript{112} Indeed, where Ackrill's challenge goes wrong is precisely in thinking that form is some sort of formula whereby any sort of basic matter that satisfies the criteria for the form will do. This is not the case because what is the appropriate matter of a form is something specific; it is not just any flesh and bones that will do, nor is it just any human flesh and bones that will make up this particular human being. The lower level parts of an

\begin{footnotes}
\item[109] See Met. 1045b18.
\item[110] The issues about tissue and organ transplantation might seem to work against Aristotle's account, but I think they actually support it. For instance, it is the lowest level matters, e.g. blood, that are the easiest to transplant. All that is required of a blood transfusion is that it be of the same type. Transplantation of fourth stage matter is more complex, e.g. bone marrow usually requires a relative, and organ transplants require immunity suppressing drugs to be successful. This all adds to the notion of particular forms, because in complex biological organisms the transplantation of matter across species is nigh impossible, and even within species is often quite difficult. Aristotle can explain both the difficulty and viability of this due to particular forms, while universal forms would have to assume that all such matter is interchangeable.
\item[111] This shows why the body of Socrates cannot be the body of Plato. It is because their proximate matters are so distinct so as to be equivalent to more or less individual forms. They remain unique individuals as we compare them \textit{qua} human, but that individuality has little to do with what makes them unique \textit{qua} animal.
\item[112] See Met. 1045a3-5, “And all the things which change thus into one another must go back to their matter; e.g. if from a corpse is produced an animal, the corpse first goes back to its matter, and only then becomes an animal.”
\end{footnotes}
individual exist for the sake of that particular individual, and not just any organism of the same form.\footnote{Again there is some degree of leeway here. It is possible to transplant a living heart from one individual of a species to another. What was Plato's heart can be transplanted into Socrates but would then only be Plato's heart homonymously. However, when we think of a universal heart, e.g. knowledge of the heart, we think of it as a thing standing apart from the creature to which it belongs.}

2.4 Conclusion

How do Sellars' and Furth's accounts of particular forms and matters aid in our understanding of Ackrill's puzzle about form? They show that Ackrill's claim, that matter is necessarily living and that therefore living substances are unanalyzable, arises from putting too much emphasis on the general account of Aristotle's metaphysics. While it is true in a limited sense that matter of living creatures is necessarily living, Ackrill is mistaken in assuming that this shows a fundamental flaw in hylomorphism. Ackrill makes the assumption that life must be form imposed upon non-living matter, so that any matter of the right type can be the matter of a living creature. In order words, he assumes there is some sort of recipe for creating living creatures from non-living elements and compounds, in the same way that a bronze statute is formed by combining copper and tin and subsequently sculpted. In the case of living beings, the relation of matter and form does not adhere to a recipe, and we cannot get a living thing out of a soul and some matter the way we can get a statue from some matter and a form. Ackrill's problem invites closer scrutiny of Aristotle's account of hylomorphism, one that requires looking beyond the examples and cases of the *Metaphysics* and seeing how Aristotle himself applies this metaphysics in the psychological and biological works. Only after understanding how Aristotle himself uses his own metaphysics, can we understand how
to apply it beyond the few examples given in the source text.

By looking at Aristotle's biology via Furth, it becomes clear that Aristotle's theory of living matter has various stages of differentiation, which allow us to explain life and death according to the soul of a creature. It is only when the proximate matter is fully developed that an organism can be alive, according to what is appropriately considered life for that organism. Just because an embryo is a living sort of matter, at first a uniform matter, does not mean that it is alive according to the definition of what it is to be that creature. In the development and growth of organisms, the matter of a living being differentiates, forms structures, and ultimately forms the complete living organism, which, now alive, actualizes its capacities until death. This is why Aristotle categorizes three major types of souls: the nutritive, the sensitive, and the rational, and identifies them with different sorts of organisms: plants, animals, and human beings. Life is always a particular; there is no creature that has a soul in general, so there is no life that is truly life for all beings, or life *simpliciter*.114 An animal that cannot sense is not truly an animal. An animal with only a vegetative soul is only homonymously an animal, because it is not capable of sustaining its life without its characteristic capacities.

Our examination of particular forms and the particular nature of matter has shown that form and matter are more tightly bound to one another than we might expect. Matter and form do not possess ontological independence apart from the particular things which they identify. Ackrill's criteria for hylomorphism supposes a complete separation of form

114 “It is now evident that a single definition can be given of soul only in the same sense as one can be given of a figure. For, as in that case there is no figure distinguishable and apart form triangle , &c., so here there is no soul apart form the forms of the soul just enumerated. It is true that a highly general definition can be given for figure which will fit all figures without expressing the peculiar figure of any figure. So here in the case of a soul and its specific forms.” *DA* 414b20-25
and matter, so as that matter and form are two distinct things that come together to form composites. This is based on the artifactual examples in which changes in matter are not subject to homonymy. For in non-organic compounds the compound need not be destroyed to change. Bronze can be a statue and then be melted and cast into something else, all while remaining bronze. The matter of non-organic compounds does not necessarily have to change to be a part of a new form. The fact that this is not true for living things presents a serious problem, according to Ackrill. Any modification of form is the destruction of that matter, even in the lowest level of homogenous matter of living beings, e.g. for blood, sap, require destruction to change their form. However, the reason for this necessity of change is the fact that the matter here is a different sort of matter than that of bronze and iron. For it to constitute the matter of any other thing, including living beings, requires it be broken down into a more basic matter.

Ackrill supposes that Aristotle's account of the soul grants equal status to the matter of living beings, that *qua* matter bronze and blood are no different. However, as we have seen from Furth's account, this is not the case. As in the case of death, the previously living matter does return to the same status of bronze naturally, through the process of decay. Even for an artifact the process of decay holds, as they too lose their form without maintenance and return to their matter. Ackrill's demand that consistency requires dead bodies to be reanimated fails to account for the fact that the matter of living beings and non-living beings is of two different types. The matter of certain artifacts cannot be altered to suit another form without transformation either, such as if one wanted to make a copper statue out of bronze weapons. Further, if the proximate matter
of living beings are inseparable from their souls, then the processes of development would be fixed. The fact that a human being must develop from a vegetative life to animal life to a human life is cannot be explained under the assumption that matter and soul are inseparable. The matter of a human would always have to be considered fully human, and we could not distinguish between a human being living the life of a plant versus one living the life a human being. Furth's detailed discussion shows there are various ways life can go wrong, which is explained by the separability of soul and matter, which allows us to judge whether what appears to be human is really human according to its form. Additionally, the explanation of the death of soul parts, that one can lose the human soul but retain the other souls, would not be explainable, because death of the human soul would imply that the entire body is now mere matter. However, because death proceeds by stages, higher functions fail first down to more basic functions, the fact that the soul and the body are separable is explainable.

This disparity between living things and artifacts as examples of hylomorphism brings us to a related question. If there are so many important differences between artifacts and living beings, does Aristotle intend for only one and not the other to be considered substance? One way to interpret Aristotle holds that artifacts are not substances at all, but rather are used in the *Metaphysics* only as heuristic examples. This view contends that only living things are truly substances and that artifacts are either mere pseudo-substances or are no more substantial than the unformed compounds from which they are created. The argument that only living things are substances according to

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115 This is a necessary distinction for Aristotle's discussion of the proper function of man and the best way to life in the *N. Ethics.*
Aristotle is taken up by Christopher Shields. Shields thinks that Aristotle must hold this view to solve problems of logical consistency, much like Ackrill. This again calls into question Irwin's reading of the *Metaphysics*, according to which Aristotle *does* allow artifacts to count as substances, because they are importantly unlike the heaps and unformed substances that Shields claims they must be classified as. If Shields is correct, then perhaps our problem of trying to understand the differences in form and matter is of no concern, since it is only living beings that are truly substances, and our determinations of artifacts possessing form is not a reflection of something with actual ontological status, but rather a conventional status given to them temporarily by artifact users.

Our support of Irwin so far has contended with a possible challenge to the systematic reading of Aristotle's philosophy, a reading that when defended provides solid grounds for developing an account of Aristotle's philosophical anthropology as drawn from across his works. However, Irwin's view can also be charged with being overly charitable in its acceptance that Aristotle is providing a general metaphysics that is used throughout his later philosophical works. If Shields' view is correct, then Irwin's charity leaves his account of Aristotle unable to solve particular logical puzzles that Shields holds can be solved only by allowing living beings to be substances. Again we are presented with the question of whether logical consistency within Aristotle's metaphysics denies its applicability across a wider variety of phenomena. Even Shields notes it seems rather odd to speculate that Aristotle must hold that artifacts have no determinate status, especially in light of his use of them as examples in the *Metaphysics*. These issues are taken up in the next chapter.
Chapter Three
An Artifactual Dilemma

3.1 What things are substances?

The discussion so far has focused on settling the dispute about whether the differences between living things and non-living things are problematic for Aristotle's hylomorphism. Although I have shown that this is not an issue if we pay close attention to Aristotle's notions of matter and form, there remains an important, related question. Did Aristotle regard only living beings as true substances, or does his metaphysics allow artifacts to be substances too? Following the previous discussion, and in support of Irwin, I extend my arguments to claim that the position that hylomorphism considers non-living things to be substances is consistent with Aristotle's metaphysical commitments.

Contrasting with my view is a recent argument by Christopher Shields, which claims Aristotle must hold an 'exclusive claim' that admits only living things as true substances and considers artifacts, as non-substances, to be totally indeterminate beings. This is in contrast with what Shields terms the 'paradigmatic claim', the viewpoint that I support here, which establishes a scalar parameter of what qualifies as substance and under which artifacts can be considered substances, but lesser substances than living beings. Shields thinks Aristotle must hold the exclusive claim in order to solve puzzles about the growth and change of substances which cannot be solved by the paradigmatic claim.

The consequences of Shields' interpretation seem to \textit{prime facie} contradict Aristotle's stated goal in the \textit{Metaphysics}, which is the search for a universal science that
can give an account of being *qua* being.\textsuperscript{116} The goal of this science is to determine how to distinguish beings from one another and from being in general. As such, first philosophy provides a tool to understand the phenomena of the world as they are, apart from any particular aspect. The study of being according to criteria of the phenomena is the focus of the special sciences.\textsuperscript{117} Given the goals of Aristotle's inquiry, it seems odd that he ought to hold that the object of universal science, substance, can be only one particular set of things. If we hold that only living beings are substances, because they satisfy certain exclusive substantial criteria, we are already doing a special science because it is by these criteria that we divide up being. The whole of being becomes classified along the binary categories of substance or non-substance, rather than understood as to how beings are in relation to each other *qua* being.

There are some obvious questions surrounding this dispute. If Aristotle never intends for artifacts to be considered substances, then why does he use them as his primary examples of hylomorphic analysis? If they are not considered to be substances, perhaps they are merely heuristic examples, used due to the simplicity of their material makeup. Aristotle does remark that the separation of matter and form is difficult to envision for complex substances, such as living beings.\textsuperscript{118} As we have seen, understanding the separability of complex substances is a difficult task, so perhaps artifacts provide a simple and familiar place to start, but are only meant to serve as philosophical training wheels. Pedagogically, their familiarity makes them strongly suited

\begin{itemize}
\item \textsuperscript{116} See *Met*. 1003a20
\item \textsuperscript{117} For instance the study of physics is the motion of things, biology, the subset of living things, etc.
\item \textsuperscript{118} See *Met*. 1036b4-6, "The form of man is always found in flesh and bones and parts of this kind; are these then also parts of the form and the formula? No, they are matter; but because man is not found also in other matters we are unable to perform the abstraction."
\end{itemize}
for the process, advocated by Aristotle in the *Metaphysics*, of proceeding from the things known to us to things themselves, and saves the trouble of starting with idealized metaphysical simples which would be less intuitive starting points.\(^{119}\) However, nowhere does Aristotle actually outright dismiss artifacts as being substances. If Aristotle did not regard artifacts as examples of substances why would he not dismiss them as explicitly as he does the elements and parts of substances? Surely, if he intended them only to be heuristic examples of how to apply matter and form he would acknowledge this with some sort of caveat.

The reasons for Aristotle to hold artifacts as substances largely depend on our understanding of the goals of the *Metaphysics*. If, unlike Shields, we understand substance as a standard by which to compare beings, rather than a set of criteria that must be satisfied, our explanation remains at the level of a universal science. Rather than performing the largely empirical work of classification, our metaphysics sets the guidelines for what properties are the relevant ones for classification. Irwin's interpretation of the *Metaphysics* is sympathetic to this view, where substance is not a univocal term but a standard which identifies the phenomena of the world according to a spectrum of substantiality. Shields calls this the scalar, or paradigmatic, account because it understands things in terms of how substantial they are, with the elements being the least, and God being the most, ideal substance. This view is also conducive to our goal of seeing unity in Aristotle's philosophy, for if we adopt a view like Shields', the *Metaphysics* becomes its own distinct inquiry about the determination of what things in the world qualify as substances. Under Irwin's view, the *Metaphysics* is a general inquiry

\(^{119}\) See *Met.* 1029b1-15.
and establishes a common philosophical methodology for Aristotle, which becomes clear because the sorts of scalar discussions of the *Politics* and *Ethics* are an offshoot of the one in the *Metaphysics*.\textsuperscript{120}

The following discussion focuses on these two contrasting viewpoints. One, followed by Shields, holds that living things are exclusively substances and this exclusivity is necessary for Aristotle to deal with metaphysical considerations about growth and change. On the other side is Irwin's view, which is that substance is a paradigmatic measure that attempts to explain the spectrum of beings and their determinate status. These positions take different stances on the scope and purpose of Aristotle's metaphysics, which have been a recurrent theme throughout previous discussion. However, before engaging in the debate about whether or not artifacts ought to be held as substances, I wish to return to some comments by Furth which I think nicely characterize some of the issues underlying the discussion about what sorts of things are to be counted as substances. Furth's framing of the question of substance is used to contrast the two viewpoints and support Irwin's paradigmatic argument.

3.2 Substance: nature or population?

Our previous discussion about matter drew on Furth to argue that Aristotle possesses a complex and multivocal notion of matter rather than a univocal one. This discussion supported Irwin's argument by providing a detailed account of the relations between proximate and remote matter in Aristotle's hylomorphism. Knowing what sorts

\textsuperscript{120} In the *Ethics* the type of scalar parameter would be the Aristotelian mean, which is variable upon individual cases and never has a singular determination. See *EN* 1106a30-1106b10. Similarly, Aristotle's discussion of government in the *Politics* notes how most governments are mixed and fall somewhere between the various classifications. See *Pol.* 1296a7-9.
of things Aristotle has in mind requires understanding what he is asking in the question of substance. According to Furth's characterization, Aristotle's idea of substance contains two related problems: “1) What things are substances?; 2) What is the substance of such a thing? – or, in his vernacular, what makes it a substance, or why is it one (the “cause”)?” He calls the first of these questions the “Population Problem” because it requires a definition of which things are substances and which are not. The population problem is a sort of metaphysical litmus test that classifies beings into two ontological categories, substance and non-substance. The “Nature Problem”, on the other hand, asks what it is about the nature of a thing that makes it a substance, or how is it that this thing is or is not a substance. Furth's description of the two problems contained by Aristotle's question of substance gives us a good way to understand the differences between the exclusive and paradigmatic arguments about what things Aristotle regards as substance. The contrast between these viewpoints can be understood as a debate about which question has priority over the other—whether solving the population problem tells us what sort of natures are required of substances, or whether the solving the nature problem should give the criteria to determine what things are substances.

Shields' argument that only living things are substances requires solving the population problem in order to solve the nature problem. For Shields, allowing artifacts to be substances has the consequence that Aristotle is unable to solve puzzles about growth and change. He thinks that the only way to consistently explain which thing has grown when one thing consumes another (e.g. if a cat eats a mouse, or if I eat a sandwich) is if Aristotle allows only living things to be substances. Hence, for Shields,

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121 Furth (1988), 54.
solving the population problem fixes a nature problem about what substance remains when one is consumed by another. Since artifacts are not substances, they do not require an explanation of their natures qua substance, as they simply fail to satisfy the criteria laid out by the population problem. So the exclusive claim requires that the solution to the population problem take priority over the nature problem. The nature of all substances is explained by their qualification via the strict criterion of population; substances must be living things and living things only. In other words, Shields' interpretation requires an a priori determination about which things are substances before we can begin to solve the sorts of natural empirical problems about growth and change.

However, under the paradigmatic view held by Irwin, the nature problem takes priority over the population problem. Irwin argues that Aristotle’s metaphysics requires at least some empirical considerations and is not entirely a priori, since answering questions about the nature of substances requires being aware, for example, of their spatio-temporal existence and the laws that govern it in the actual world. This implies that the determination of whether something is a substance or not requires an explanation of why a thing fails on material grounds to possess an essence or form. The population problem, therefore, cannot be decided by purely metaphysical (i.e. a priori) considerations. Our understanding of what makes a thing a substance must come before our understanding of which things are substances, for it is the determination of each particular thing's nature that tells us whether or not it is a substance.

Furth also argues that the nature problem takes priority over the population problem. He argues that the explanation of nature is the primary concern of Aristotle's

metaphysics and the population problem is only a secondary concern, precisely because
metaphysics cannot solve it alone:

the Population Problem – certainly is of great importance, but it is also
important not to become excessively consumed with it, nor to allow it to distract
us from the second [the Nature Problem] … in the final analysis it is perhaps
right to say that it is not a philosophical question, or at least, it very often is not
– the “science of being” does not tell us which things are the substances, or
whether anything is; or, as has long been noted, the Population Problem cannot
be solved by metaphysics.\textsuperscript{123}

Aristotle's metaphysics, or science of being, is meant to ground the study of being and
beings and enable philosophers to make sense of things as they are, examining without
the limited view of the special sciences.\textsuperscript{124} The attempt to solve the population problem,
as Shields tries to do, has the effect of pushing first philosophy to emulate a special
science, which classifies beings according to particular criteria. The trouble with Shields'
argument for the exclusive claim is that it overreaches, forcing Aristotle's \textit{Metaphysics} to
be inconsistent with its own stated goals because Shields supposes that both problems can
be solved by metaphysics alone. Both Irwin and Furth regard Aristotle as realizing that
the question of substance cannot be solved without some appeal to empiricism, that we
cannot determine \textit{a priori} both what things are substances and how it is that they are
substances. The goal of first philosophy then is not to provide a classification of being,
but to provide the grounds for the classificatory projects that mark out the special
sciences.

To further support the distinctness of the questions, Furth reminds us that Aristotle
himself remarks about the importance of keeping distinct the processes of classifying
things and providing an account of their natures:

\textsuperscript{123} Furth (1988), 54.
\textsuperscript{124} See \textit{Met.} 1004b1-5.
We are wisely admonished in Meta. Iota to keep distinct the questions of what sorts of things are said to be one ... , and what it is to be one, what's the 'account' of it ... , Iota 1, 1052b1-3). An exactly analogous relationship holds, ... between “What is truth?” and “What things are true?”, i.e. “What are the truths?”.

“Separating the questions” of Nature and Population helps us to see the reasons why it is that metaphysics cannot solve the Population Problem ...

Determining what satisfies a definitional criterion is not the same type of philosophical exercise as explaining what something is, though this is not to say they are totally distinct activities. The arguments of Irwin and Furth support a liberal conception of Aristotle's metaphysics, which investigates the substantial status of things on a case by case basis. This provides a challenge to Shields' conservative conception because the paradigmatic claim seeks the explanation of the nature of each being. The exclusive claim cannot make important distinctions amongst individual substances because it posits only two distinct natures, namely, substance (living things) and non-substance (everything else). Indeed, the paradigmatic claim may alleviate the worries of Shields and show that the supposedly absurd metaphysical consequences arising from the paradigmatic claim not solving the population problem may not be metaphysical at all, that “the “watchword” will be sounded that real cases are best decided not by metaphysics, but by the close and accurate study of nature.”

This close and accurate study of nature, informed by metaphysics, is precisely the common methodological approach we need to defend to support the account of Aristotle having a complete theory of human nature.

3.3 Substances as living things only

Shields' argument does not engage with the question of substance as it is

125 See Furth (1988), 55-56.
126 Ibid., 57.
presented by Furth, but it does represent a take on Aristotle's *Metaphysics* that prioritizes the solution to the population problem as necessary for solving the nature problem, trying to answer both via metaphysics. If this is so, and Shields' arguments about the necessity of the exclusive claim are correct, then the paradigmatic interpretation taken by Irwin, with its liberal interpretation of what can be considered a substance, becomes dismissible. Without the paradigmatic interpretation, the view that the *Metaphysics* provides an underlying philosophical approach or method is weakened, because Shields' interpretation bolsters the view that the main books of the *Metaphysics* form an independent inquiry concerned with addressing the problem of substance. Shields takes W.D. Ross' interpretation of the *Metaphysics* as the presiding view which denies artifacts the 'dignity of substance':

W.D. Ross speaks easily of Aristotle as excluding artefacts from attaining 'the dignity of substance'. … that the ontological categories of being discriminated by Aristotle were fixed and invariant, determined by exhaustive and exclusive binary metaphysical features: something either is or is not a substance, and whatever is not a substance is something else, say a quantity or quality.  

Shield defends Ross' claim by agreeing Aristotle's *Metaphysics* classifies beings into two categories, substance and non-substance. The exclusive claim holds that only living beings are substances because this solves metaphysical puzzles about identity through growth and change. Shields then moves to support the exclusive claim against the paradigmatic claim, which allows artifacts to be substances, albeit lesser substances than living beings.  

127 Shields (2008), 129. Shields follows the claim by Ross (1924), Vol. II 229.  

128 Living beings are the best material substances due to their ability to sustain themselves and reproduce themselves, two characteristics that standard artifacts do not possess.
answer to the population problem.

Shields defends the exclusive claim by giving two arguments to show that only living things satisfy the criteria for substantiality. Shields first argues Aristotle dismissing non-living things as substances with the following disjunctive syllogism:

(1) If \( x \) is a substance, then \( x \) is either: (i) an animal, (ii) a plant, (iii) a part of an animal or plant; (iv) a simple element; or (v) something constituted by the natural bodies (here specified as celestial bodies).
(2) No part of an animal or plant is a substance; and no simple element is a substance.
(3) Hence, if \( x \) is a substance, \( x \) is either (i) an animal, (ii) a plant, (iii) or a celestial body.\(^{129}\)

The *endoxa* here mention only living things, their parts, or the elemental natural bodies as candidates for substances, and Shields regards Aristotle as ruling out any other candidates. If neither elements nor parts can be substances, then only living things can be substances.

However, to think that Aristotle's objective to identify being *qua* being can be established from such a restricted set of examples is a stretch, for it is not clear that the passages Shields juxtaposes for his syllogism are intended to present a definitive account of what things are substances. It is notable in the first of these passages, which Shields uses to make his syllogism, that Aristotle takes what seems to be an open tone and asks an open question as to whether the obvious sensible candidates of substance are the only ones: “Should we say that (i) some of these and not others, or (ii) some of these and some things not mentioned, or (iii) none of these are substances?”\(^{130}\) Shields supposes that the text gives us a definitive answer. This position implies that if Aristotle had meant to

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\(^{129}\) Shields takes *Met.* 1028b8-15 and 1040b5-10, from book Zeta as the basis for this syllogism. See Shields (2008), 134-135. Shields here assumes that the celestial bodies are, in some sense, alive.

include artifacts among the candidates for sensible substances he would have included them. Since Aristotle ends *Metaphysics Z* by dismissing all the investigated candidates except for living beings this must be his final word about the candidates for substance. However, Aristotle also ends *Metaphysics Z* with a general question about the nature of substances as individuals, “Since we must have the existence of the thing as something given, clearly the question is why the matter is some definite thing; … And why is this individual thing … ?”131 Answering which things are substances does not answer this question, for only after determining the why of something's existence can we classify the what of it. The syllogism Shields imposes on Aristotle does not take this into account and supposes that Aristotle's rejection of the parts of animals and the elements as substances answers the question of what sorts of things are substances. Aristotle, however, is keen to remind us that he is inquiring about the nature of individual definitive things, not just the kinds of things that are definitive. Even if we do assume that only living things are substances, this does not dismiss the task of asking the why of each individual being.

Shields reinforces the exclusive claim by appealing to Aristotle's definition of life. Shields claims that life, or the possession of a soul, is 'sortally-determinate' in that “… the substance is not merely the cause of being in the sense of being responsible for the existence of a thing, but also the cause of its *being the F kind of thing it is.*”132 The soul is what constitutes unity in living things, for it is not merely their organic matter that unifies them but rather, “the soul will also be … responsible for the existence of that thing as unified being of any kind at all.”133 The form of a living being, the soul, is the *cause of*
that being in that it causes it to be itself and not something else. Each living being is an end-directed system formed to best actualize its own specific nature and behaviours. This end-directedness is an exclusive qualification for the substantiality of living things. Since artifacts do not possess unity and internal principles of change, like living things do, they cannot be substances. This has the effect that, under the exclusive claim, they are not determinate beings at all: “[Aristotle] implies, rightly in my view, that they do not exist as determinate Fs at all. So he will not worry whether they fit into some category or another, since only things which exist determinately require consideration for categorical membership.”¹³⁴ Yet, as Shields notes, this is counter-intuitive and seemingly implausible, because artifacts are not given any degree of determinateness, which is certainly not true given their differences with mere matter or the elements.

The paradigmatic claim, however, does not possess this odd consequence because artifacts and other non-living things are considered determinate things, albeit less determinate things than living things. Unlike living beings, artifacts do not maintain themselves. An ax is not capable of repairing itself in the way that a tree regrows its leaves and limbs, nor can it reproduce to perpetuate its form. Non-living things do not possess these capabilities internally, but they do nonetheless have them externally, as their forms are passed on by the processes of culture. Because these traits are not the equivalent to those of a living being, artifacts are importantly distinct from mere matter. Natural geographical features and random things, such as rocks, do not in themselves possess the same degree of substantiality that artifacts possess, because they have no essential characteristics as such. For instance, artifacts can be more durable than living

¹³⁴ Ibid., 144.
things in some ways, a fact to which the archaeological record is testament.\footnote{While certainly some artifacts decay, many if properly preserved, retain their potentiality for use as artifacts, such examples include tools, and written records.} This type of distinction is essentially lost under the exclusive claim because there is no spectrum on which to relate the differences between such things. In the other direction, the paradigmatic claim also allows us to hypothetically consider the ability of artifacts that are more or less like living things, such those with capacities for self-maintenance, because this shows us that the reasons for separating artifacts and living things as substances is somewhat arbitrary.\footnote{See Irwin (1988), 571.} For instance, if there are already self-replicating non-organic things, such as computer viruses and worms, it seems artifacts might better satisfy the internal principles of change criterion for substances.\footnote{While these could not be examples for Aristotle, if we are to regard his theory of human nature as at least in some ways applicable to modern times, we should also be able to understand his metaphysical theory as applied to modern examples.} There are also living creatures which might be regarded as being less substantial than others, such as viruses and parasites, which directly depend on other creatures and could not exist without them to sustain themselves.\footnote{Katayama points out that not all living things would qualify as substances under the exclusive claim, in particular those that cannot reproduce such as hybrids and monstrosities. See Katayama (2008), 99-127.} While Aristotle himself did not deal with these cases, the paradigmatic approach gives his theory a greater capacity to explain and understand the variety of such phenomena than the exclusive claim, which cannot distinguish their differences, since according to it they would all, equally, be non-substances.

Shields’ final, and key, argument is that the exclusive claim is the only way for Aristotle to solve paradoxes about growth and change. The paradox here is, “why we should say that the food accrues to the flesh and not the flesh to it.”\footnote{See Shields (2008), 146.} Shields presses that
the answer to this paradox must not simply be a matter of convention or observation. Conventional definition creates the problem that “we could ascribe a function to the food, treat it as a substance, and regard it as the thing augmented by having a big body acceded to it.”140 If foods can be substances, then when food is eaten, what is to prevent the claim that it is the food that has grown? Possessing a function is not enough in itself, Shields thinks, to prevent the metaphysical conundrum of people becoming sandwiches when they eat them. Hence the paradigmatic claim, which would presumably allow food to be considered a substance, cannot get around the paradox about growth because it relies on a conventional definition of substance. Shields argues that a strict metaphysical criteria is required, which will give a consistent solution to the paradox, or, in Furth's terms, the population problem must be solved to solve the nature problem.

According to Shields, only if we understand Aristotle's notion of substance as reserved for beings with non-conventionally defined specific ends, living beings, is the paradox solved. If the ends of artifacts are only conventionally declared, and foods are allowed to be substances, we cannot determine whether or not the eater or eaten is what grows, because the determination is the result of arbitrary convention, e.g. we may simply call the bigger thing the eater. The conventional ends of artifacts disqualify them from being substances because axes do not necessarily chop wood; they could also be used as doorstops or decorations. It is easy to imagine a society where what we call axes are used for doorstops and not for chopping wood, but how could the definitive argument be made that the use of axes as doorstops is incorrect? Shields would no doubt agree, as his argument makes this same claim about food. Our use of axes to chop wood does not

have better grounds than the use of axes for doorstops, for it is only the pragmatic condition of actual use that is definitive of the function of the artifact. However, Shields argues that living beings have non-conventional ends because their ends are essential to them being the sort of things that they are. Therefore substances, living things, will always be the eaters and non-substances the eaten. If we know what things are substances, namely living things exclusively, then the paradox of growth is solved because we know the population of substances and what their distinguishing natures are.

The case Shields makes is compelling. He claims that in order for Aristotle to avoid paradoxes about consumption, he must hold the exclusive claim. Weakening Shields' argument requires showing that Aristotle's discussion of the paradox of growth either is a non-issue or can be resolved under the paradigmatic claim. If we accept the paradigmatic claim and allow foods to be substances perhaps we can also provide a solution, especially if we are to understand food as not just any sort of thing that provides nourishment but as something more determinate. For instance, while we might regard a rock as a non-substance, when it possesses a function, like being a landmark, it becomes more than mere matter and possess some artifactual status. A rock which is a landmark is more determinate because it must retain a certain material status to retain its function as a landmark. If it is destroyed or damaged it can no longer function as a landmark. These considerations never come into play if it is just a mere rock. Similarly, water is a food for many creatures because it has a specific function and in this context is no longer merely 'water' but a particular thing put towards a functional use, one that varies with the species. This is not to make the case that food is in anyway a full substance, but perhaps given the
paradigmatic claim it would have at least an artifactual status. However, this is exactly what Shields disputes, that food should be given any sort of status as a substance. To better understand Aristotle's views about growth and food, we must return to his original argument.

3.4 Challenging the exclusive claim

Shields draws his argument from this passage in *On Generation and Corruption*:

So why is it not the case that both have grown? For that which is added and the thing to which it is added are both larger, just as when you mix wine with water; each increases in the same way. Or is it that the substance of the one persists, but not that of the other, namely the nourishment?\(^{141}\)

Shields thinks that the exclusive claim is necessary to answer this problem. But does Aristotle himself provide any solution, and, if not, why not? Aristotle's remarks are motivated by a concern for identifying which substance has passed away in the consumption: “No doubt the food, which has come in, may sometimes expand as well as the body that has consumed it, … but when it has undergone this change it has passed-away: and the efficient cause is not in the food.”\(^{142}\) Aristotle is aware of the possibility of arguing that the food has increased in bulk, for it may expand with the addition of the digestive fluids, but what is relevant is that food becomes the efficient cause of the eater and no longer has an efficient cause once consumed. When a person eats a sandwich, the sandwich has not grown because it passes away and the eater assimilates it and it becomes part of the efficient cause of the person. Aristotle does not comment on whether food is or is not a substance, because that is irrelevant to the interaction.


\(^{142}\) *GC* 321b7-10.
Shields is concerned that if we accept sandwiches as substances we cannot
distinguish which substance remains. What is to stop us from claiming that the end of the
sandwich was to be inserted into the person and therefore digest and add the human to its
matter? Conventional arguments are not satisfactory to answer this question
metaphysically. However, if sandwiches have specific ends, as substances, and their ends
are to provide nourishment for human beings, then their passing away is the fulfilment of
their ends. This does not leave room for people to become sandwich matter because a
sandwich which added people to its bulk (or a poisonous sandwich) would not be
fulfilling its end. This line of argument, while intuitive and simple, requires development
to show exactly how it is consistent with Aristotle's own views and the paradigmatic
claim. In order to make it clear that the food does not persist in the interaction of
consumption, and that allowing artifacts (sandwiches) to be substances does not
necessarily make eater and eaten metaphysically arbitrary, a more detailed discussion
about Aristotle on food is required.

Aristotle's comments about food, not discussed by Shields, acknowledges some
important complexities that show Shields' paradox to be not as obvious as he assumes.
First, Aristotle makes a careful distinction we should keep in mind in any discussion
about food: “In answering this problem [whether food is like or contrary to what eats it] it
makes all the difference whether we mean by 'the food' the 'finished' or the 'raw'
product.”143 This distinction is important, because the finished (uneaten thing) and the
raw (eaten thing) represent two labels for food, one potential and the other actual. Shields
worries about uneaten things turning their eaters into the raw matter for themselves. It is

143 *DA* 416b3.
not a worry about the raw matter of a sandwich. This detail is important because it relates to how we define foods as peculiar to the living things that consume them and the varieties of substances and non-substances that can be regarded as food for a living creature. For instance, Aristotle reminds us that:

… food is essentially related to what has soul in it. Food has a power which is other than the power to increase the bulk of what is fed by it; so far forth as what has soul in it is a quantum, food may increase its quantity, but it is only so far as what has soul in it is a 'this-somewhat' or substance that food acts as food;144

The mere increase of matter is not the power of food, but food can only be food for what is considered a substance. Here lies the heart of Shields' concern: if we allow artifacts to be substances, we are implicitly allowing them to grow and not merely increase their bulk. However, if we take into account the distinction about raw and finished foods, the exclusive claim does not solve the paradox that Shields claims it does, because living things do not just consume matter but also other living things.

While we can give a general definition of food, as we can of substance, what actually is food is particular to the creature that requires it. Food can either possess a substantial or non-substantial status, as water, definitively a non-substance, can be considered food, as well as other complete substances, such as living plants and animals. If Shields intends that only eaters are substances, then he must be claiming that food is only food in the raw sense, as digested matter and that there can be no consumption of living creatures. This does not seem to conflict with the possibility of sandwiches being substances, however, because it is not sandwich as a substance that causes the problem, rather it is the notion that the sandwich would retain its form after being consumed. But

144 See DA 416b9-14
this problem remains in the case of the consumption of a plant because the plant as a substance too is consumed. The question of whether we could designate either artifacts or only living things as substances has no bearing on the matter of the process of consumption, because it is whichever thing has 'ceased to be' that is properly the food, and thereby the other thing the eater. This is not a matter of convention, but an observation about what properly is food. For instance, if it is the case that an animal eats the wrong sort of food and dies, for example a poisoned sandwich, then neither thing remains, and there is no consumption, simple an aggregation of two sorts of matter.

While Shields' argument that artifacts have only conventional ends implies that there are no strong criteria for arguing about the quality of a particular artifact, Shields also claims that if artifacts are to be substances, then “artefacts are stuck, with the ends we ascribe to them at their creation.” If this is true, it is a point for admitting artifacts as substances, rather than for excluding them. It is also one that gives grounds to solve the growth paradox because the end of food is 'stuck' as well. Additionally, if artifacts have 'stuck' ends as substances, this grounds how we judge and compare the quality of artifacts, whether or not they are suitable for their ends, to respond to those who use axes as doorstops. If we are to argue that a steel ax is better than a stone ax because its matter is more resilient to change, the claim is that a better ax will be more resistant to change and therefore more life-like in its ability to maintain itself. We similarly judge the excellence of living creatures by their ability to perform various functions and resist change; the frail and the sick cannot maintain themselves and die, and those creatures that are incapable of reproducing their kind are lesser living creatures than those that can. If a

145 Shields (2008), 149.
living creature cannot perform certain vital functions, functions that define what it is to be that thing, it is no longer the thing it is, except homonymously; just as an ax that cannot chop at all is no longer an ax.

Shields claims that the reason artifacts cannot be substances is because their use, being conventionally determined, is not a sufficiently strong criterion to grant them metaphysical identity as a substance. On the other hand, allowing artifacts to be substances has them 'stuck' with a particular use given to them when they are first created, disallows any pragmatic definition of their use. This is precisely what we want if we are to make arguments against conventional declaration and for arguing that artifacts are substantial in important ways that non-artifactual objects are not. The reason we can ground our arguments about why certain artifacts are better than others is not merely a matter of a pragmatics, but something grounded in their status as formal compounds. Our previous discussion about particular forms gives further reasons to consider artifacts as substances, and it is our knowledge of them as substances, and not mere unformed compositions of elements or compounds, that allows them to be compared and identified \textit{qua} each other and other things. Without such a grounding, if there are no important distinctions between artifacts and elements and compounds, how are we to distinguish these sorts of beings from one another? For it is not the case that we make declarations about earth being good or bad good and earth, unless we are talking about it in some functional context, e.g. good earth is the sort that helps this sort of plant grow. The form of an ax provides an essential set of parameters by which we can judge whether or not a thing is an ax and can fulfil its intended function. For instance, not only is a steel ax more
resilient than a stone ax via, but steel can cut things stone cannot. Also, the material is
adjusted to the task, for instance rubber hammers are poor at pounding steel nails, but
they are superior for soft materials. In the case of particular forms, we can see that steel
axes and stone axes both possess the form of ax, but what defines the form of ax is not
necessarily what defines a steel ax. One might object that this is merely taking the form
of ax and adding a qualification to it that has nothing to do with the essence of ax. But
this is not the case if we realize that stone and steel axes, while having some traits in
common, are necessarily different qua their material composition which gives them
differing ends. That is to say, they do possess the same essential form, but their material
properties are not therefore purely accidental, for if they were, their material composition
would become merely a matter of pragmatics rather than something that makes them
distinct formal compounds, or particular substances. For instance, a stone ax cannot
penetrate metal armour but a steel ax can, hence only one is better and more appropriate
for battle. However, what is important here is that the form of the ax is what allows us to
establish qua ax what sort of ax is the right sort of the ax for the task. Similarly, as there
are different steels, qua steel ax we can compare various forms of steel and shape to get
the desired function. Ax as a form has certain essential parameters, e.g. have a sharp edge,
but outside the essential parameters there are determinate qualities qua ax-material, so
while a battle ax and a woodcutter's ax have different shapes to perform their respective
functions, they do not possess those qualities qua ax. They are both essentially axes, but a
wood ax is not a battle ax. These differences emerge to the level of functionality to which
something is specified, Sellars makes this point in his discussion of matter and particular
form:

Thus to refer to something as pusho ball is to refer determinately as one would not be doing if one referred to it as a ball played in some game or another. For unless there are varieties of game of pusho ball, there is no more determinate purpose to which the materials for making pusho balls are to be selected. It is the teleological character of artifact kinds which enables us to understand why bronze pusho ball is not a species of pusho ball as soccer ball is a species of football.\textsuperscript{146}

The material of an artifact coincides with the determination of its function, for example, for chopping wood there is no determinate difference between bronze and steel, but for chopping metal there is. As axes have various determinate purposes there are several varieties of them, each with necessarily different qualities. This, however, is not the case with doorstops, which do not have necessarily material composition beyond that required of the form of doorstop. This why we can argue against those who insist on using axes as door stops and against the ends of artifacts, or use, as being conventionally defined. Axes do make sufficient door stops, since they satisfy the criteria of being made of such and such a material and being wedges (whereas, for example, feathers and blobs of jello do not). But there is no more determinate purpose that justifies their use over a standard doorstop \textit{qua} doorstop and we can claim that their true use is as axes, because they are essentially axes and only accidentally doorstops. Doorstops, on the other hand, are essentially doorstops and perhaps could be accidentally used to chop something.

Making this response to Shields, however, requires understanding that Aristotle's notion of substance is not a universal abstractions of a group of individuals with similar qualities. Rather, it is a means by which we can sort out essential differences between particular things in relation to other things. It is a way of organizing the whole of being so

\textsuperscript{146} See Sellars (1963), 270.
as to keep it from collapsing into a Parmenidean one, or a Heraclitian indeterminate many. Each form represents different parameters for what sorts of shapes and matters things have to have to be recognized as actually being those things and not merely appearing to be them. It is how we make the move from understanding things as they are to us, how they appear, to how they are by nature, what they actually are. The question is at what point does this stop? Are there forms of every individual? I would venture that the answer is yes and no. Yes, in the sense that as things become more complex, it is easy to make the case that each particular individual has a particular form. The earlier discussion about the problems of transplantation bring this to light,\textsuperscript{147} as the matter between individual human beings is not as interchangeable as the matter of other less complex creatures. The “no” is that we would not ask to how to find a common form between Socrates and Plato, \textit{qua} Socrates, but we ask how it is done \textit{qua} man. For satisfying the goal of the \textit{Metaphysics} does not require us to know the essential qualities of each individual as such, but only in relation to being sufficient to determine the distinction between beings.

This is clearer if we establish why it is certain things cannot be said to have forms at all. For while the elements and compounds are thing-kinds, like any species of thing, they are indeterminate. Although elements and compounds do have essential qualities (e.g. fire is hot and dry and its motion is upwards) they lack any way to distinguish between their accidental and essential qualities. An instance of an element or compound as such simply has the qualities that it has at that particular time, or, in other words, there is no more to them than their appearances in-time. A cup of water or lump or iron are

\textsuperscript{147} See notes 110 & 113.
merely what they are, and in a background of the same stuff their are indiscernible. Their status as a 'this', or individual instance, is only accidental because there is nothing essential to them that allows their identity to be tracked amongst other things of the same kind. Their individuality is entirely a product of their accidental spatio-temporal location. However, when there are particular features essential to them, such as this stone slab is shaped like a triangle and marks the cross roads, then they do possess some essential qualities. If the triangle shape is lost or it no longer remains at the cross roads it no longer has the characteristics which give it a function, a function which makes it an individual this.

Similarly, when we need to distinguish Socrates and Plato from one another, we appeal to some essential differences between them. Qua man they are the same apart from their accidental qualities, but qua each other those accidental qualities mark out essential differences such as their parents and life histories. However, it is important to realize that our tracking of determinate status only goes so far, as it is as useless to have an endless essentialism as it is to have a totally general definition, as Aristotle tells us in the De Anima “It is absurd … to demand an absolutely general definition, which will fail to express the peculiar nature of anything that is, or … to look for separate definitions corresponding to each infirma species.”

148 DA 414b25-29.
Conclusion

The goal of this thesis was to lay out some groundwork for the claim that Aristotle possesses a coherent philosophy of human nature. To do so I turned to the work of Terence Irwin, whose interpretation of Aristotle's works possesses similar concerns about the unity of Aristotle's later philosophy. While Irwin does not express interest in claims about Aristotle's theory of human nature, his work provides a good starting point for claiming that Aristotle's philosophy is continuous enough to piece together an account of his philosophical anthropology. The root of all this, however, lies in disputes about the *Metaphysics* and the *De Anima* which, according to Irwin, form the basis of the sociological works. In order to defend this account, and thus the grounds for Aristotle's theory of human nature, I introduced a challenge to Aristotle's metaphysics of life given by J.L. Ackrill. If the extension of Aristotle's hylomorphism is problematic when applied to the account of living things, this shows my project to rest on a problematic foundation. However, the challenge Ackrill proposes is misleading because it does not consider factors about Aristotle's metaphysics which *do* allow the analysis of living beings. Irwin provides a response that accounts for how Aristotle's metaphysics can consistently explain life, but his account of Aristotle's notion of proximate matter rests on some assumptions that require further explanation to provide a definitive answer to Ackrill's challenge. To reinforce Irwin's response, I discussed particular forms, as advocated by Wilfrid Sellars, and an outline of the various sorts of matter in Aristotle, as established by Montgomery Furth. Together these two discussions filled out Irwin's account and showed
how Aristotle's notion of form and matter are capable of describing the complexity of things in the world without resorting to reductionism.

However, it is not clear what Aristotle's metaphysics is intended to describe, so I introduced a second challenge to Irwin. Christopher Shields argues that, for Aristotle, the only true substances are living beings and artifacts cannot be considered determinate things at all. If this is true, it implies that Aristotle's use of artifactual examples is merely heuristic. Shields makes his argument in contrast to more liberal interpretations, like the one held by Irwin, which view substance as a metaphysical scale by which to compared the determinate nature of different beings. I argued against Shields and attempted to show that the paradigmatic claim can solve the type of paradoxes Shields thinks can only be resolved by Aristotle holding the exclusive claim. In doing so I defended a more liberal interpretation of Aristotle's metaphysics, because I think it provides better support for showing that Aristotle has a common philosophical method of inquiry established in the *Metaphysics*.

The contrast between Irwin, on the one hand, and Ackrill and Shields, on the other, represents two ways of interpreting Aristotle's philosophy. For the former, Aristotle's metaphysics is focused on providing a general approach to understanding all beings in the world. The *Metaphysics* is a type of proto-science that attempts to give an answer to the nature problem, or the *why* of each thing. Its focus is on explaining the nature of beings rather than attempting to solve classificatory metaphysical puzzles, which are the concerns of Shields and Ackrill. As for the latter, their readings suffer from being too narrowly confined to particular puzzles about particular passages and miss the
larger issues that provide solutions to the very puzzles they wish to resolve. Supporting a project of looking across Aristotle's corpus to identify his theory of human nature requires taking a more liberal view and defending it from the attack that the conservative view better represents Aristotle's original intentions.

Attempting to piece together such a project, about what Aristotle's theory of human nature is, is a large undertaking, but one that certainly would provide multiple avenues for fruitful research. Most obvious would be the project of extending Irwin's initial outline of how Aristotle's metaphysics and psychology anticipate his investigation in the *Ethics*. Additionally, the extent to which one can claim the unity of these works is clearly an issue unto itself, as the legitimacy of these connections is debatable on many fronts, only one of which we have explored here. Irwin's claims about how a common method is used in the *De Anima, Ethics*, and *Politics* could be complemented by an investigation into how well the biological works integrate and supplement the metaphysical and sociological works. The result of such investigation would possibly be a better conception of the interplay between metaphysical and empirical investigation, which is a key theme in Aristotelian philosophy. It would also give us a better picture of the extension of Aristotle's metaphysical spectrum, from God at one end, as pure actuality, to the elements at the other, as pure matter, and the unique status that human beings have, as beings which possess an aspect of the divine.149 As we have seen, many misunderstandings of Aristotelian philosophy stem from an over-emphasis of isolating aspects of Aristotle's diverse corpus. The broader perspective taken here, however, has shown that some of the supposed shortcomings of his metaphysics are addressed in other

149 See *NE X.7.*
more empirical works. Works that generally do not receive nearly as much attention as the metaphysical ones, which unfortunately may serve as a detriment to our understanding of the texts that do receive the most attention.

A full account of Aristotle's philosophical anthropology should be able to provide the metaphysical, biological, and sociological accounts of what it is to be human. The merits of such an account would be many. Apart from the research in Aristotelian scholarship, it would be useful as a basis for pursuing the history of philosophical anthropology in the West, both by itself and in comparison to other philosophical traditions. Additionally, the changes in thought about what it is to be a human being are also reflected in changes of the history of philosophy itself, so the task of producing such a history would be useful as a lens through which to examine the history of philosophy generally. Such a project would be in line with the big questions that initially draw so many to philosophy in the first place. Asking “What is man?” is not just a question for scholars and philosophers, but a question that is intrinsic to the human condition, and perhaps the only way of defining it is to see how it was answered by our intellectual ancestors.
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