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Indeed, privation is a condition for the thing to be changed or perfected. For had there been no privation, it would have been impossible for it to be perfected or changed. Rather its perfection and form would always have existed. [1]

<div align="right">-Ibn Sina</div>

[1] *fa'inna al-ᶜadamu šartun fī 'an yakūn aš-šay'u mutaġayyaran 'au mustakamalan, fa'innahu lau lam yakun hunāka ᶜadamu la-'istiḥālun 'an yakūna mustakamalan 'au mutaġayyaran, bal kāna yakūn ul-kamālu w-aṣ-ṣūratu ḥāṣilata la-hu da'iman.*

(Ibn Sīna, *aš-šifā* [The Healing], vol. 2, pt. 1, *aṭ-ṭabiᶜiyyāt* [Physics], ed. Saᶜid Zaᶜid, gen. ed. Ibrāhīm Madkur (al-Qāhirah : Wizārat al-Maᶜārif [Cairo: Ministry of Education] 1952-1983), 17. Compare the translation in Jon McGinnis and David Reisman, eds., *Classical Arabic Philosophy: An Anthology of Sources* /Indianapolis: Hackett, 200), 159

All translations, unless otherwise noted, are my own.

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Abstract

This dissertation is aimed at resolving a central tension in Aristotle's account of value and goodness. It shows how Aristotle can at once hold that goodness is a species-specific property but also that certain species are better than others – e.g. why he thinks that to be good means something different for fish and for humans but at the same time that humans are better than fish. First, despite widespread assumptions to the contrary, I show that comparisons do not require a univocal value in terms of which entities are compared and that Aristotle does not make such an assumption. Second, I demonstrate that as a final cause, Aristotle's prime mover is a normative standard according to which entities can be compared in terms of how close they come to approximating it, even as they do so in very different ways. Finally, there are normative implications of Aristotle's view: his commitment to natural hierarchy is non-instrumental and does not license an exploitation of non-human animals or the environment.

Abbreviations

Cat. = Categories;
DA. = De Anima;
DC = De Caelo;
EE = Eudemian Ethics;
EN = Nicomachean Ethics;
GC = Generation and corruption;
GA = Generation of Animals;
HA = History of animals;
IA = De incessu animalium;
Meta. = Metaphysics;
MA = De motu animalium;
PA = Parts of animals;
Phys. = Physics;
APo = Posterior Analytics;
Pol. = Politics;
Top. = Topics

AML = Metaphysics Lambda: Symposium Aristotelicum. Edited by David Charles and Michael Frede. Oxford and New York: Oxford University Press, 2001.
NEML = Aristotle's Metaphysics Lambda – New Essays. Edited by Christoph Horn. Boston/Berlin: De Gruyter, 2016.
NPDC = New Perspectives on Aristotle's De Caelo. Edited by Alan C. Bowen and Christian Wildberg. Leiden: Brill, 2009.
OSAP = Oxford Studies in Ancient Philosophy.

Introduction

Aristotle, many centuries after his time, finds himself caught in a dilemma. Long read as a champion of a hierarchical vision of nature, with humans at the top of the sublunary world, surpassed only by the heavenly bodies and the prime unmoved mover, he has become in the last century a proponent of a radically anti-hierarchical vision of the universe, the founder of a metaphysics of natural goodness that allows for the equal celebration of each individual form of life just for the kind of thing it is.

Outside of specialised writing by scholars of ancient philosophy, Aristotle is widely believed to endorse a view of the traditional *scala naturae* in which "lower" organisms exist for the sake of "higher" ones. The newest edition of the *Encyclopedia Britannica*, in its entry on "Animal Rights," written by the prominent animal rights lawyer and activist Stephen Wise, includes the claim that "Aristotle believed the world was populated by an infinity of beings arranged hierarchically according to their complexity and perfection. […] [All] forms of life were represented as existing for the sake of those forms higher in the chain."[1] The eminent zooarchaeologist Juliet Clutton-Brock concludes that "Aristotle believed that human beings were animals, but, at the same time he was certain that all other animals existed for the sake of Man."[2] Peter Singer, launching modern animal ethics in his 1975 *Animal Liberation,* sums up this view by placing Aristotle alongside the author of Genesis (1:24-31) and writing that, for Aristotle, "nature is essentially a hierarchy in which those with less reasoning ability exist for the sake of those with more."[3] This view of Aristotle is not unique to the twentieth century. Indeed, within

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[1] See https://www.britannica.com/topic/animal-rights
[2] Juliet Clutton-Brock, "Aristotle, The Scale of Nature, and Modern Attitudes to Animals," *Social Research* 62, no. 3 (1995): 421-440.
[3] Peter Singer, *Animal Liberation* (New York: Random House, 1990), 189. A similar view of Aristotle is held by many other prominent writers on animal ethics. See for example Gary Francione, *Animals, Property and the Law* (Philadelphia: Temple University Press, 1995), 37; Rosalind Hursthouse, *Ethics, Humans and Other Animals*

the long commentary tradition, it stretches back to the rise of modern philological scholarship, through Latin scholastic and Islamic Aristotelianism to the Platonic-Aristotelian synthesis under the heading of "neo-Platonism."

This hierarchical view, however, has been actively called into question by the last five decades or so of contemporary scholarship. At about the same time as Singer, Martha Nussbaum offered the formulation that Aristotle rejects "a universal teleology of nature in which the activities of some species subserve the ends of others."[4] Others have largely followed suit.[5] The notable exception is David Sedley, who in 1991 responded with a vigorous "Yes!" to the question posed in the title of his article "Is Aristotle's Teleology Anthropocentric?"[6]

Defenders of the new position often point to the fact that in his biological treatises, Aristotle's appeals to teleological explanations of animal morphology and behaviour rarely, if ever, reach beyond the individual species under investigation. Say we are trying to explain why deer have antlers. (*PA* iii.2, 663b29-35)[7] One reason (the so-called "material cause") is that in some animals there is some earthy matter left over after the skeletal bones have been formed. But there is another reason Aristotle would say we must state to give a full explanation: the end (*telos*) or that for the sake of which (*to hou heneka*) the antlers develop.[8] This, Aristotle tells us, is

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(London: Routledge, 2000), 61; M. R. Fellenz, *The Moral Menagerie: Philosophy and Animal Rights* (Champaign: University of Illinois Press, 2007), 90.

[4] *Aristotle's* De Motu Animalium (Princeton: Princeton University Press, 1978), 60.

[5] For example, Alan Gotthelf, "Aristotle's Conception of Final Causality," *The Review of Metaphysics* 30, no. 2 (1976): 226-254; Robert Wardy, "Aristotelian Rainfall and the Lore of Averages," *Phronesis* 38, no. 1 (1993): 18-30; Monte R. Johnson, *Aristotle on Teleology* (Oxford: Oxford University Press, 2005); Lindsay Judson, "Aristotelian Teleology," *OSAP* 29 (2005): 341-366; Catherine Osborne, *Dumb Beasts and Dead Philosophers: Humanity and the Humane in Ancient Philosophy and Literature*, (Oxford: Clarendon Press, 2007), Ch. 5; Mariska Leunissen, *Explanation and Teleology in Aristotle's Science of Nature* (Cambridge and New York: Cambridge University Press, 2010).

[6] David Sedley, "Is Aristotle's Teleology Anthropocentric," *Phronesis* 36, no. 2 (1992): 179-196.

[7] At the level of historiography, it is worth noting that the species-specific view emerged most distinctly around the same time as serious study of the biological treatises became more widespread.

[8] See Elena Comay del Junco "Aristotle on multiple demonstration," *British Journal for the History of Philosophy* 27, no. 5 (2019): 902-920.

"defence." In this and so many other biological explanations, the relevant end is the organism in question or one of its activities. It would be improper to say that antlers might be formed, for example, for the sake of providing a perch for birds.

The claim that we have seen affirmed by Singer and denied by Nussbaum and others can be divided in two: for Aristotle, (i) nature is essentially a hierarchy; (ii) the lower members of the hierarchy exist for the sake of the higher ones. There is perhaps a temptation to assert (i) and (ii) in a single breath, that natural hierarchies and an instrumental view of nature rise and fall together. But this is precisely the temptation that I wish to resist. Stated in the most general way, my fundamental claim is that Aristotle endorses a non-instrumental and yet hierarchical view of the natural world. What may seem initially to be a simple claim will turn out, in the end, to be rather more complicated. But before we can go about showing that both the older and the newer (or the "popular" and the "scholarly") each get certain things right that the other misses – as well as certain things wrong – we need to understand the deep tension underlying Aristotle's account of natural goodness.

The tendency to see each species as pursuing its good in its own — entirely *sui generis* – way stands in contrast to an urge toward appreciating the commonality of living things, a basic set of ingredients that make up the good life, shared between all creatures. The tension is thought to be reflected in the relationship between Aristotle and his teacher Plato. Where the earlier philosopher spoke of goodness as a single overarching principle ("idea" or "form"), one and the same for all good things – indeed the Idea is that which makes them good – Aristotle is thought to reject such a singular conception of value in favour of a resolutely pluralistic one, a world of "fractured goodness."[9]

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[9] The phrase belongs to Christopher Shields and I discuss it at greater length in Ch. 2.

In order to preserve what is valuable in both views of Aristotle, we must delve further into what each of these entail: to ask in more detail, that is, why some readers have been led to ascribe a hierarchical vision of the world to Aristotle, while others have denied that his philosophy contains such a view. In other words: to get out a dilemma, we have to dig ourselves deeper into it.

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The aim of this dissertation is to find what is valuable in each of these approaches to Aristotle. I mean this in two ways. The first is to locate the ways in which each of them has a genuine insight into Aristotle, how, at a descriptive level, they accurately capture important facets of his philosophy. This does not itself mean that the two views are compatible at any deeper, that is to say philosophical, level. Any thinker's work will have inconsistencies, all the more so in the case of one as prodigious and wide-ranging as Aristotle, who also faces the obstacle of his writing having been transmitted over such long distances.

Nevertheless, my second contention is that Aristotelianism has the conceptual resources to mediate between the particular and the universal, between seeing the specialness and individuality of each kind of living thing and being able to compare and contrast them in general terms. My thesis, stated in the most general terms, can be summed up as follows: Aristotle holds that the natural world can be described in terms of a ranking of value, but that this value or natural goodness is nevertheless plural rather than monistic. There is a further, ethical corollary of this thesis of unity in diversity, namely that a ranking of natural kinds does not imply that the lower exist for the sake of the higher: the kind of ranking I have in mind is non-instrumental.

Let me present a brief sketch of the argument to follow, which will also allow some methodological precepts to emerge more clearly. At the opening of the *Physics*, Aristotle distinguishes between two senses of knowing: between that which is "clearer and easier to know"

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by nature and that which is so relative to us. If the former, unconditioned kind of knowledge of first principles is the ultimate goal of philosophical inquiry, it is the latter kind with which we must begin. Aristotle's lays out the views of his predecessors, which he will proceed to subject to scrutiny, rejecting certain aspects and revising others, and this seems to me as good a place to start as it did to him.

The first chapter opens with an overview of the apparent *querelle des anciens et des modernes* to which I have already alluded, before moving on to clarify the conceptual tools I will use to discuss Aristotle's vision of natural hierarchy. This opening serves less to present an *argument* for the thesis of pluralistic hierarchy and more to set the conceptual stage for such an argument, which will begin in earnest in Chapter 2. The most important part of this stage-setting is to distinguish between three sorts of teleologically-structured hierarchies.

> **Type 1** involves one thing being directly teleologically subordinated to, that is, for the sake of, another: e.g. humans > animals > plants.
>
> **Type 2** involves a hierarchy in which the elements are not for the sake of one another, but for the sake of some third distinct thing. The members of the list can then be ranked according to how close each one comes to attaining their common *telos*. Even if one thing's being for the sake of another entails an instrumental relation between the two items, the comparison between the items that are for the sake of *a third* item will not be instrumental. If x and y are both for the sake of z, and if x comes closer to z than y, then in addition to the two (Type 1) hierarchies $z > x$ and $z > y$, we can also add a *non*-instrumental hierarchical relation $x > y$ where y is *not* for the sake of x.
>
> **Type 3** involves two or more things neither of which, as in Type 2, for the sake of one another, with two *distinct* ends. They can be ranked according to how closely each comes to their different ends – for example, Cat x may be better than Dog y just insofar as it comes closer to reaching the end proper to cats than the dog comes to reaching its own, species-specific, end.

Even at this early stage, it is worth asking the preliminary question of which of these is a possible candidate for underwriting the kind of rankings Aristotle seems to make.

Type 1 can be ruled out because while Aristotle is clearly committed to the claim that certain beings are *better* than others, he does not often make the stronger claim that the lower-ranked beings are *for the sake of those* higher on the scale.

Type 3 rankings, meanwhile, are too weak. First, they do not allow for the genuine comparison across kinds. The judgment that this fish is better than that dog insofar as it more successfully carries out the kind of flourishing life characteristic of fish, is separate from any claims about species in general.[10]

This leaves Type 2 ranking as a possibility. However, in order to argue for the presence of such a ranking in Aristotle's thinking, it must account for each species' pursuing a goal shared with others in its own, distinct way, given the emphasis placed on the *sui generis*, species-specific character of natural goodness (Cf. *Phys*. ii.7, 198b8-9). And, if each species is indeed good in its own way, it must be shown that they can still be compared in terms of goodness. This, then, leaves us with a line of inquiry for the chapters that follow.

If Aristotle both ranks species in terms of the predicate "good" and holds that "good" is said of them in many ways, that is non-synonymously, then he must hold that comparison does not require synonymy. This is a challenge for two reasons: first, because many contemporary philosophers hold that comparison must be in terms of a common, monistic "covering value"; second, because Aristotle is described as a forerunner of this view. In Chapter 2, I will show that this is not the case either textually or philosophically. On the philological side, the textual warrant in support of ascribing to Aristotle the view that comparative terms must be synonymous is substantially weaker than has been thought. Philosophically, moreover, Aristotle's theory of non-synonymous predication allows for comparisons when the entities are ranked according to the

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[10] More than this, the two kinds of ranking are incompatible, as I show in Ch. 1, Appendix B.

special kind of non-synonymous term that Aristotle calls *pros hen legomenon*, literally a term "said toward one thing." Aristotle's favourite example is "healthy" as it applies to food, organisms, and medical procedures: these are not entirely synonymous between their various senses but are not simply unconnected either. (In contrast, compare "sharp" as it applies to intelligence, cheese and musical notes.) Things with different accounts of their goodness can be ranked if the accounts of goodness at least partly overlap and their goodness stems at least in part from a common source: that is, if they have the same end (*telos*, or normative standard).

By this point, I will have argued that things which are good in different ways can still be ranked if they share a common *telos*. In Chapter 3, I show, through a reading of *Metaphysics* Λ, that Aristotle's natural kinds do indeed share a common *telos* in the prime mover, the purely intellectual principle which plays the role of god in his philosophy.

This claim comes in two steps. First, I will show that the prime mover is indeed a *telos* by reconstructing the distinction Aristotle draws (*Meta*. Λ 7, 1072b2-3) between ends *for* something and ends *of* something and arguing that this is best understood as a distinction between internal and external normative standards. Whereas Aristotle has often been thought of as ruling out the possibility of external standards, this is more a matter of emphasis: he discusses internal standards of goodness more frequently, but also adopts an external perspective. Second, I will show that the prime mover is a *universal telos* by examining a passage, *De Anima* ii.4, where Aristotle claims that *every* natural being strives to participate in the eternal and the divine. While different species have their own internal, species-specific ways of striving for divinity, they share a common external *telos* in the prime mover.

In contrast with my reading of *Metaphysics* Λ, a number of recent scholars have claimed that understanding the prime mover as a final, rather than efficient, cause (i.e. as the aim, rather

than the source of motion) is the product of the concerted intellectual project of late Antiquity to harmonise Aristotle with Plato, and it involves concepts alien to Aristotle's own thinking. In the Appendix to Chapter 3, I will demonstrate that this is not the case: neo-Platonic commentators actually argue precisely the opposite, that the prime mover is an efficient cause, because they were concerned with making Aristotle (who maintained that the world was eternal) compatible with Plato's creation story in the *Timaeus*.

This will mark an inflection point in the narrative of the dissertation. Until then, each chapter will have built on what has preceded it, giving a more an increasingly detailed account of the conceptual mechanisms at Aristotle's disposal for describing the natural world in hierarchical terms. Chapter 3 marks the end of that stage in the inquiry. From there, with the theoretical picture established, we turn toward seeing how it works in practice.

First, Chapter 4 is a case study examining *De Caelo* ii.12, which is Aristotle's most comprehensive statement of cosmic hierarchy. Here, an initial aporia about the motions of the stars – why it is that some of them follow slightly erratic courses, despite being materially perfect beings – is elucidated through an analogy with human activities, which is in turns applied to non-human animals and then to plants. For the first time, we see the full cosmological hierarchy explicitly laid out and grounded in terms of how "close" each kind of thing comes to the "divine principle" we have already encountered in *Metaphysics* Λ. The *De Caelo*, I argue, offers a more detailed – but not conflicting – view of natural hierarchy than *DA* ii.4. In the latter text, Aristotle discusses a mode of participating in the "eternal and divine" shared *equally* by all sublunary species, namely reproduction. In *DC* ii.12, meanwhile, he focuses on the totality of different species' characteristic capacities and activities as the basis for comparing them.

While Chapter 4 will provide a detailed case study of natural hierarchy in Aristotle's theoretical philosophy, Chapter 5 turns to the ethical implications of such a ranking. If some species are better than others, what sorts of normative entailments might this have? Aristotle famously expresses highly instrumentalist views not only about non-human nature but also about vast swathes of humanity. At *Politics* i.8, Aristotle claims that like "natural slaves," plants and other creatures exist for (other) humans to use. However, this instrumentalism, despite Aristotle's own contention, can in no sense be grounded in, or be derivable from, his theoretical ranking of forms of life. The superiority of human beings, relative to other animals, is not what could possibly justify our exploitation of such creatures. This means that human supremacy cannot be read off the order of nature. However, Aristotle's natural philosophy also does not impose limits. The fact that animals, for example, do not *exist* for the sake of human beings does not entail a prohibition on our using them for our purposes.

Despite this, I shall ask whether there is an Aristotelian basis for critiquing the human propensity to exploit non-human nature. There is, but with a caveat. Aristotle's account of human moderation involves respecting the natural limits of desire and thus entails restrictions on the unlimited consumption of natural resources – on excessive meat-eating, for example, or the destruction of the environment (and not merely because the latter would be prudentially unwise for humans themselves). But the caveat is that these limits are in no ways derivable from the nature of the things themselves: there is a gap, at least here, between Aristotle's account of natural substances, and his account of how we, as ethical agents, ought to treat them. This gap is not unbridgeable, although doing so would require a significant reorientation of Aristotelian ethical theory. By holding on to the fundamental Aristotelian notion that each being is good in its own *sui generis* and distinct way, we can come to appreciate that, even if they can be ranked, each kind of

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flourishing is also independently and intrinsically valuable, worthy of respect and ethical consideration. Conflicts will arise, but we can and should aim to avoid these to the fullest extent possible. In general, the more each kind of being can flourish according to its kind, the more it is able to do the kinds of things that lie in its nature to do, the better.

Given the heterogeneity of the texts at which this work looks, it is incumbent on me to say at least something about the chronology and development of the *corpus Aristotelicum*. In general, my approach is agnostic as to specific claims about the chronological order of individual works: none of the major claims that follow rest on any particular relative or absolute dates, nor am I interested, for present purposes at least, in arguing for specific developmental claims. Nevertheless, there are two major, and several more minor,[11] instances where chronological questions are bound to arise. I will address these at the relevant points in the dissertation, but briefly addressing the two main chronological questions will also help clarify the ways in which chronology does and, more importantly, does not hold relevance to my project.

(i) In Chapter 2, I examine Aristotle's claim, in *Physics* vii.4, that "only synonyms are comparable." If this claim stands, then it rules out the possibility of comparing the goodness of different species, since "good" is a canonical instance of a non-synonym (*pollachôs legomenon*). However, I argue that at *Physics* vii.4 Aristotle deploys an exclusive disjunction between synonymy and homonymy and makes no reference to an intermediate class of non-synonyms, which are "said with reference to one thing" (*pros hen legomena*). This is closely related to, but importantly distinct from, an argument that asserts the early date for *Physics* vii and more specifically that it represents a stage in Aristotle's thinking at which he had not yet come to realise the importance of the *pros hen legomena*. Moreover, in those works that *do* acknowledge these

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[11] E.g. the discussion of Metaphysics Λ 8 in Ch. 3 II§1.

non-accidental non-synonyms, he does not make synonymy a requirement for comparability.[12]

However, my reading of the text avoids the uncertainty that relies on chronology in favour of

paying close attention to the *examples* in the text of *Physics* vii.4 to show that Aristotle is indeed

not concerned with *pros hen legomena* and remains agnostic about why this may be (in addition

to chronology, it is quite simply not pertinent for the subject matter[13]).

 (ii) The second place in which chronology is relevant is in Chapter 4, which focuses on *De Caelo.* This text is generally considered to be a very early work in the corpus, a claim based largely

on the conspicuous absence from its theory of cosmic motion of the prime unmoved mover of

Metaphysics Λ, *Physics* viii, and *De Motu animalium*. If this is so, it is tempting to suspect that,

whatever the interest in the arguments and claims of *De Caelo* itself, the text is relatively

unenlightening for understanding Aristotle's later and more significant works. My contention that

De Caelo is, on the contrary, highly illuminating, is based less on dissent from this story and more

from the unique status, within the treatise, of the particular passage on which Chapter 4 is focused.

While the passage (from *De Caelo* ii.12) does not *explicitly* name the prime unmoved mover, it is

not only compatible with the cosmological scheme of *Metaphysics* Λ, where the prime mover *is*

central, but more importantly seems to presuppose the existence of such a divine, unmoved

principle.

 This is not to deny that the passage is somewhat incongruous with the bulk of the work as

a whole: one possibility is that the passage is a later insertion meant to bring the earlier cosmology

up to speed with Aristotle's mature philosophy. Another is whether the *De Caelo as a whole* is in

fact so at odds with the later theory of a necessary unmoved cause of motion. In any case, the focus

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[12] Whether the *pros hen legomena* should be classed as homonyms is controversial: I argue that they should not in Ch. 2 I§2

[13] This may also explain *why* Aristotle didn't adopt a subtler account of multivocal predication until later work: he didn't need to.

on conceptual *continuity* between (at least part of) *De Caelo* and the other texts, above all *Metaphysics* Λ, is what motivates, and ultimately justifies my approach, rather than any particular chronological claim.

From these two brief discussions, it should be clear what I mean when I say that none of my claims rest on premises about the order of Aristotle's works or their development. Some of my claims in turn may have implications for further study of Aristotle's development: I have in mind challenges to narratives of straightforward progression from early, "juvenile" works to late, "mature" ones. Such challenges may take the form of pointing to the complexities – at times even inconsistencies – internal to any one work, which make assigning a clear date difficult, perhaps even impossible. Another more philological approach would be to show how each Aristotelian treatise was subject to multiple successive layers of revision and can thus not be treated as static documents. Some of my reconstructions of Aristotle's arguments and views might form part of such a larger project, but they need not and if the general tone of my interpretation is "unitarian" in character, this is not because of any particular commitment to the unity of the *corpus Aristotelicum*, but rather because it seems to me that developmental claims are more appropriate as conclusions than as premises.

Equally important as chronology and, in all frankness, a much more pleasurable topic of reflection, are the people who have made this work possible. First and foremost, my thanks to the three members of my committee. Gabriel Lear has not only provided generous and careful feedback, vastly improving my own writing and thinking, but has also been an exemplar to which I aspire of philosophical rigour, care, and dialogue from the time I first took a seminar with her. Martha Nussbaum has provided a model of intellectual curiosity and the alacrity with which she moves between the ancient and modern, scholarly and public-facing, theoretical and practical, has

Each thing was like the other. None outstripped the other, either in dreamlike heavenly nature or in physical force; this spread in every direction through the whole expanse of my life. I was in the midst of it everywhere, never becoming aware of mere appearance. Or it occurred to me that all was metaphor and that every creature was key to the others. ... In short, my situation is this: I've completely lost the capacity to speak or to think coherently about anything at all.[14]

Hugo von Hoffmanstahl, *The Lord Chandos Letter*

Ch. 1: Hierarchy, teleology, and the good

§0

The aim of this inquiry is to mediate between not just between two competing approaches to the interpretation of Aristotle's philosophy, but between two strands fundamental to his thinking. That is, to resolve a tension underlying his view of the natural world. Aristotle famously holds that goodness is species-specific: that to be good and to flourish means something different, for example, to a human being and to a fish. This seems to rule out inter-species comparisons of value: to compare two things, there must be some common concept in terms of which they are comparable and since goodness differs between kinds, species cannot be compared in terms of their goodness. Yet at the same time, Aristotle makes precisely such comparisons. In particular, he repeatedly claims that the stars and planets are more perfect than the species that inhabit the sublunary world and, within the sublunary world, he claims that humans are superior to non-human animals, which are in turn superior to plants. This initial Chapter is divided into three main parts: first, I specify different forms an Aristotelian hierarchy might take. Then I present the case against hierarchy. Finally, after turning to a puzzling passage (*EN* vi.7), I lay out a way forward for the subsequent chapters.

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[14] "Das eine war wie das andere; keines gab dem andern weder an traumhafter überirdischer Natur, noch an leiblicher Gewalt nach, und so gings fort durch die ganze Breite des Lebens, rechter und linker Hand; überall war ich mitten drinnen, wurde nie ein Scheinhaftes gewahr: Oder es ahnte mir, alles wäre Gleichnis und jede Kreatur ein Schlüssel der anderen … Mein Fall ist, in Kürze, dieser: Es ist mir völlig die Fähigkeit abhanden gekommen, über irgend etwas zusammenhängend zu denken oder zu sprechen." Hugo von Hoffmanstahl, "Ein Brief," in *Der Brief des Lord Chandos: Erfundene Gespräche und Briefe* (Frankfurt am Main: Fischer, 1991), 24-5.

I. Hierarchical notions

I§1

I want to begin, however, by moving away from the natural world to more abstract and more general terrain. Only once we have an overview of some metaphysical principles that underly both positions can we begin the work of resolving the apparent tension in which they sit.

The term hierarchy, as I am using it, simply means an evaluative ranking. In schematic terms one can see the distinction as follows: for a ranking of entities $F(x>y>z)$, where F is any scalar predicate, the fact that x is more F than y, and y is in turn more F than z will suffice. But for a *hierarchy $F^*(x>y>z)$* it will need to be the case not only that x is more F^* than y, and y more F^* than z, but additionally and most importantly, that F^* is an evaluative predicate.

According to this definition, a hierarchy can, for example, be a list of animals by swiftness, by acuity of eyesight, and so on, but *only insofar* as these are all considered to be valuable properties. But the kind of natural hierarchy in which I am interested is somewhat different: it is a question, rather, of which kinds of substance are better than others, *tout court.* [15]

(It is worth, however, pausing to mention that the failure to distinguish between ranking and hierarchy seems to lurk in much philosophical discussion of the relationship between humans and non-human animals. In response to the traditional claim that humans are superior because more rational and intelligent, one frequently encounters the (true) observation that there are many other properties according to which one might rank animals, on which rankings humans might not turn out so well. Elephants and blue whales come out on top if size is prioritised; dogs when we pick sense of smell; cheetahs and falcons for speed, and so on. The aim of bringing up multiple orderings is to show that there is not just one, but a variety of summits in nature, and it is human

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[15] Catherine Osborne contends that while Aristotle has various ways of ranking organisms, none constitute a true hierarchy. See her *Dumb Beasts and Dead Philosophers*, *Humanity and the Humane in Ancient Philosophy and Literature* (Oxford: Clarendon Press, 2007), Ch. 5. Osborne is one of the few authors whose focus is on ranking and hierarchy; others writing about Aristotelian teleology discuss ranking and hierarchy indirectly.

hubris to assume that the one to which we happen to be very good at ascending is the only one on which it is worth focusing our attention. But in order for the force of this sort of move to be felt, one must assume that all of these properties are in some sense *good*, not only for the entities that come out on top, but for those that fare less well. In order to have the desired anti-anthropocentric effect, we must think that it would be in some sense *good* to be as keen-sighted as a hawk or swift as a cheetah.)

I§2

However, a multiplicity of hierarchies is not simply the result of selecting different values according to which the entities under consideration are ranked. We must also distinguish between different *types* or models of hierarchy before we are able to consider which, if any, are to be found in Aristotle.

Once we have this notion of value and goodness, teleology is sure to follow for Aristotle. In his thinking, the notion of explaining something by reference to what it is *for* is inextricably tied up with notions of "good" and "better." If a natural hierarchy is a matter of saying that one species is better than another, that, for example, "dolphins are superior to fleas," how, we must then ask, does teleology enter in? Let us recall that, Aristotle equates goodness with ends (*telê*, sg. *telos*), and more specifically that means and ends reflect a hierarchy of values. (See Appendix A for a fuller discussion of the equation of goodness and ends.) If shipbuilding is for the sake of making a boat, then the boat and the craft stand in a hierarchical relation; boats (the products of activities) are better than shipbuilding (the activity which produces them) because the former are the good at which the latter aim. (*EN* i.1, 1094a1-15) This observation allows us to formulate three distinctive models of hierarchy each based on the model of the teleological subordination of ends to means, albeit it in very distinct ways.

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The first kind of teleological hierarchy is the familiar superiority of ends to means that I have just mentioned. Let this be called Type 1 Hierarchy, or the "subordination model," because the inferiority of the means (which may also themselves the ends of further means) is underwritten by their subordination to the final end. Applied to the natural world, Type 1 hierarchy is the sort found in traditional depictions of the *scala naturae* where species are arranged from bottom to top in terms of increasing value and, in addition to this, each species also exists for the sake of the one immediately above it. (And, since the "for the sake of" relation is transitive, each lower species is also for the sake of *all* those above it.)

The second type of hierarchy involves two means, neither of which is subordinate to the other, but both directed to a common end. Let this be called Type 2 hierarchy or the "common-end model." The two are subordinate to their common end in the Type 1 (subordination) manner. But, at least in some cases, we can also compare and hierarchically rank the means against one another, despite the fact that neither of them is the end of (i.e. subordinated to) the other. This is so because different things may be more or less successful at achieving a common end. Before turning to the case of the natural world, however, let us remain with the craft examples from the opening of the *Nicomachean Ethics.* Imagine that instead of one art of shipbuilding, there were two. For the sake of argument, assume that they do not differ in the type of ship they produce and that we are trying to evaluate them only based on the quality of their product. (That is, price, efficiency, etc. are not at issue.) Now assume that the ships craft *B* produces are consistently worse than those produced by craft *A*. This is not a matter of preferring one kind of boat to another – as in writing off the manufacturer of kayaks because you prefer canoes. The two crafts, *A* and *B,* are each aiming to produce precisely the same good, it is just that one of them is consistently and regularly less successful than the other. If this is the case, in addition to the two Type 1 hierarchies "ship>craft

A" and "ship>craft *B*," we can also note an instance of a Type 2 hierarchy "craft *A*>craft *B*," based on craft *A* coming closer than craft *B* to achieving their common end

Finally there is Type 3 hierarchy, or the "parallel ends model." Now take another example from slightly later in the first book of the *Nicomachean Ethics*. Imagine two musicians, a classically trained clarinettist and a self-taught jazz guitarist. As everyone knows, the clarinet and the guitar*,* though both species of the broader genus of musical performance, are their own distinct crafts with their criteria for a good musical performance, and consequently their own rules and their own norms for how to be a good musician. That is, they each have a distinct *telos*.[16] Can we say which of our two musicians is better? That is, does either the clarinettist or the guitarist come out on top of some hierarchy? Neither Type 1 nor Type 2 hierarchy do the trick: there is no sense in which one of the musicians playing serves to make the other's successful, so Type 1 is ruled out. But they also do not, as things are laid out, have a common end, so Type 2 is ruled out. But even if *ex hypothesi* the two ends cannot be compared, we may still at least in principle locate a hierarchy between the two musicians based not, as in Type 2, on how close they come to some common standard, but based on how close each comes to their own, incomparable standards. If our clarinettist, despite many years of conservatory education, is competent, but not virtuosic, while our guitarist, despite no formal training, is able not only to achieve rhythmic and tonic complexity but to evoke deep and searching emotions through even simple note sequences, it seems there is safe grounds to say that the guitarist is superior to the clarinettist, all while insisting, with no contradiction, that playing the guitar is not superior to playing the clarinet (and nor vice

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[16] This case is inspired by a similar illustration by Ruth Chang involving Mozart and Michelangelo. I hope the inspiration for my choice of instruments is clear. See Ruth Chang, "Introduction," in *Incommensurability, Incomparability, and Practical Reason*, ed. Ruth Chang (Cambridge, MA and London: Harvard University Press, 1997).

versa). It is just that the guitarist has come much closer to achieving the aim for the sake of which she is playing than the clarinettist has to hers.

The three types of hierarchy can also be represented graphically:
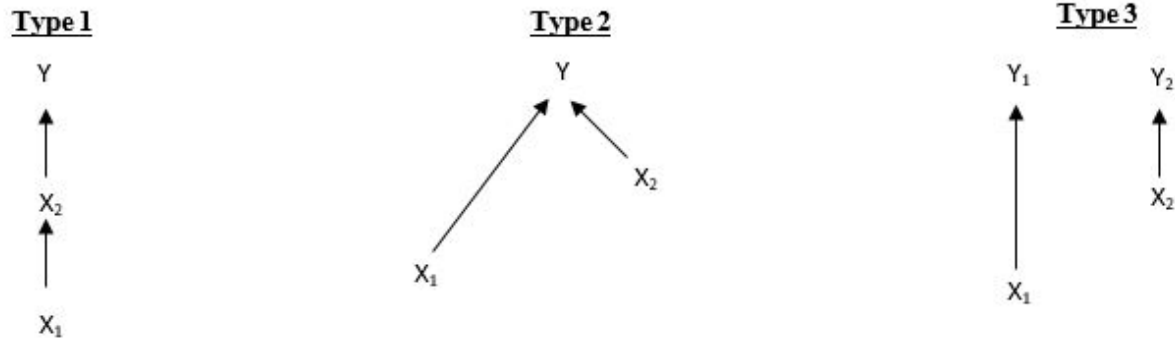
Figure 1: In all three schemata there is a hierarchy $X_2 > X_1$ but only in the first is X_1 teleologically subordinated (i.e. a means to) X_2.

I§3

Can any of my three models describe Aristotle's account of the natural world? This question admits of two sorts of answer. The first is whether any of Aristotle's texts reflect these structures. The second is whether Aristotle's account of final causation or teleology is compatible with them. It is essential to take both into account, and I shall do so in order.

There is one passage that unambiguously describes a Type 1 situation.[17] The text I have in mind is from the first book of the *Politics,* in which Aristotle, in describing the establishment of political communities, relates this to the relation of human beings to other natural organisms. All animals, he writes, have from the time of their birth a natural source of nutrition provided by the parent until they are able to fend for themselves. (*Pol*. i.8 1256b11) Once this food gives way,

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[17] E.g. *PA* iv.3, 696b23-34, which concerns the position of sharks' mouths on the underside of their bodies, so that they themselves won't overeat, but also, apparently "for the sake of the preservation (*sôtêria*) of the other animals."

animals must look for nutrition elsewhere. Aristotle reasons that because nature is set up so as to provide infants with a foodstuff specially fitted to their needs, the same holds of whatever fills the same role later in life. Therefore, he concludes that "one should suppose (*oiêteon*) both that plants are for the sake of animals and other animals for human beings." (1256b16)

At face value, this is a clear statement of Type 1 hierarchy: plants are for the sake of animals, which are in turn for the sake of humans. And since ends are more valuable than means, we can then ground the familiar assertation that humans are better than non-human animals which are in turn themselves better than plants. In the final chapter of this dissertation, I shall examine *Politics* i.8 in more detail, showing that, whatever Aristotle's *intentions* might have been with this passage—that is, we need not doubt that he meant what he wrote—his account of natural substances, each of which pursues its own, distinct end, militates against the Type 1 view.

Other passages, however, seem to refer to natural hierarchy without referring to the teleological subordination of one species to another: that is, to non-Type 1 hierarchy. For example, toward the end of the opening book of the *Parts of Animals* (*PA*), Aristotle recommends the study of biology while suggesting that earth-bound animals seem to be less "honourable" (*timion*) and "divine" (*theion*) than the celestial bodies. (644b25) While the adjectives Aristotle uses to describe the stars and planets are in the positive, not comparative, degree, the force of his argument relies on comparison. While the stars and planets are "honourable and divine," their remoteness makes them relatively inaccessible to human knowledge in comparison with biological phenomena, which are "more accessible to knowledge" (*euporoumen mallon pros tên gnôsin*) on account of our common habitus."? (644b28-9) Comparison is made explicit between the difficulty of inquiry regarding celestial phenomena and the contrasting ease of inquiry into terrestrial phenomena through the comparative particle *mallon*. Taking the full context of the passage into account, we

see two axes of comparison emerge: first, degrees of honourability and divinity possessed by the

objects of study; second, degrees of ease and difficulty of the inquiries themselves. Astronomy is

difficult but has a particularly fine object, while biology may study humbler beings, but admits a

far greater degree of certainty and knowledge.

This doubled approach picks up on the very opening line of the *PA,* where Aristotle draws

two distinctions within the domain of "inquiry and study" (*theôria kai methodos*), (639a1) first

noting that the inquiry can be "more base" (*tapeinotera*) or "more honourable" (*timiôtera*) (639a2)

but that in either case there are two degrees of knowledge that result from it: on the one hand, one

can end up with full-fledged knowledge or *epistêmê*—the term is the same Aristotle uses for a

restricted sense of knowledge through demonstration in the *Posterior Analytics*—while on the

other, one can have a "sort of educated familiarity" or *paideia* – a term Aristotle otherwise uses

exclusively in his ethical treatises and never in his theoretical or natural philosophy. Since Aristotle

is explicit that not only the "more honourable," but also the "more base" lines of inquiry can admit

of varying grades of knowledge, the honourability of a given inquiry cannot lie in anything about

its epistemic status—its precision or certainty, for example.

The similarities between *PA* i.1 and i.5 are striking: in both cases we start with a remarks on the

comparative "honourability" of different sorts of study (i.1) or phenomena (i.5) before contrasting

this distinction with another distinction between differences in the kinds of knowledge that

different sorts of study can produce. Left unstated in both passages is the notion that the

"honourability" of a line of inquiry—its being "more honourable" or "more base," in the language

of the proem—is a function of the honourability of its *object*. Indeed, once we supply this equation

(made explicit in *EN* vi.7, discussed below at III§1) of the value of knowledge and the value of its object[18] we can see the first book of the *PA* as having a ring-compositional structure.

II. Problems with hierarchy

II§1

We shall see more examples of hierarchical notions in Aristotle,[19] and delve deeper, but we must also pause and see the other side, to ask why one might be sceptical about Aristotle endorsing a hierarchical view of nature.

Distinguishing between the three types of hierarchy mentioned above has already made use of Aristotle's equation of goodness and ends. (See Appendix A) This connection is even more central to the case *against* cosmological hierarchy. Teleology or final causation is, of course, one of the most famous conceptual formations in Aristotle's philosophy as a whole. At its core, teleology is a pattern of causal *explanation* in which the explanans refers not to an event or entity's temporally prior necessitating conditions, but to something *good* for the sake of which said entity or event exists.

Aristotle never uses an equivalent to the term "teleology" or the familiar locution "final cause"; rather, he talks about one thing occurring "for the sake of" (*heneka*) another. And, because of the way Greek allows for promiscuous substantivisation, he often turns the preposition "*heneka*," usually translated as "for the sake of" into a noun-phrase, "*to hou heneka*," literally "that for the sake of which." Aristotle also frequently uses another term for what, in the intervening millennia, has gone by the name "final cause," namely "*telos*," literally "end."

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[18] This is a close relative of the more general principle, familiar from Aristotle's psychology, equating knowledge and its object (e.g. *DA* iii.4, 430a4)

[19] For example: *DC* ii.12 (see Ch. 4); *EN* vi.7 (III§1 infra); *DA* ii.4, 415a23-b8 (Ch. 3). Cf. *GC* ii.10, 336b25- 34; *PA* ii.10 648a13- 19; *GA* ii.1, 731b18- 732a1; *GA* ii.3, 736b29- 33; *EN* x.7-8.

The most obvious phenomena which seem to call out for teleological explanation come from biological contexts, in which the goodness of the outcome or result of certain processes seem to govern why and how they take place. (This is true for Aristotle as well as for contemporary philosophers of biology.) For example, in order to understand why a certain body part exists, we need to take into account not just the mechanism by which it is produced, but the processes and outcomes to which it contributes. Say we are trying to explain why deer have antlers. One reason is that in certain animals, there is some earthy matter left over after the skeletal bones have been formed. But in order to give a full explanation we must acknowledge that for the sake of which (*to hou heneka*) the antlers come about, namely "defence." (*PA* iii.2, 663b29-35)

Aristotle's account of teleological explanation in the biology seems to rule out at least Type 1 hierarchy, in which one species is directly for the sake of another, which is thereby superior to it. In his general exposition of teleology in the second book of the *Physics*, he lays down a general characterisation of final-causal explanation which he consistently adheres to throughout the biological corpus: a phenomenon is explained teleologically when reference is made to the fact that "it is better so, *not simply, but in relation to the substance of each thing*."[20] (198b8-9; my emphasis) What this means is the explanandum—the good outcome for the sake of which some process takes place—is restricted to the level of the species in question. The explanation for the presence of antlers in deer may legitimately refer to their role in protecting the organism of which they are part; it may not, however, cite their indisputable value in providing a perch for birds.[21]

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[20] διότι βέλτιον οὕτως, οὐχ ἁπλῶς, ἀλλὰ τὸ πρὸς τὴν ἑκάστου οὐσίαν.
This is what Lindsay Judson calls Aristotle's "teleological axiom" in his "Aristotelian Teleology," *OSAP* 29 (2005): 359. It is also cited as crucial to understanding teleological explanation in David Balme, *Aristotle's* De Partibus Animalium I *and* De Generatione Animalium I (Oxford: Oxford University Press, 1972), 96 and James Lennox, *Aristotle*: On the Parts of Animals (Oxford: Oxford University Press, 2001), 341.

[21] For a dissent, see David Sedley, "Is Aristotle's Teleology Anthropocentric?" *Phronesis* 36, no. 2 (1991): 179-96. For a fuller elaboration along these lines see Alan Gotthelf, "Aristotle's Conception of Final Causality," *The Review of Metaphysics* 30, no. 2 (1976): 226-254; Robert Wardy, "Aristotelian Rainfall and the Lore of Averages,"

This directly seems to rule out cases in which one species is said to be superior to another which is teleologically subordinated to it. As we have seen, however, Type 1 hierarchy is not the only model available, which means that this principle—that teleological explanation of natural phenomena must refer to the good *of the kind of being* in question—does not directly speak against hierarchy in general terms.

II§2

Other closely related teleological notions, however, are more broadly troubling for hierarchy. At the opening of the second book of his *Physics,* Aristotle introduces the notion of "nature" (*phusis*) as that which "has within itself a principle of motion and of rest." (ii.1, 192b13-14; cf. *Metaph.* Θ 8, 1049b8ff.) What does this definition of nature amount to? There is a temptation to equate this account of what is natural with what is a *self*-mover, that is, with what is alive.[22] True, plants and animals are paradigmatic examples of natural entities for Aristotle, but living things do not exhaust the realm of nature. Before offering the definition of nature I have just cited, Aristotle gives some examples of natural things and in addition to plants and animals he includes the "simple bodies – such as earth, fire, air, water." (ii.1, 192b10-11) We should not be misled into thinking that Aristotle therefore endorses some version of panpsychism; he is explicit that his elements are neither alive nor capable of self-motion. (*MA* 5, 700b16) So, the "internal principle of motion" characteristic of natural things is not a matter of a thing having its own efficient cause inside of itself.

In an important paper, Sean Kelsey has argued that instead of understanding nature as an internal efficient cause, a built-in engine of change, it is better understood as an internal *final* cause,

Phronesis 38, no. 1 (1993): 18-30; David Charles, "Teleological Causation," in *The Oxford Handbook of Aristotle*, ed. Christopher Shields 227-266 (Oxford: Oxford University Press, 2012)
[22] See for example, Themistius *In Phys.* 264.10

a *telos*. [23] In the case of living things, there is indeed an internal efficient cause, namely the form, which is also the *telos*. (However, form is not an efficient cause *qua* final cause, but rather as that which is imparted by the male part in the process of sexual reproduction.)

Some non-living things—notably the elements —are also natural and therefore have an internal principle of motion and rest. But what they do not have is the power to move themselves toward their ends. The natural telos of a rock, for Aristotle, is to be at the centre of the earth, hence their downward motion. But a rock, unlike an organism, cannot get itself to its *telos*; it needs something else, something external to set it in motion. What makes things natural, for Aristotle, is not having an internal efficient cause but an internal *final* cause of motion. Thus at *Physics* ii.2 he says that nature is an end for each thing (194a28-9) and six chapters later, at ii.8, equates both nature and ends with form (*morphê*). (*Phys*. 199a31-32)

Plants, non-human animals, and human beings are all natural. As such, each has a *telos* that is internal to it. The problem with plants being for the sake of animals is quite simply that animals are something external to plants, not just physically but conceptually distinct from them. A means-end relationship may, of course, obtain between two species. It does so every time a human being uses a non-human animal for, say, food and insofar as the animal is considered under the aspect of its being food, then it is intelligible enough, at least speaking loosely, to say that is for the sake of humans. However, the qualification "as if" is crucial: the trajectory from live animal to foodstuff is no part of its naturally occurring life-cycle: it is a non-essential end, imposed from without rather than arising immanently. The animal, whatever benefits humans may derive from it, cannot be said to be for the sake of humans in the strict sense. [24] This rules out, once again, Type 1 hierarchy. But

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[23] Sean Kelsey "Aristotle's Definition of Nature," *OSAP* 25 (2003): 59-87.
[24] As I argue at greater length in Ch. 5, especially I§2-3.

what about hierarchies of Types 2 and 3, the common-end and parallel-ends models? Can either of them account for a hierarchy of species?

In the common-end model (Type 2), a hierarchy obtains between two entities, x_1 and x_2, on the basis of their sharing a common *telos* and one of these entities coming closer to achieving that shared telos than the other. On the face of it, two species, cannot share a common end. Not, at least, if this end is to be equated with their nature(s), on account of precisely the same reasoning that seems to rule out Type 1 hierarchy. If x_1 and x_2 represent two separate species, then *y*, their common *telos*, would have to be external to at least one, if not both of them.

In the parallel ends model (Type 3), the problem of two species sharing a common *telos* is averted by the very structure of the hierarchy, in which the two *comparanda*, x_1 and x_2, are evaluated not according to how closely each comes to their *shared telos*, *y*, but based on a proportional difference in how close each comes to its own distinct telos. Type 3 hierarchy affords inter-species comparison, but not of the kind we are looking for. That is because, on this construal, it grounds the hierarchical ranking of tokens, not of types. If we grant that each species has a determinate *telos* which can be actualized by any one of its members more or less well, then I might take the further step of claiming that my cat is superior to your dog. But, relying solely on Type 3 hierarchy, this would not be to claim anything about the superiority of cats over dogs. Rather, I would be saying that my cat is a more perfect cat-specimen, comes closer to perfect realisation of cat-form, than your dog comes to the realisation of dog-form.

II§3

If each of these models seems to be problematic based on Aristotle's teleology, another closely related Aristotelian principle sits in tension with the very notion that one kind of being is superior to another. This principle is the species-specificity of goodness: the notion that the good

of each kind of being is distinct and *sui generis*. What is conducive to the flourishing of a human life may be irrelevant, or indeed counter, to that which is good for the life of a fish. The variation in what is conducive or beneficial to different creatures—in what is good *for* them—in turn reflects a more basic variation in the very meaning of what flourishing means for each one: what it means for their lives to go well.

This notion of variation is of a piece with one of Aristotle's famously "anti-Platonic" visions of goodness, articulated early in both the *Nicomachean* and *Eudemian Ethics*, where Aristotle breaks off from his discussion of the specific, human good in order to make some remarks on the metaphysics of goodness in general. Announcing that "it seems better—indeed necessary—to uproot one's attachments in order to save the truth, especially for philosophers," 1096a14-16) Aristotle then proceeds to launch a series of arguments against the Academic/Platonic account of goodness.

At the outset, this is a matter of inter-categorical variation. In less technical language, this means that the predicate "is good" means something different when applied to the various categories constitutive of Aristotelian ontology. This initial fracturing of goodness depends, then, on the argument, familiar both from the *Categories* and the *Metaphysics* (Books Γ and Z in particular) that "being is said in many ways." (*to on legetai pollachôs*) Being, Aristotle claims, means something different when used in different contexts: *is* (esti), means something distinct in the phrase "the apple *is* red" than it does in "the apple *is* 200 grams" and "the apple *is* in the kitchen." These different meanings of the copula reflect, Aristotle thinks, a deeper metaphysical structure: being itself is multiple, divided into a number of categories—quality, quantity, and place in the case of the apple, but usually adding up to a total of ten. The isomorphism of goodness and being seems to be assumed by both Aristotle and the Academic position against which he is

arguing: "since the good is said in as many ways (*isachôs*) as being ... it is clear it could not be something common, universal, and single. For it would not have been said in all the categories, but in one alone."[25] (*EN* i.7 1096a23-a29) The argument is also presented in slightly different wording, but with similar content and examples in *EE* i.8[26]

However, the argument from inter-categorial predication is not the only, or indeed crucial one in *EN* i.6/*EE* i.8 that bears on our understanding of teleology and hierarchy. More significant are the instances of *intra*-categorial non-univocity that follow slightly later. Aristotle explicitly argues for *intra*-categorial variation in the meaning of good by noting that there are different sciences (*epistêmai*) for different goods within a single category: "But really there are many sciences even of the goods within *one category*, for example [the science] of the right time in war is generalship but in disease is medicine…" (1096a30-32; emphasis mine) A few lines later, the emphasis on the difference between what "good" means when applied to different things of the same category – which would encompass different species – becomes clearer still:

> What sort of things should one assign as goods in themselves? Those which are pursued even on their own such as being wise, seeing, certain pleasures and some honours? For even if we pursue these on account of something else, nevertheless one would assign them amongst things which are good in themselves. Or is it nothing more than the Idea of the good [that is good in itself]? Then the Form will be useless (*mataion*). But if the former things are among the things which are good in themselves, it will be necessary that the account (*logos*) of the good be shown the same in each of them, just as the account of whiteness in snow and in white lead. But the accounts of honour and wisdom and pleasure are multiple and

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[25] ἐπεὶ τἀγαθὸν ἰσαχῶς λέγεται τῷ ὄντι … δῆλον ὡς οὐκ ἂν εἴη κοινόν τι καθόλου καὶ ἕν· οὐ γὰρ ἂν ἐλέγετ᾽ ἐν πάσαις ταῖς κατηγορίαις, ἀλλ᾽ ἐν μιᾷ μόνῃ.

[26] For the good is said in as many ways as being. For being, as has been clarified in other works, means on the one hand what a thing is, on the other quality, quantity, and time; and in addition to these it is both said to exist in being moved and in moving, and the good is said to exist in each of these cases: intelligence (*nous*) and god in substance, the moderate in quantity, the proper moment in time, and, concerning movement, the teacher and the taught. (*EE* i.8 1217b25-33)

πολλαχῶς γὰρ λέγεται καὶ ἰσαχῶς τῷ ὄντι τὸ ἀγαθόν. τό τε γὰρ ὄν, ὥσπερ ἐν ἄλλοις διῄρηται, σημαίνει τὸ μὲν τί ἐστί, τὸ δὲ ποιόν, τὸ δὲ ποσόν, τὸ δὲ πότε, καὶ πρὸς τούτοις τὸ μὲν ἐν τῷ κινεῖσθαι τὸ δὲ ἐν τῷ κινεῖν, καὶ τὸ ἀγαθὸν ἐν ἑκάστῃ τῶν πτώσεών ἐστι τούτων, ἐν οὐσίᾳ μὲν ὁ νοῦς καὶ ὁ θεός, ἐν δὲ τῷ ποιῷ τὸ δίκαιον, ἐν δὲ τῷ ποσῷ τὸ μέτριον, ἐν δὲ τῷ πότε ὁ καιρός, τὸ δὲ διδάσκον καὶ τὸ διδασκόμενον περὶ κίνησιν.

different in the respect which they are good. The good, then is not something common corresponding to a single idea.[27] (*EN* i.6 1096b14-26)

The goods that Aristotle mentions here all fall within the same category: honour, wisdom, and pleasure are all activities of living (more specifically of human) beings. The first stage in the argument takes the form of a dilemma against the Platonist: either (i) nothing is good except for the Form of the good itself or (ii) things are good in their own right, presumably, on the Platonist account, deriving their goodness from the Form. If (i), then the Form doesn't tell us anything about the nature of the other supposedly good things (it is *mataion* – useless). But, if (ii) and the various good things are good due to their participation in the Form of the good, then they will all have to have the same account of the good "as white is in snow and in lead." This case of whiteness is unambiguously one of a sameness in meaning between predications of a term of items within one and the same category.

II§4

Applying these principles to the cosmos, we can begin to raise doubts about statements that normally seem unproblematic. A claim of the sort that "dolphins are better than fleas" will normally pass without notice at the level of semantics: it is intelligible, even if we disagree about the content. We seem to make evaluative interspecies comparisons all the time, seemingly without running into problems of having our very *meaning* understood. But following the arguments of *EN* i.6 and insisting that "good" *means* something different *intra*categorially, between its application to distinct species, this ease of communication will begin to slip away. For, if two entities are said

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[27] καθ᾽ αὑτὰ δὲ ποῖα θείη τις ἄν; ἢ ὅσα καὶ μονούμενα διώκεται, οἷον τὸ φρονεῖν καὶ ὁρᾶν καὶ ἡδοναί τινες καὶ τιμαί; ταῦτα γὰρ εἰ καὶ δι᾽ ἄλλο τι διώκομεν, ὅμως τῶν καθ᾽ αὑτὰ ἀγαθῶν θείη τις ἄν. ἢ οὐδ᾽ ἄλλο οὐδὲν πλὴν τῆς ἰδέας; ὥστε μάταιον ἔσται τὸ εἶδος. εἰ δὲ καὶ ταῦτ᾽ ἐστὶ τῶν καθ᾽ αὑτά, τὸν τἀγαθοῦ λόγον ἐν ἅπασιν αὐτοῖς τὸν αὐτὸν ἐμφαίνεσθαι δεήσει, καθάπερ ἐν χιόνι καὶ ψιμυθίῳ τὸν τῆς λευκότητος. τιμῆς δὲ καὶ φρονήσεως καὶ ἡδονῆς ἕτεροι καὶ διαφέροντες οἱ λόγοι ταύτῃ ᾗ ἀγαθά. οὐκ ἔστιν ἄρα τὸ ἀγαθὸν κοινόν τι κατὰ μίαν ἰδέαν.

to be "good" in two different ways – if "good" means something different when predicated of each of them, how can they be compared?

What can it mean, indeed, to compare two very different things? A "good life" for a flea—latching onto an abundant source of mammalian blood, avoiding anti-tick treatments—is utterly different than that of a dolphin—swimming and catching fish, but also playing, socialising, and recreational sex. Given this radical dissimilarity, how can it make sense for us to say that one of these species is any better than the other? It may be that humans would prefer one life to another, assuming, for the moment at least, that such a preference even makes sense.[28] But why think that this expresses anything other than our own human preferences grounded, at best if at all, in degrees of commonality and difference between our way of life as human beings and those of other species.

This notion of difference in meaning can be made more precise. In contemporary terms, humans and ants lack what Ruth Chang usefully terms a "covering value," a common predicate in terms of which they can be compared. At the verbal level humans and ants might be good, but the very meaning of the term "good" is different in each case and thus bars comparison. This appears, indeed, to fit neatly with another formulation of Chang's principle that would seemingly be endorsed by Aristotle: that comparison requires not only one single term, but that this term be *synonymous* between its applications to each of the comparanda. (*Top*. i.15, 107b13–17, *Phys* vii.4, 248b6ff.) Or, as Christopher Shields puts it, "Aristotle introduces synonymy as a condition for commensurability."[29]

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[28] Pace Martha Nussbaum, "Aristotle on Human Nature and the Foundations of Ethics," in *World, Mind, and Ethics: Essays on the Ethical Philosophy of Bernard Williams*, eds. J.E.J. Altham and Ross Harrison, 86-131 (Cambridge: Cambridge University Press, 1995).

[29] Christopher Shields, "Fractured Goodness: the Summum Bonum in Aristotle," in *The Highest Good in Aristotle and Kant*, eds. Rolf Bader and Joachim Aufderheide (Oxford: Oxford University Press), 103. Shields uses "commensurable" equivalently to "comparable." However, I keep these distinct. For the rationale for doing so, see Ch. 2, I§1.

III. A surprising turn

III§1

Echoes of both *PA* i.5 and of *EN* i.6 are to be heard in *EN* vi.7, where Aristotle argues for

the primacy of (theoretical) wisdom (*sophia*) over political or practical wisdom (*politikê* or

phronêsis)[30] on precisely the grounds of inter-species variation in goodness.

Here, *phronêsis* is understood as the account of what is useful (*ta ôphelima*, 1141a30),

beneficial (*ta sumpheronta*, 1141b5) or good (*agathon*, 1141a31) *for* some subject. Aristotle

further emphasises practical wisdom's link to a specific life in calling it "the power of foresight

concerning one's *own life*." (1141a27-8) If practical wisdom were all there was to wisdom *tout*

court, this would entail a fracturing of wisdom, since what is good, useful, and beneficial for the

life of each species—e.g. humans and fish (1141a23)—is distinct, in contrast to, for example,

whiteness, which is "always the same." (*tauton aei*, 1141a23-4)

He then considers the objection that the specific form of practical wisdom dedicated to

pursuing the *human* good—political wisdom (*politikê*)—may indeed be the best form of cognition,

on the hypothesis that humans are the best kind of animal. (1141a34) His answer to this line of

reasoning, however, is surprising: it is to assert that there are "things much more divine in their

nature than humans" (*anthrôpou polu theiotera tên phusin*) namely "that out of which the heavens

(*ho kosmos*) are constructed." (1141a35-b2)[31] We shall focus on the special role of the heavens in

Aristotle's ranking of beings (Ch. 4), but for now the important aspect is the very fact that Aristotle

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[30] These two terms are used equivalently in this context, i.e. "or" (*tên politikê ê tên phronêsis*, 1141a20) is to be read inclusively here.

[31] One might object that Aristotle here says that the heavens are *more divine* (*theioteron*), rather than *better* (*beltion*) than human beings. The rest of the passage, however, makes clear that in the present context, the two terms, along with *spoudaios* and its comparative and superlative degrees, are being used equivalently. At the opening of the passage, Aristotle provides a one-line summary of the argument as follows: "It would be strange for one to suppose that political or practical wisdom (*tên politikên ê tên phronêsin*) were the most excellent (*spoudaiotatên*), since human beings are not the best (*ariston*) kind of thing in the universe." (1141a20-22).

seems to be ranking beings at all in just the same context in which he has been insisting on the variation between what good means in each case.

How can this be? To what form of hierarchy is Aristotle referring here? Recall that he says that humans are "not the best" in the universe, but goes on to give this negative statement—itself logically compatible, strictly speaking, with the complete absence of any ranking—positive content with the notion of the superiority of the heavens. *EN* vi.7 sets the terms for the present inquiry: to provide an account of goodness that is compatible both with (1) heterogeneity—the way in which each species' good is distinct—and (2) ranking—the notion that some species can legitimately said to be better than others.

III§2

We have also raised worries about the very notion of comparing the goods of different beings, since each of these *means* something different. As opposed to the case against the specific forms of hierarchy, which focused on Aristotle's account of final causation in particular, this semantic strategy targets the very notion of ranking. And yet, despite Aristotle's commitment to the notion that "good" means something different in different species, he also insists on ranking them in terms of goodness.

A remark made toward the end of *EN* i.6 may begin to shed light on a solution to this puzzle. There, Aristotle writes that "good does not seem like those chance homonyms. Are things rather said to be good by being from one thing (*aph' hen einai*) or by being directed toward one thing or rather (*mallon*) by analogy?" (1096b26-8) Can either of these two suggestions help us?

(a) Analogy

One of these has already been ruled out, in the case against Type 3 hierarchy. Analogy (*analogia*), which Aristotle suggests is the weakest form of unity (*Meta. Δ*6, 1016b31-17a2), is

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narrowly defined as a four-place relation or a relation between a *pair* of two-place relations: "As this thing is in this thing or related to this thing, so that thing is in or is related to that thing." (*Meta*. Θ.6 1048b8) This describes, in formal terms, the structure of the parallel-ends (Type 3) model. Even if there is no meaningful connection between their different accounts of goodness, things can be compared against others insofar as they each realise, more or less well, their own specific excellence. This cat is better than that dog insofar as it comes closer to realising its species' good than the dog does to its. However, this tells us nothing about the comparative goodness of the *species*, which is what is in question. So, analogy cannot solve the puzzle. (See Appendix B)

(b) From and to one thing (aph' henos kai pros hen)

In addition to being unified analogically, Aristotle suggests that two things that are called "good" in different ways may nonetheless be unified insofar as there is a single common "source" (*aph' henos*) for their distinct meanings or, to use a slightly different metaphor, that each of their distinct meanings points "toward" a single common point (*pros hen*).[32]

This notion of the *pros hen legomenon*—called, in modern scholarship "focal meaning" and "core-dependent homonymy"—is Aristotle's key move for retrieving a unity in the similarly fractured field of being. As we have seen (II§3 supra), just as "good" has multiple senses, so to, Aristotle thinks, does the verb "to be" (*einai*) when it is used in different sorts of predication. But though Aristotle insists each application of "to be" means something different in each, he also does not want to give up unity altogether. Instead, he posits that the different senses of "to be" are all related to a single primary sense, that of being a substance. "John is handsome" (quality) and "John

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[32] *aph' henos*—otherwise unattested—and *pros hen* are equivalent. See a thorough argument for this in Joseph Owens, *The Doctrine of Being in the Aristotelian Metaphysics* (Toronto: Pontifical Institute of Mediaeval Studies, 1962), 117-8; cf. Michael T. Ferejohn, "Aristotle on Focal Meaning and the Unity of Science," *Phronesis* 25, no. 2 (1980): 119.

is in the kitchen" (place) are both modifications of the more basic meaning of "is" in the phrase "John is a man."

Aristotle does not, frustratingly, explain how an similar *pros hen* structure might work in the case of "good": just after his suggestions for unifying goodness by analogy or via a *pros hen* structure, he breaks off from pursuing the discussion "for now" (*to nun*), on the grounds that "precision about these questions is more appropriate for another area of philosophy." (1096b30-1) Since Aristotle never does, in fact, pick the discussion back up, we will therefore need to assemble a number of relevant texts from across the corpus in order to fully reconstruct an account of the way in which good has an analogous *pros hen* structure to being. (This will occupy the next chapter of the dissertation.) Even before doing so, however, we can observe a very general resemblance between Type 2 hierarchy and a *pros hen* structure. Recall that Type 2, or the "common end" model, ranks two (or more) entities on the basis of how close each of them comes to some third thing, an independent *telos* that serves as a standard of goodness on the basis of which they can be ranked. Or, in other words, they are both oriented toward one single thing—a good that grounds each of their goodness?

III§3

However, we also saw that there were serious problems with Type 2 hierarchy: it seems to conflict with the distinct species-specificity of Aristotelian teleology, in which the final cause is equated with the nature of each species understood as an internal principle of change. (II§2 above) In other words: Type 2 hierarchy requires an external *telos*. This would, in turn, require a significant reorganisation of the way scholars have understood Aristotelian teleology to work. I provide just such a reworking of basic teleological notions in Chapter 3, focusing on the way in which the prime mover is a universal *higher-order telos* that cannot be associated with the nature

of any of the substances which are for its sake, and which unifies the sense in which each species'

sui generis form is good.

First however, we must attend to the more basic, formal issue, which will help make precise the way in which "good" has a *pros hen* structure. For in addition to requiring a revision of how we understand Aristotelian teleology, an Aristotelian hierarchy would also seem to conflict with the semantic principle that comparability itself requires synonymy, or non-variation in meaning. The following chapter will confront this head on. I shall argue that Aristotle does not, in fact, introduce synonymy as a requirement for comparison. Rather, he requires that the term being used to compare items not be *homonymous* in its application to each of these items. Aristotle, I argue, draws a distinction between synonymy and homonymy that is *non-exhaustive*: between these two extremes, he allows for a middle category of predicates that are said neither synonymously (their meaning is not precisely the same in each instance) nor homonymously (their meaning is not *entirely* different). Importantly, he carves out this *tertium quid* precisely in order to account for the category of the *pros hen legomena*.

Showing in purely general terms that synonymy is *not,* in fact, required for comparability is a first step toward solving the puzzle with which we find ourselves confronted (Ch. 2). Once we have accomplished this, the task to follow will be different: namely to show not only that comparison between non-synonymous instances of a term is *possible*, but that the case of Aristotle's cosmos meets these requirements (Chs. 3-4).

Appendices: Goods, ends, and analogy

There are also, however, two issues that are somewhat orthogonal to the main line of argument in this Chapter, but which are nevertheless worth pausing to attend to:

(1) First, in order to motivate an *Aristotelian* case against inter-species comparison, I have relied on the equation Aristotle makes between goods and ends. This is one of the central notions of Aristotle's axiology, but how precisely to construe the equation is controversial and therefore worth clarifying.

(2) Second, I showed that the Type 3, or parallel ends, model of hierarchy generates only analogical comparisons of tokens, whereas Aristotle's practice, and the source of the philosophical tension, is to compare types. However, analogy is not only inappropriate for this specific task, but is also inadequate on its own for producing rank-ordering *in general*.

Appendix A: Goods and ends

Within the Aristotelian framework with which we are working, the insistence on *goodness* is inextricably bound up with teleology, with the notion of one thing being *for the sake of* another. Aristotle's equation of goods and ends is well known, and in order to understand how the goodness of different beings can be compared, we must understand the way in which evaluation in general is teleologically structured. Throughout the corpus, Aristotle deploys a consistent equation between ends and the good, *to telos kai tagathon*,[33] as well as related terms like *better* and *fine/noble (kalon)* on the side of evaluation and *that for the sake of which (to hou heneka)* and *teleion (perfect*, or, more literally, "end-like") on the teleological side. What, then, is the conjunction of these terms doing?

In an important paper, Allan Gotthelf forcefully argued against the notion that teleology always involves an independent notion of the good, suggesting instead that it is a purely value-

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[33] *Meta*. A.3, 983a31; cf. *Meta*. A.2, 982b4-5, *Phys* ii.2, 194a33, *Phys*. ii.3, 195a25, *Somn*. 455b16, *PA* 639b19, *GA* 717a16; *EE* 1218b9; *PA* 687a16; *Pol*., 1252b34-1253a1, *IA* 704b17 and 708a9.

neutral affair and that we can understand what it is for something to be an end without any reference to its goodness.[34] In support of his view, he points to texts like the first book of the *Nicomachean Ethics*, in which Aristotle appears to define goodness in terms of being an end: to be good is either to be an end or to stand in an appropriate relationship to such an end. First, he tells us, all human actions "aim at some good," and consequently "*the* good, has rightly been declared (*apephênanto*) that at which all things aim." (*EN* i.1, 1094a1-3)

Slightly later, he infers that *if* there is some end of human action undertaken solely for its own sake, *then* this would be "the good and the best" (*tagathon kai ariston*). (i.2, 1094a18-22) On their own, these two passages say that the good and the ultimate end of human action are co-extensive (as Gotthelf acknowledges),[35] but are silent on the question of which is more fundamental, that is, which is definitive of the other. It is later, in *EN* i.7, the famous "function argument," that Gotthelf's argument gains more traction: for here Aristotle suggests attending to the *ergon* of human beings as a means of getting a clearer sense of what their good—at this point associated with *eudaimonia*—consists in, on the basis that "the good and the well (*tagathon kai to eu*) seem to be in the function. If, Gotthelf suggests, Aristotle is using prior knowledge of the human *function* in order to determine the human *good*, and functions are understood as equivalent to ends, then this is grounds for thinking that the good is, indeed, derivative of ends and that ends

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[34] Pace John Cooper, "Aristotle on Natural Teleology," in *Language and Logos*, eds. Malcolm Schofield and Martha Nussbaum, 197-222 (Cambridge: Cambridge University Press, 1982); Charles Kahn, "The Place of the Prime Mover in Aristotle's Teleology," in *Aristotle on Nature and Living Things: Presented to David Balme on His Seventieth Birthday,* ed. Allan Gotthelf, 183-205 (Pittsburgh: Mathesis, 1985),; Susan Sauvé Meyer, "Aristotle, Teleology, and Reduction," *The Philosophical Review* 101 (1992): 791-825; Monte R. Johnson, *Aristotle on Teleology* (Oxford: Oxford University Press, 2005); cf. Mark Bedau, "Where's the Good in Teleology?" *Philosophy and Phenomenological Research* 52, no. 4 (1992): 781-806 for a contemporary defence of normativity in teleological explanation.
[35] Allan Gotthelf, "The Place of the Good in Aristotle's Natural Teleology" in *Teleology, First Principles, and Scientific Method in Aristotle's Biology*. (Oxford: Oxford University Press, 2012 [1988]), 47.

can be understood without any reference to normativity, while an account of normativity must refer to ends.[36]

I cannot delve fully into Gotthelf's alternative account of teleology, which he develops out of a reading of the biological works, but the *prima facie* motivation for his view which he locates in the *EN* is itself implausible. For even in the function argument passage, Aristotle makes no reference to the claim that functions are definitive of—or indeed prior to or more fundamental than —goods. In the key phrase "the good seems to be in the function" (*en tôi ergôi dokei tagathon einai kai to eu*, 1097b26-8), the preposition "in" need not be read as carrying the technical connotations of inherence or priority.

However, Gotthelf is surely correct when he says that Aristotle cannot both (a) define goodness in terms of ends and (b) do the opposite, i.e. cannot make goodness definitive for what it means to be an end. The rest of his case for (a) over (b) is primarily negative: demonstrating that one can give an account of what an end is without any reference to goodness, on the basis of a reading of Aristotle's practice of teleological explanation in the biology.

However, there are also passages that seem, on the contrary, to operate in precisely the opposite way as *EN* i.7. For example, at *Phys*. ii.2, Aristotle anticipates an objection that his notion of final causation would allow for any sort of stopping-point to count as an end by noting that "it isn't everything last that tends to be an end, but rather the best" and, for good measure, mocking Euripides, who, because all ends are end-points, "was led to say absurdly that 'He achieves the end for the sake of which he was born'." (*Phys*. ii.2 194a27-33)

However, a mirror-image of the above reply to Gotthelf's reading of *EN* i.7 holds here. Whether something is good or not may be useful in our evaluating whether it is a genuine end or

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[36] Ibid., 49-50.

not, but this need not be the case because it is definitive of final causality as such. The term "criterion" can be used in two senses. First, as denoting (part of) a definition, which is prior to and explanatory of, that which is defined. In this sense, it would be indeed true that *A* cannot be the criterion for *B* if *B* is the criterion for *A,* and vice versa. However, we can also talk of criteria as relative to our own purposes of inquiry. In this sense, a criterion is not a metaphysical, but purely epistemic notion: "*A* is a criterion for *B*" denotes the simple material conditional "if *A, B*." That is, it allows one to infer *A* from *B*. In this sense, two terms can serve as criteria for one another without falling into vicious circularity.[37]

This accounts for Aristotle's practice of both using the presence of ends to determine what is good as well as the reverse. In domains where the relevant function or end is clear (as in *EN* i.7) but the good is not, then it is legitimate to use the former to determine the latter, but this also holds the other direction (as in *Phys* ii.2): when we know what is good, but are not sure what the end is, we can draw an inference in the other direction. All that is required is the acknowledgment that, on the one hand, all ends are good and that, on the one hand, the good is teleologically structured. Gotthelf ends up accounting for this biconditional structure by positing that both being good and being a *telos* are derivative from a more basic notion of pure actuality. And while I think that Gotthelf's case does not adequately account for Aristotle's claim in *Metaphysics* A 7 (988b6-15; cf. 986b6-7) that the good is a final cause *per se*, and not just accidentally,[38] the precise relation between goodness and teleology is not itself what is at issue in this chapter. Rather, it is the truth of the biconditional relation linking them that is essential.

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[37] Mark Bedau, defending a similar account of teleology in contemporary biology that involves a co-extension between values and ends, helpfully compares this procedure to the Rawlsian method of reflective equilibrium in "Where's the Good in Teleology," 793.

[38] Gotthelf acknowledges that this passage is frequently cited by defendants of the traditional view but does not address how his view accounts for it.

Appendix B: Analogy

I suggested above that there is an inadequacy inherent for natural hierarchy in analogical comparisons between individuals. This is all that is licensed under the Type 3, parallel ends model. However, there is also a stronger claim to be made, namely that analogical comparison between two individuals itself presupposes the comparability of their kind-specific ends.[39]

Analogy (*analogia*), which Aristotle suggests is the weakest form of unity, (*Meta*. Δ6, 1016b31-17a2) is narrowly defined as a four-place relation or a relation between a *pair* of two-place relations: "As this thing is in this thing or related to this thing, so that thing is in or is related to that thing." (*Meta*. Θ.6 1048b8) The conventional way of notating analogies *a : b :: c : d*, represents the claim that there is some relation *R,* such that *a* stands in relation *R* to *b* and *c* to *d*. That is, *aRb & cRd*. However, this schematic notation obscures the fact that the relation, *R*, must be different in the two instances, if analogy is to count as a genuine instance of non-synonymy. At *EN* i.6, Aristotle gives as an example of an analogy the relation of sight in the body to reason (*nous*) in the mind. (1096b9; cf. *DA* ii.1 412b18) Other examples of analogical pairs are *bone : land-animals :: spine : fish* and *feather : bird :: scale : fish*. (*HA* 486b18)

Analogy, then, tells us that two pairs of things are unified by a common relation. Why then, does Aristotle suggest in the *Ethics* that analogy might be an alternative way to account for the unity of goodness, in addition to treating "good" as a *pros hen legomenon*? The way in which

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[39] Aristotle also writes in the *Ethics* that goodness was said more so (*mallon*) by analogy than *pros hen*. I wish to make two remarks on this point. Even two unrelated entities can be called good analogically, whereas for good to be *pros hen legomenon* across more than one instance, there must be actual causal relations underlying them. This greater inclusiveness of analogy perhaps explains why it might at least seem to the more plausible form of unity. But the second and more important point is that the alternative accounts of how goodness is spoken of are posed in the form of a question, not a definitive answer. The force of *mallon*, then, may be simply to mark off an alternative line of inquiry for a common account of goodness, in addition to its being said *pros hen*, without any commitment to this alternative being the correct one.

analogy provides unity for goodness is the following. Given the teleological presuppositions of Aristotle's normative theory, all good things are good insofar as they exhibit the relevant excellence of their kind. And, even if there is no meaningful connection between these different accounts of goodness, things can be compared against others insofar as they each realise, more or less well, their own specific excellence. This cat is better than that dog insofar as it comes closer to realising its species' good than the dog does to its. This does not seem to require any overlap, let along ranking, between the different ways in which these two species themselves are good.

However, in addition to this, in a passage from the *Politics* in which Aristotle also makes the much stronger argument that analogical comparison of individuals is *incompatible* with the comparison of their distinct ends. And, what is more, he opts in favour of the comparison of ends, rather than particular things. Given analogical reasoning, Aristotle says, "all goods would be comparable with all others." For, he tells us,

> If this person were taller than this person was virtuous, even if virtue were altogether better than height, all things would be comparable. For if some amount is greater than some other amount, then clearly some other amount must be equal. But since this is impossible, clearly it is reasonable (*eulogôs*) that people do not dispute offices on the basis of any and all inequalities. (*Pol*. iii.12, 1283a3-14)

The argument that Aristotle is making here takes as its crucial premise the idea that if one thing is more F than another is G then in principle, they also ought to be able to be precisely equal: one thing is just as F as the other is G. If I am taller than you are virtuous, then it must also be possible for me to be just as tall as you are virtuous. It is this premise concerning equality that Aristotle uses to argue against analogical comparison.

In the case of height and virtue, part of the (rhetorical) force of this point lies in a sense that something is simply confused about saying that person a is as tall as person b is virtuous. But there is also a more technical point, which is that if F is better than G as a kind, as Aristotle seems

to hold, then no instance of *G* can be equal to an instance of *F*. A moderately tall person will not be equally good as moderately virtuous one, but inferior to them, all other things being equal. Analogical comparison of individuals (but not general comparison of types) entails the conceivability of their equality. Aristotle argues against analogical comparison by denying the consequent, by denying the possibility of equality. It is mistaken, Aristotle suggests, to consider that I may be as tall as you are virtuous. And this denial, in turn, is argued for on the basis of a (non-analogical) comparison of ends. The crucial insight here is that Aristotle's argument against the analogical comparability of individuals *presupposes* the genuine comparability of ends of different sorts. [40]

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[40] None of this this means that analogy might not be a useful device in scientific inquiry and exposition; this is how Aristotle makes use of analogical reasoning in his natural scientific treatises, especially *Parts* and *History of Animals*. For accounts of Aristotle on analogy see Mary Hesse, "Aristotle's Logic of Analogy," *The Philosophical Quarterly* 15, no. 61 (1965): 328-340; T.M. Olshewsky, "Aristotle's Use of 'Analogia," *Apeiron* 2, no. 2 (1968): 1-10; Christoph Rapp, "Ähnlichkeit, Analogie und Homonymie bei Aristoteles," *Zeitschrift für Philosophie* 46, no. 4, (1992): 526-544; G.E.R. Lloyd, "The Unity of Analogy," in *Aristotelian Explorations* (Cambridge: Cambridge University Press, 1999), 138-159.

Few human creatures would consent to be changed into any of the lower animals, for a promise of the fullest allowance of a beast's pleasures... It is better to be a human being dissatisfied than a pig satisfied; better to be Socrates dissatisfied than a fool satisfied. And if the fool, or the pig, is of a different opinion, it is because they only know their own side of the equation. The other party to the comparison knows both sides.[41]

J.S. Mill, *Utilitarianism*

Ch. 2: Ways of goodness: Aristotle on comparability

§0

Aristotle, as we have seen, is famous for holding that goodness is *sui generis*, that it means something different for each species to be good: a good life for a human being is qualitatively different than a good life for a fish. When Aristotle uses the notion of natural goodness to give a teleological explanation of why creatures are the way they are and do the things they do, he adds, as we saw in Ch. II§8, that this notion of goodness is not *absolute, but in relation to the substance of each thing.*[42] (*Phys.* ii.7, 198b9) In other words, each natural kind has a different account, or *logos,* of goodness: the good of fish is different from that of human beings. (*EN* vi.7, 1141a22) As a result of this indexing of goodness to individual kinds, Aristotle is thought to rule out the possibility of comparing or ranking kinds. Such a reading of Aristotle's account of natural goodness is shared both by many scholars of ancient philosophy as well as by so-called neo-Aristotelian naturalists.[43]

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[41] John Stuart Mill, *Complete Works*, vol. X, *Essays on Ethics, Religion and Society*. J.M. Robson, ed. (Toronto: University of Toronto Press, 1969), 211-12.

[42] διότι βέλτιον οὕτως, οὐχ ἁπλῶς, ἀλλὰ τὸ πρὸς τὴν ἑκάστου οὐσίαν.
This is what Lindsay Judson calls Aristotle's "teleological axiom" in his "Aristotelian Teleology," *OSAP* 29 (2005): 359. It is also cited as crucial to understanding teleological explanation in David Balme, *Aristotle's* De Partibus Animalium I *and* De Generatione Animalium I (Oxford: Oxford University Press, 1972), 96 and James Lennox, *Aristotle*: *On the* Parts of Animals (Oxford: Oxford University Press, 2001), 341.

[43] For scholars of ancient philosophy see e.g Alan Gotthelf, "The Place of the Good in Aristotle's Natural Teleology," *Proceedings of the Boston Area Colloquium in Ancient Philosophy* 4 (1988): 113-39; Martha C. Nussbaum, "Aristotle on Human Nature and the Foundations of Ethics," in *World, Mind, and Ethics: Essays on the*

There is a general principle that underlies the position that such comparisons are illegitimate given a species-specific account of goodness: in order to compare the value of two things, each must exhibit the same, gradable value property in terms of which the comparison can be made. That is, comparison of two things as more and less *F* is possible only in respect of some property *F* belonging to each of the items under comparison. Such a seemingly unproblematic principle suggests in addition that there can be no ambiguity in *F* when we judge one thing as being more *F* than another. The two instances of the term must be synonymous. So in addition to holding that goodness is species-specific, Aristotle is thought explicitly to adopt such a principle and to make the inference from comparability to synonymy. Or, as we saw Christopher Shields put it: "Aristotle introduces synonymy as a condition for commensurability."[44]

Ethical Philosophy of Bernard Williams, eds. J. E. J. Altham and Ross Harrison, 86-131 (Cambridge: Cambridge University Press, 1995); Catherine Osborne, *Dumb Beasts and Dead Philosophers: Humanity and the Humane in Ancient Philosophy and Literature*, (Oxford: Clarendon Press, 2007); Christopher Shields, "Fractured Goodness: the Summum Bonum in Aristotle," in *The Highest Good in Aristotle and Kant*, eds. Ralf Bader and Joachim Aufderheide (Oxford: Oxford University Press, 2015)

For neo-Aristotelian virtue ethicists see e.g. Peter Geach, "Good and Evil," *Analysis* 17, no. 2 (1956): 33-42; Rosalind Hursthouse, *On Virtue Ethics*, (Oxford: Clarendon Press, 1991); Philippa Foot, *Natural Goodness* (Oxford: Oxford University Press, 2001); Michael Thompson, *Life and Action* (Cambridge, MA: Harvard University Press, 2008).

[44] Shields, "Fractured Goodness," 103. Like many contemporary philosophers, Shields uses "commensurability" interchangeably with "comparability." I speak throughout of *comparable* rather than *commensurable*, however. I understand comparison to involve any ordering and commensuration to require cardinal values, that is, the possibility of quantifying the precise degree to which each term being compared possesses a common property. Contemporary writers often use the term incommensurable to denote the impossibility of comparison or ranking in general, but Aristotle's Greek has both words: his *sumblêtos* denotes the possibility of comparison generally, while *summetros* is used for the more mathematically precise sense of commensurability. Keeping these separate is important, since two items can be incommensurable while still comparable. By Aristotle's lifetime the existence of irrational numbers was well-known and was a paradigm of incommensurability. The Pythagoreans had shown that the ratio of the length of a square to the length of its diagonal cannot be expressed as a pair of whole integers: there is no common unit of measure. But this did not cast doubt as to whether the length of the diagonal, $\sqrt{2}$, was greater than that of the side, 1. The diagonal and the side are *comparable* but not *incommensurable*. The possibility of comparison between incommensurables is not itself sufficient for showing that comparability does not require synonymy. The sides and diagonal of a square lack a common unit, but the account of "length" that applies to each of them does not differ: the diagonal is longer than the side *and* both are long in just the same way. The question that this paper sets out to answer is whether comparability can ever be possible in cases where the comparative term applies to two or more subjects in *different* ways. I thus focus exclusively on passages whether Aristotle talks about *sumblêtos*, not *summetros*.

And yet, at the same time, we have also already seen how Aristotle repeatedly makes precisely such comparisons between the value of different sorts of being, even as he claims their goods differ. That is, he ranks natural kinds. In addition to the passages – *PA* i.5 and *EN* vi.7 – discussed in the previous chapter, at *De Caelo* ii.12, Aristotle ranks classes of species (*genera*) on the basis of their characteristic forms of activity. The picture here is explicitly of a ranking: the fixed stars are better than the wandering planets, which are better than humans, which are superior to non-human animals, which are in turn higher than plants. Inorganic elements, finally, round out the bottom of the list.[45]

According to the principle that comparison requires a synonymously predicated value in terms of which two entities can be compared, such a ranking is baseless. However, on closer inspection, matters are more complicated – for Aristotle and for us. This chapter's main aim is to show Aristotle does not, in fact, hold that comparison requires synonymy and therefore that it is open for to hold at once that goodness is species-specific and that there is a ranking of species in terms of their goodness.

Little systematic effort has been put into resolving this apparent tension in Aristotle's natural philosophy, and even less through considering the semantics of comparison.[46] Moreover, discussion of Aristotle's account of comparability is itself in short supply. Though Aristotle's theory of non-accidental non-synonymy – the *pros hen legomena* – is one of the most studied and celebrated features of his thinking, the attention paid to it has not typically extended to the connection between non-synonymy and comparison. This connection, however, is crucial. Though it is indisputable that he makes the assertion that comparison requires synonymy, he does so in a

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[45] Ch. 4 is devoted to a close reading and explication of this passage. See also Christoph Rapp, "Aristotle on the Cosmic Game of Dice: A Conundrum in *De Caelo* ii.12," *Rhizomata* 2, no. 2 (2014): 161-186.

[46] Monte Johnson, in his survey of Arisotle's teleology, makes passing mention of this possible line of inquiry in *Aristotle on Teleology* (Oxford: Clarendon Press, 2005), 279.

context in which he is discussing only *accidentally* non-synonymous terms. In other texts – in which he discusses *non*-accidental non-synonymous predication — the principle that comparison requires synonymy is notably absent. And, in addition to this negative finding, there is a passage from the fragmentary *Protrepticus* in which Aristotle *explicitly* endorses the possibility of comparison between instances of non-synonymous terms, whose differing meanings nevertheless enjoy a principled connection.

As we have seen, in addition to the *pros hen legomena*, Aristotle also suggests at one point that the unity and comparability of the various senses of "good" might be reached "by analogy." (*EN* i.6 1096b13) In fact, however, as I argued in the previous chapter, all analogy can provide is a comparison between individuals of different kinds, rather than of kinds themselves: through analogical reasoning, we can show for example that this cat comes closer to its species-specific good (cat-goodness) than that dog does to its different good. However, this does not speak to the question of whether these goods themselves are comparable, or whether species, rather than individuals, can be ranked in terms of goodness.

I. Homonymy, non-synonymy, and comparability

I§1

In the *Topics*, Aristotle provides a number of tests for identifying homonymy, which is taken to be either co-extensive with, or a particularly prominent kind of non-synonymy (which of these it is will demand our direct attention shortly). In particular, he claims that if two instances of a term cannot be compared, then the term is being used homonymously:

> Further, [terms are homonymous] if they are not comparable insofar as one is more [or less] than the other or as they are similar, for example a bright voice and a bright garment or a sharp taste and sharp sound. For these [the items in each pair] are not said to be similarly bright or sharp, nor is one more than the other. Therefore, bright and sharp are

homonyms. For every synonym is comparable. For either they [synonymous items] will be said similarly or one more than the other. (*Top*. i.15, 107b13-18)[47]

Aristotle's examples here are remarkably clear.[48] Which is sharper, three-year-old cheddar or F♯? The question is absurd. It is important to note, however, that this is not because it is inappropriate as such to compare these entities. We compare very different things all the time. It may, for example, be intelligible to claim that F♯ is more *something* than old cheddar – more pleasurable for a lactose-intolerant musician, say. The insistence on reference to a covering-value is not just pedantry, but allows us to see the force of Aristotle's examples: if two items, *a* and *b,* are both said to be *F,* but cannot be compared in terms of a covering-value, *F*, then it is *F* that is homonymous with respect to *a* and *b*.

The *Topics* is a practical handbook of applied logic that compiles argumentative and rhetorical techniques. In this section, Aristotle is concerned with giving his audience methods for determining when a term is being used homonymously so as to refute opponents making fallacious inferences. He is interested, accordingly, with the phenomenon of comparability only insofar as it bears upon this question. Incomparability is held to be sufficient for homonymy; that is, any case of incomparability provides grounds for the judgement that homonymy obtains. Aristotle does not, however, state the converse principle here – that homonymy entails, or is sufficient for, incomparability, as some commentators have suggested.[49] In fact, even if *homonymy* were to entail incomparability, this is not grounds for supposing that any case of *non-synonymy* must entail

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[47] Ἔτι εἰ μὴ συμβλητὰ κατὰ τὸ μᾶλλον ἢ ὁμοίως, οἷον λευκὴ φωνὴ καὶ λευκὸν ἱμάτιον, καὶ ὀξὺς χυμὸς καὶ ὀξεῖα φωνή· ταῦτα γὰρ οὔθ' ὁμοίως λέγεται λευκὰ ἢ ὀξέα, οὔτε μᾶλλον θάτερον. ὥσθ' ὁμώνυμον τὸ λευκὸν καὶ τὸ ὀξύ. τὸ γὰρ συνώνυμον πᾶν συμβλητόν· ἢ γὰρ ὁμοίως ῥηθήσεται ἢ μᾶλλον θάτερον.
[48] These examples may however require some slight modification to translate their force fully into English – e.g. the literal meaning of the first example is that "voice" and "cloak" are both called "white."
[49] Shields, "Fractured Goodness," 103.

incomparability: for Aristotle says nothing in the *Topics* about whether homonymy exhausts the field of non-synonymy.

I§2

      The second text that has led readers claim that Aristotle makes synonymy a requirements for comparisons is from the seventh book of his *Physics*. *Physics* vii.4 is concerned with the comparability of changes of different sorts. It is not altogether clear what "comparison of changes" entails in full, but a simple example would be to ask whether it could be intelligible to claim that one thing has grown more than another thing has moved from one place to another. [50] Aristotle opens the chapter by asking "whether every change is comparable (*sumblêtê*) with every other, or not" (vii.4, 248a10). His answer, ultimately, seems to be negative, though the chapter is highly compressed and aporetic, so definitive answers are hard to come by. Robert Wardy characterises the stretch of text as containing "Aristotle's thorny, inconclusive, and obscure musings on comparability."[51] Nevertheless, it also contains at least one relatively clear passage that speaks to the question of comparability in general:

> Neither are changes [*kinêseis*] <comparable>; rather, **whatever things are not synonymous, all those are incomparable**. For example, why isn't a pencil or wine or the highest note in a scale sharper <than the others>? Because they are homonyms, they are not comparable. (vii.4, 248b6-9; emphasis mine)[52]

Here, unlike the *Topics* passage, the inference is from non-synonymy to incomparability. Moreover, Aristotle speaks here both of non-synonymy and homonymy: a few lines later, after giving the example of wine, a high note, and a pencil, which are all called sharp, but none of which

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[50] See Robert Wardy, *Chain of Change: A Study of Aristotle's Physics* VII (Cambridge: Cambridge University Press, 1990) for a discussion of the textual issues and a comprehensive commentary on this book.
[51] Ibid., 291.
[52] οὐδ' ἄρα αἱ κινήσεις, ἀλλ' ὅσα **μὴ συνώνυμα**, **πάντ' ἀσύμβλητα**. οἷον διὰ τί οὐ συμβλητὸν πότερον ὀξύτερον τὸ γραφεῖον ἢ ὁ οἶνος ἢ ἡ νήτη; ὅτι ὁμώνυμα, οὐ συμβλητά·

can be said to be sharper than any other, he writes that "[b]ecause they are homonymous, they are not comparable" (*hoti homônyma, ou sumblêta*).[53] So, whereas the *Topics* talked only of homonymy, these two sentences of *Physics* vii.4, seem to tell us that comparability is impossible both in cases of homonymy and of non-synonymy. Indeed, they seem to treat homonymy and non-synonymy, implicitly at least, as co-extensive.

However, if we had reason to think that Aristotle has in mind a distinction between accidental homonymy and non-synonymy more broadly, then the following textual variant might prove crucial: most of our existing manuscripts read not "whatever things are *not synonymous*, all those are *incomparable*," as quoted above, but rather "whatever things are *not homonymous*, all those are *comparable*."[54] There is, however, little evidence that Aristotle has in mind anything other than merely accidental non-synonymy in *Physics* vii.4. The example he gives – sharp – is of a variety of senses that lack the sort of meaningful connection he claims in other texts exists between terms like good, being, and healthy.[55]

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[53] Similarly, slightly later Aristotle raises another possible restriction on comparability, namely that comparable items must not only belong to the same genus, but must not have any differentia setting them apart, i.e. they must belong to the same *species*. He ultimately rejects this possibility, but what is of interest is how he introduces it: "But perhaps not only must comparable items *not only not be homonyms*, but also not posses any differentia <separating them>." [*Phys*. vii.4, 249a3-5] ἀλλ' ἆρα οὐ μόνον δεῖ τὰ συμβλητὰ μὴ ὁμώνυμα εἶναι ἀλλὰ καὶ μὴ ἔχειν διαφοράν

[54] **ὅσα μὴ ομώνυμα**, *πάντα συμβλητά*.
The question of which reading should be adopted on *textual* grounds is difficult; for a conjecture regarding the origins of the textual variation, see n66. I am granting the "whatever things are not synonyms, all those are incomparable," along with Ross and Wardy, above all for dialectical purposes, though it is not at all implausible that this is the correct reading. Though it exists only as a correction in the margin of ms. Parisinus Graecus 1853 (E), two points mitigate this somewhat tenuous status:
(1) it is a correction to a portion of the ms. where, according to Paul Moraux, the first scribe's "orthographe laisse à désirer" and whose "distraction lui fait commettre de nombreuses fautes, ("Le Parisinus gr. 1853 (E) d'Aristote," *Scriptorium* 21, no. 1 (1967): 25) but whose corrector-scholiast corrected the ms. on the basis of collation with other copies. Ibid., 30; Cf. also Marwan Rashed, *Die Überlieferungsgeschichte der aristotelischen Schrift* De generatione et corruptione, (Wiesbaden: L. Reichert, 2001), 39.
(2) Simplicius records the variant in his commentary, meaning that the corrector of E is unlikely to have generated the reading purely by conjecture.

[55] Simplicius whose commentary antedates our earliest manuscripts, is probably right, then, when he records the variants and then dismisses their philosophical import on the grounds that they "all have the same sense." (*In Phys.* 1086,25)

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However, this lack of attention to other kinds of non-synonymous terms – those whose senses are *non*-accidentally related – also explains why Aristotle's claims about comparability in *Physics* vii.4 cannot be exported to contexts in which non-accidental non-synonymy is under question. Thus, because Aristotle is either not thinking about non-accidental non-synonyms or has not come to realise their significance (Wardy bases his claim that *Physics* vii as a whole is an early work on precisely this point), *Physics* vii.4 is not decisive about whether this other kind of non-synonymous term entails incomparability.

I§3

So, if homonymy does *not* exhaust non-synonymy, then the former might entail incomparability even if the latter does not. Is non-synonymy then equivalent to homonymy?

In order to answer the question, we can start by considering three possible cases. The first is straightforward synonymy, where *a* and *b* are said to be *F* in just the same way – say predicating "red" of a gala apple and a fire truck. The second case is of purely accidental or chance homonymy: where two items said to be homonymously *F* have merely the fact that they are called *F* in common – as when financial institutions and the edges of rivers are both called "bank." Between these two extremes lie the cases that have provoked the most philosophical interest – terms which are neither synonyms nor merely accidental homonyms, but "toward" or "with reference to" one thing (*pros hen legomena*).[56] Aristotle believes that certain key philosophical concepts, including both being (*Meta*. Γ 2, 1003a33-b15; Z 4, 1030a27-b13), and goodness, fall in this intermediate group.[57]

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[56] It is also plausible that some relatively obvious and uninteresting cases of homonymy are not merely accidental but are based on a more superficial similarity – e.g. the sharpness of cheese, notes, and pencils might be said to affect the senses of taste, hearing, and touch in similar or analogical ways.

[57] Chs. 5-9 of Shields, *Order in Multiplicity* analyse a variety of these cases, including, in addition to "being" and "good," "body," "life," and "one."

How should this intermediate class of non-synonyms be categorised? If homonymy and synonymy are taken to be contradictories, then one or the other must be sub-divided to account for the difference between merely accidental homonyms and those terms which are neither synonymous nor simply homonymous by chance. Aristotle defines synonymy as those cases in which "the name is common and the account of being corresponding to the name is the same," (*Cat*. 1a6-7)[58] which seems to rule out a bifurcation of synonymy. And so it may seem that there must be two kinds of homonymy: accidental and non-accidental. The motivation for treating the distinction between homonymy and synonymy as an exhaustive one comes from instances where Aristotle draws the distinction in this binary fashion.[59] For example, in the chapter of the *Topics* devoted to giving various tests for homonymy, including the case we have already seen of incomparability, Aristotle classifies a number of terms as "homonyms" that do not seem to be merely accidental cases of things having the same name. Most notably, he devotes fourteen lines in the *Topics* (i.15, 107a3-17) to the argument that "good" is said *homonymously*. However, it is important to note that in the *Topics* he gives no indication that he considers there to be any difference between terms like "sharp" and terms like "good." In other words, the texts in which Aristotle treats homonymy and synonymy as an exhaustive pair are also texts in which he does not register interest in the difference between accidental homonyms and *pros hen* predications of a term. By contrast the texts where he is interested in this distinction are precisely those in which he does *not* classify the latter sort of term as homonyms, but rather leaves their status unclear.

In contrast, Shields has claimed that the *Nicomachean Ethics* does provide evidence for classifying *pros hen legomena* as homonyms. In the discussion of goodness at *Nicomachean Ethics*

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[58] συνώνυμα δὲ λέγεται ὧν τό τε ὄνομα κοινὸν καὶ ὁ κατὰ τοὔνομα λόγος τῆς οὐσίας ὁ αὐτός
[59] This position is shared by Shields, as well as Terence Irwin in "Homonymy in Aristotle," *The Review of Metaphysics* 34, no. 3 (1981): 523-544 and Julie Ward in *Aristotle on Homonymy: Dialectic and Science* (New York: Cambridge University Press, 2008).

i.6 Aristotle claims that "<the good> does not seem like those homonyms by chance." (1096b26-7)[60] Shields takes the qualification of homonymy with "by chance" to imply that there is another kind of homonymy which is *not* by chance. However, given that Aristotle does not make any explicit mention of *non*-chance homonyms, there are good reasons to reject Shields's interpretation. Notice that the addition of "chance" here may be read as introducing a general characterisation, a gloss, on the notion of homonymy – pleonastic perhaps, but meaningful. Not a qualification, but rather a reminder to the reader as to what a homonym is: a common term applying to two different things merely by chance. Indeed, even though Shields's interpretation is a logically possible reading of this sentence on its own, the wider context of *EN* i.6 makes this latter interpretation more plausible. At the beginning of *EN* i.6, Aristotle declares that the good is non-synonymous, that "the accounts differ" (*heteroi kai diapherontes hoi logoi*, 1096b24). But he notably does not characterise it as homonymous. In fact, there is no mention of homonymy in *EN* i.6 at all until it is used in a *negative* answer to the question "How is it <the good> said?" – "Not like homonyms by chance" he replies, before suggesting two alternatives. When Aristotle asks "How is the good said?" (*alla pôs dê legetai*) at *EN* i.6, he tells us that although it is not said synonymously, it is also not said "like homonyms by chance" and then suggests that perhaps is said "with reference to one thing (*pros hen*) or rather by analogy." (1096b13-14) The locution "with reference to one thing" suggests strongly that Aristotle has in mind a non-exhaustive distinction between synonymy and homonymy. [61]

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[60] οὐ γὰρ ἔοικε τοῖς γε ἀπὸ τύχης ὁμωνύμοις; cf. *EE* vii.2 1236a17 where Aristotle talks of friendship as being said not "*totally* homonymously" (*pampan homônymôs*).

[61] For further arguments in support of this understanding see Jaakko Hintikka, "Aristotle on the Ambiguity of Ambiguity," *Inquiry* 2, no. 1-4 (1959): 137-151 and his "Different Kinds of Equivocation in Aristotle," *Journal of the History of Philosophy* 9, no. 3 (1971): 368-372.

That is because Aristotle uses the same phrase is used in passages where he *explicitly* draws a non-exhaustive distinction between synonymy and homonymy, according to which these sit at contrary ends of a spectrum, with a class of intermediate non-synonyms constituting an independent *tertium quid*. In two passages from the *Metaphysics* where Aristotle claims that "being" is "said with reference to one thing" (*pros hen legomenon*), he uses an explicitly non-exhaustive formulation. First, in *Metaphysics* Γ, he writes:

> Being is said in many ways, but with reference to one thing (*pros hen*) and to some one single nature and *not homonymously* but rather as everything healthy <is said> with reference to (*pros*) health, one thing by preserving it, another by producing it … (Γ 2, 1003a33-b1; my emphasis)[62]

And in the parallel discussion of the status of "being" as a *pros hen legomenon* at *Metaphysics* Z 4, Aristotle's language is much the same:

> For it must be either homonymously that these things are said to "be" or by addition and abstraction, just as that which is not known <is said to be> known, since it is correct that <being> is *said neither homonymously nor in the same way*, but rather as healthy <is said> with reference to one same thing, though *it* is not one thing, nor indeed is it said homonymously. For a body, organ, and tool are said to be medical neither homonymously nor in the same way (*kath' hen*) but with reference to one thing (*pros hen*). (*Meta.* Z 4, 1030a33-b3; my emphasis)[63]

"Homonymous" as it is used in the *Topics* and *Physics* vii differs from its use in the *Metaphysics* and in the *Nicomachean Ethics*. In the former two works, homonymy and synonymy are contradictories. In the latter, there is a *tertium quid* between homonymy and synonymy occupied by terms said non-synonymously, but with reference to one thing (*pros hen*). This difference, moreover, is not merely verbal. For the tripartite distinction (homonymy - *pros hen* - synonymy)

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[62] Τὸ δὲ ὂν λέγεται μὲν πολλαχῶς, ἀλλὰ πρὸς ἓν καὶ μίαν τινὰ φύσιν καὶ οὐχ ὁμωνύμως ἀλλ' ὥσπερ καὶ τὸ ὑγιεινὸν ἅπαν πρὸς ὑγίειαν, τὸ μὲν τῷ φυλάττειν τὸ δὲ τῷ ποιεῖν τὸ δὲ τῷ σημεῖον εἶναι τῆς ὑγιείας τὸ δ' ὅτι δεκτικὸν αὐτῆς κτλ.

[63] δεῖ γὰρ ἢ ὁμωνύμως ταῦτα φάναι εἶναι ὄντα, ἢ προστιθέντας καὶ ἀφαιροῦντας, ὥσπερ καὶ τὸ μὴ ἐπιστητὸν ἐπιστητόν, ἐπεὶ τό γε ὀρθόν ἐστι μήτε ὁμωνύμως φάναι μήτε ὡσαύτως ἀλλ' ὥσπερ τὸ ἰατρικὸν τῷ πρὸς τὸ αὐτὸ μὲν καὶ ἕν, οὐ τὸ αὐτὸ δὲ καὶ ἕν, οὐ μέντοι οὐδὲ ὁμωνύμως· οὐδὲ γὰρ ἰατρικὸν σῶμα καὶ ἔργον καὶ σκεῦος λέγεται οὔτε ὁμωνύμως οὔτε καθ' ἓν ἀλλὰ πρὸς ἕν.

makes room precisely for a category of diversity-in-unity that the dichotomous division (homonymy-synonymy) leaves out. That is, in those contexts where Aristotle is working with the simple two-part division, there is no indication that the taxonomy is meant to capture the *pros hen legomena*. This suspicion is supported by the argument mentioned above from the *Topics* that goodness is said homonymously: there Aristotle equates the homonymy of "good" with the homonymy of "sharp" as it is said of musical notes[64] and geometrical angles (their being less than 90°). (*Top.* i.15, 107a15-17) But this is precisely the sort of trivially homonymous application of a term to two fundamentally unrelated phenomena that Aristotle will want to distinguish from the non-synonymy that is of philosophical interest and which characterises being as well as goodness.

However, even if one conceded that *pros hen legomena* really were a sort of homonym (and thus that homonymy and synonymy are contradictory), this would not itself force one to admit that non-synonymy entails incomparability in this special case. In order for this to be true, we would need a passage in which Aristotle makes the following three claims: (i) homonymy and synonymy rule each other out; (ii) all homonyms are incomparable (=no non-synonym is comparable); (iii) *pros hen legomena* are a subset of homonyms. At *Physics* vii.4, we have seen Aristotle assert (i) and (ii), but we have no good grounds for reading (iii) into the text, since Aristotle makes absolutely no mention of anything but accidental homonyms.[65]

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[64] This is not the same as our use of sharp in musical contexts. Aristotle says it is a matter of "swiftness," so it seems to have to do with rhythm rather than pitch.

[65] One might account for the variants in *Physics* vii.4 discussed along developmental lines: namely that the variation in the manuscript tradition of *Physics* vii.4 represents a very early attempt, perhaps during Aristotle's own lifetime, to revise the text in light of the subtler, more complex account. The vulgate reading ("whatever things are not homonymous, all those are comparable… because they are homonymous, they are not comparable" – present in all mss. save E^2), though it does not make mention of a non-exhaustive distinction between synonymy and homonymy, is compatible with one. Perhaps then it marks a *revision* meant to bring the *Physics* up to date with later developments in Aristotle's thinking at a time when "homonymous" was understood as meaning *merely accidentally* homonymous and not as equivalent to non-synonymous.

Since *Physics* vii.4 makes mention exclusively of those ambiguous terms that we have seen Aristotle call in the *Nicomachean Ethics*, "chance homonyms" – like the sharpness of notes and cheese or the brightness of students and stars – but not those terms of primary interest for philosophical analysis (like *being* white and *being* two and *being* a substance, or indeed, like the *goodness* of humans and the *goodness* of fish) it would be invalid solely on the strength of that text to apply the principle that comparability always requires synonymy to other, more complex cases of non-synonymy.

II. Comparison between ambiguous terms

II§1

Aristotle is not primarily interested in the sorts of homonyms to which he adverts in *Physics* vii.4, but rather in instances of non-synonymy that do not simply share names by accident, or on account of merely superficial resemblance but on the basis of deep and significant overlap in their definitions. Aristotle's standard example is health, and it is an instructive one for understanding what it means for a term to be said "with reference to one thing" (*pros hen legomenon*).[66] After telling us in the exordium to *Metaphysics* Γ that "being" is said in many ways (*to on legetai pollachôs*) but is not a homonym (*kai ouch homonumôs)*, Aristotle tells us that it is said, like "healthy," *pros hen*. Moreover, he helpfully explicates how the *pros hen* structure functions in the case of health. The one thing with reference to which other things are called healthy is, unsurprisingly, *health*. Other things are called healthy because they bear a number of different relations to this one thing: kale might be called healthy because it *preserves* health; an exercise

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[66] I prefer to use the transliterated Greek terminology, or the literal English translation, rather than the more common terms-of-art "core-dependent homonymy" because Aristotle only inconsistently, if at all, classifies them as homonyms.

regimen might be so called because it *produces* health; a clear complexion is called healthy because it is *a sign of* health; and a body because it is *receptive of* health. (1003a35-b1)

Health, meanwhile, the one thing with reference to which all these other things are called healthy, is not healthy because it stands in relation to anything else, but just because of what it is. This brings out the first crucial aspect of *pros hen legomena*: the peripheral senses make reference to the central case, but not vice versa. Whatever is included in the definition of "health" will be included in the definition of "healthy" as it is applied to green vegetables, to exercise, to scalpels, and to complexion, as well as the additional information relating the peripheral cases to the central one ("productive of…," "preservative of…," "a sign of…").

As well as being asymmetric, the relation between the core and peripheral senses, moreover, cannot be merely accidental. If *any* relation could do, then the senses even of merely accidental homonyms could be shown to be systematically related by constructing some cleverly-concocted dummy relation.[67] The most promising solution, apparently articulated first by Cajetan, the late medieval Dominican philosopher and cardinal of the Roman Catholic Church, but recently defended by Shields and adopted by other commentators,[68] is that the relation between two instances of a term predicated *pros hen* must be a causal one.[69] Consider the three ways from *Metaphysics* Γ in which things other than health are said to be healthy – by preserving health, by producing health, and by being a sign of health. In all three of these instances, there is a causal relation between core and periphery. Preservers (like vitamins, or green vegetables) and producers (like exercise) both bring health into being as material or efficient causes; signs of a healthy body

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[67] Shields shows the inadequacy of focusing only on asymmetry by offering the disjunctive property "being within several hundred miles of a river bank (and engaging in the relevant sort of financial transactions)" in order to turn "bank" as applied to the edges of rivers and financial institutions, a clearly merely accidental homonym, into a *pros hen legomenon*. *Order in Multiplicity*, 108.
[68] See Ward, *Aristotle on Homonymy*; Owen Goldin has a good overview in "Aristotle on Homonymy," *Ancient Philosophy* 30, no. 1 (2010): 183-186.
[69] See Shields, *Order in Multiplicity*, Ch. 4.4.

(like complexions) of health are in turn brought into being *by health* (their efficient cause). As for the final cause, Aristotle talks about being "a function" of health – a "healthy" exercise regime, for example, may produce health, but it may also be for the sake of health.[70]

Shields stresses that the proverbial arrow from cause to effect may be drawn in either direction, from the core outward (as when health causes a healthy complexion) but also from the periphery inward (as when a healthy diet of leafy greens efficiently causes health). This is, of course, true. But this should not lead us to believe that the core sense of a *pros hen legomenon* (that is, the one *F* thing with reference to which other things are said to be *F*) and the peripheral sense are ontologically independent. The core sense of a term, *F*, in addition to being cited in the definitions of the peripheral senses of *F*, must be *prior to them*, or, as Shields puts it, be "responsible for the existence of [their] being *F*."[71] But the ontological priority of core over periphery need not be conceived of as separate from the causal relation between them. The topic of priority in Aristotle is complex, but at least one way for one thing to be ontologically prior to another is for it to be the cause of the other thing.[72] This need not be taken as evidence against Shields's observation regarding the potential bidirectionality of the causal relations. Consider again Aristotle's example of health, where some of the causal relations appear to run from periphery to core, rather than vice versa – medicine and leafy greens preserve health, exercise regimes produce it (or improve it), and so on. However, in none of these is the *sole* causal connection between core and periphery one of efficient causation by the peripheral item. Indeed,

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[70] As Shields notes (*Ibid.,* 114), there is no reason to think that a peripheral sense may not stand in more than one causal relation to the core sense. This is consistent with Aristotle's more general views on causal explanation, namely that one thing can be explanatory in more than one of the canonical four senses of *aitia*, cf. *APo.* ii.11.

[71] Shields, *Order in Multiplicity*, 125. The shift from *being called F* to *being F* is consistent with Aristotle's own usage, which treats synonymy and non-synonymy somewhat indifferently as a property of linguistic terms and of the properties to which those terms refer.

[72] See Katy Meadows, *Aristotle on Ontological Priority*, PhD diss. (Stanford University, 2017) which argues that priority is best understood causally, and more specifically final causally. See also Michael Peramatzis, *Priority in Aristotle's Metaphysics* (Oxford: Oxford University Press, 2011) 180-88, 267.

in all these cases, the peripherally healthy items are also *for the sake of* of health and definable *in terms of* the core. That is, the core's being *F* is both finally and formally causal of the periphery's being *F*. And these are the sorts of causal explanation most fundamental to Aristotle's project – indeed the final-formal cause is itself prior to the other senses of cause.[73]

II§2

    With this framework in mind, we can now turn to the question of comparisons between non-synonymous uses of terms. The main piece of positive textual evidence that Aristotle not only did failed to rule out comparisons between non-synonymous instances of a term, but in fact positively endorsed them, comes from a fragment from his lost *Protrepticus*. There, Aristotle makes the following remarks, helpfully sticking with the by-now-familiar example of health and medicine:

> Whenever one and the same thing is said of two beings (*duoin ontoin*), and one is spoken of with reference either to its acting or being acted upon, we grant that the predicate (*to lechthen*) holds more of the latter one, for example <we say> one using knowledge knows more than one who has it, and <we say> one applying vision sees more than one capable of applying it. For "the more" is said not only according to an excess of those things which have one account (*heis logos*), but also according to <those things> being prior and posterior, for example, we say that health is more good (*mallon agathon*)[74] than healthy things and that those things choiceworthy according to their own nature are more good than those which produce <them>, though it's true we see that it is not insofar as [one] account is predicated of both, that "good" is said of beneficial things and of virtue. (57.6-19 Pistelli = 81-82 Düring, Fr. 14 Ross)[75]

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[73] Hence Thomas Aquinas's celebrated explanation of the mutual relationship of final and efficient cause: "Therefore, the efficient cause is the cause of the final cause but the final cause is the cause of the efficient cause. The efficient cause is the cause of the final cause at least with respect to existence, because in moving it brings about that which is the final cause. But the final cause is the cause of the efficient cause not with respect to existence, but with respect to the reason for its causality. For the efficient cause is a cause insofar as it acts, but it does not act except because of the final cause. Therefore, the efficient cause has its causality from the final cause." (*In Meta*, 775) *Est igitur efficiens causa finis, finis autem causa efficientis. Efficiens est causa finis quantum ad esse quidem, quia movendo perducit efficiens ad hoc, quod sit finis. Finis autem est causa efficientis non quantum ad esse, sed quantum ad rationem causalitatis. Nam efficiens est causa inquantum agit: non autem agit nisi causa finis. Unde ex fine habet suam causalitatem efficiens.*

[74] The awkwardness of the locution "more good" reflects the Greek, which instead of the usual comparative adjective *beltion* uses the same unusual combination of adverb and positive-degree adjective.

[75] ὅταν οὖν λέγηταί τι ταὐτὸν ἑκάτερον δυοῖν ὄντοιν, ᾗ δὲ θάτερον λεγόμενον ἢ τὸ ποιεῖν ἢ τὸ πάσχειν, τούτῳ μᾶλλον ἀποδώσομεν ὑπάρχειν τὸ λεχθέν, οἷον ἐπίστασθαι μὲν μᾶλλον τὸν χρώμενον τοῦ τὴν ἐπιστήμην ἔχοντος,

Donald Morrison has argued on the basis of this passage that *pros hen legomena* form an exception to the rule against comparisons between instances of non-synonymous terms.[76] "Normally," Morrison writes, "one is not allowed to compare across ambiguity. But when the items to which the ambiguous predicate is applied are related to each other as prior and posterior, then comparison is allowed."[77] Indeed, some have identified a stronger Aristotelian principle underlying this point, namely that when a predicate is applied to two or more terms which are ordered in terms of prior and posterior, then that predicate is *always* homonymous as it is applied to them. However, the clearest articulation of that principle comes in the course of Aristotle's polemic against unnamed Platonic adversaries in *Nicomachean Ethics* i.6, where he writes that "Those who introduced this doctrine [=the theory of Ideas] did not posit ideas <of things> in which they said there to be prior and posterior; and this is why they did not construct an idea of numbers." (1096a17-19; cf. *EE* i.8)[78] The positive Platonic doctrine referenced here is obscure.[79] And, even more importantly, one cannot infer, given its dialectical and *ad hominem* context, whether it represents Aristotle's own views.[80]

ὁρᾶν δὲ τὸν προσβάλλοντα τὴν ὄψιν τοῦ δυναμένου προσβάλλειν. οὐ γὰρ μόνον τὸ μᾶλλον λέγομεν καθ᾽ ὑπεροχὴν ὧν ἂν εἷς ᾗ λόγος, ἀλλὰ καὶ κατὰ τὸ πρότερον εἶναι τὸ δὲ ὕστερον, οἷον τὴν ὑγείαν τῶν ὑγιεινῶν μᾶλλον ἀγαθὸν εἶναί φαμεν, καὶ τὸ καθ᾽ αὐτὸ τὴν φύσιν αἱρετὸν τοῦ ποιητικοῦ. καίτοι τόν γε λόγον ὁρῶμεν ὡς οὐχ ᾗ ἐστι κατηγορούμενος ἀμφοῖν, ὅτι ἀγαθὸν ἑκάτερον ἐπί τε τῶν ὠφελίμων καὶ τῆς ἀρετῆς.

[76] Donald Morrison, "The Evidence for Degrees of Being in Aristotle," *The Classical Quarterly* 37, no. 2 (1987): 382-401. For a contrary reading of the *Protrepticus* passage, see Emile de Strycker, "Prédicats univoques et prédicats analogiques dans le « Protreptique » d'Aristote," *Revue Philosophique de Louvain* 66, no. 92 (1966): 597-618. De Strycker argues that *mallon* should be read here as meaning "rather" ("*plutôt ou de préférence,*" 608) as opposed to "more" (*plus* or *davantage*), such that the passage is not making any claims about comparability at all. However, it seems to fit poorly with Aristotle's examples – e.g. an awake person is not living *rather than* a sleeping person (i.e. such that sleeping person is not alive). Morrison argues against de Strycker's reading on philological lines as well, arguing that Aristotle *never* employs *mallon* in this sense and that is comparatively rare in Greek prose of the period more generally, though this generalisation seems overly and unnecessarily strong.
[77] Ibid., 398.
[78] οἱ δὴ κομίσαντες τὴν δόξαν ταύτην οὐκ ἐποίουν ἰδέας ἐν οἷς τὸ πρότερον καὶ ὕστερον ἔλεγον, διόπερ οὐδὲ τῶν ἀριθμῶν ἰδέαν κατεσκεύαζον·
[79] See John Cook-Wilson, "On the Platonist Doctrine of the *assumbletoi arithmoi*," *The Classical Review* 18 (1904): 247-60.
[80] A.C. Lloyd defends the principle as genuine Aristotelian doctrine, though not exclusively on the basis of its appearance at *EN* i.6 in his "Genus, Species and Ordered Series in Aristotle," *Phronesis* 7, no. 1 (1962): 67-90.

As for the *Protrepticus,* which, on Morrison's reading, instantiates the principle found in the *Ethics*, doubts have been raised about the cogency of its example. As Shields notes, Aristotle's own example seems to slide from a homonymous term to a synonymous one:[81] the initial claim seems to be that health (the core) and healthy things (the periphery) are (i) ordered in terms of prior and posterior, (ii) called "healthy" as *pros hen legomena* and (iii) nevertheless comparable. However, when it comes time to compare them, Shields claims that Aristotle fails to deliver, telling us that "health is *better* [i.e. more *good*] than healthy things," whereas to truly be a case of comparison with non-synonymous covering values, we would need them to be compared in terms of *health*, not of goodness.[82] Though "healthy" may be predicated *non-synonymously* of health and exercise regimes, "even so," Shields reminds us, "'pleasant' may apply to them *synonymously*, as may 'desirable' or 'choiceworthy.' For each of these cases, it may be possible to judge that health is worthier of being chosen than is a regimen."[83] According to Shields, even if Aristotle means to argue for an exception to the stricture on homonymous covering-values, he fails to provide a good argument. In fact, however, we should not be so quick to dismiss Aristotle's reasoning.

First, the example of the superiority of health over healthy things is not the only comparison across ambiguity in the passage that opened the discussion. Earlier, he cited different senses of "perceiving," as potentiality and actuality, and claimed that perceiving in actuality is *more* perceiving than in potentiality. (56.22-25) The distinction between being *F* in capacity and being

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Frank Lewis is also sympathetic, although more tentatively in "Aristotle on the Homonymy of Being," *Philosophy and Phenomenological Research*, 68, no. 1 (2004): 1-32.

[81] *Order in Multiplicity,* 262.

[82] Compare Ruth Chang on choice: "The switching of choice values is a common deliberative ploy. We often switch from one choice situation to another when we lack the facts we need to make a relevant comparison. You may, for instance, have to choose between a Hitchcock thriller and a Bach concert for the weekend's entertainment. What matters is pleasurableness, but since you do not know how you will like the Bach Inventions tinkled out on wine glasses, you may shift the choice value to ease your decision making. The choice situation has changed, and your choice will be justified or not relative to that new choice value." "Introduction," in *Incommensurability, Incomparability, and Practical Reason* (Cambridge, MA and London: Harvard University Press), 9.

[83] Shields, *Order in Multiplicity*, 263; my emphasis.

F in activity (*dynamis* versus *energeia*), moreover, is a canonical case of non-synonymy. And yet here is Aristotle comparing such items precisely in terms of their being *F*. Moreover, Aristotle uses the closely related example sight as an example of a homonym at *Topics* i.15. There, in his catalogue of tests for homonymy, Aristotle tells us that if the negations of two instances of a term are different, then that term is homonymous. In the case of sight, there are two different negations: not seeing sometimes means being *unable* to see (not possessing the power) while sometimes it means simply not using that power or having it blocked. (*Top.* i.15, 106b14-20)[84] On the one hand, perception is called a homonym in the *Topics,* while in the *Protrepticus* Aristotle claims that the precisely the same non-synonymous term admits comparison between its various instances.

Second, the example of health is not nearly as hopeless as Shields claims. Choiceworthiness is not a basic value in terms of which comparisons are made: choices are made in particular contexts, with reference to particular values and criteria. In the context referred to in the *Protrepticus* passage, that relevant value or criterion is healthiness – when operating in the choice context of health, practical reason dictates that we compare the items in terms of how *healthy* they are. Take someone faced with making a choice between the somewhat improbable assortment of kale smoothies, yoga classes, a rosy glow, and health *simpliciter*. (Those first two items correspond to what Aristotle in the *Protrepticus* calls "that which produces [health].") Clearly the practically rational thing to do is to just choose *health*, rather than these means toward, let alone signs of, health. And they should do so because health is not only healthy in a different, prior and explanatory way than these other healthy things, but also because it is *healthier* than them. Indeed, that is *what it means* for it to be better than them, since health is simply goodness of

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[84] Shields offers a helpful example: "'She doesn't see the traffic' might mean she cannot see the traffic, because she is blind, or simply that she does not see it at the moment, because she is distracted or somehow hindered." *Order in Multiplicity*, 17.

a bodily sort. It is understandable, then, that Aristotle moves from talking about the different significations of health to saying that health is "more good" (*mallon agathon*) than healthy things, if health simply is the good state of a body. Comparisons, then, can be made in terms of non-synonymous predicates, at least when these are *pros hen legomena*.

Once we have grasped both that "healthy" means something different when applied to health *simpliciter* and to the things that produce health, *and* that it is *healthier* than them, we can begin to see that non-synonymous comparison lies at the very heart of Aristotle's axiology. Things that produce health – leafy greens, moderate exercise, aspirin – are not simply efficient causes of health; they are also teleologically subordinate to it. They are for the sake of health. The relation between final and instrumental goods more generally is thus a particularly promising place to find comparability and non-synonymy at once.

For Aristotle holds that an end (*telos*) is always better than those activities that are for its sake, even if these latter things are themselves ends of an intermediate sort. This means, of course, that ends and things for their own sake are *a fortiori* comparable. Yet Aristotle also consistently equates being an end or *telos* with what it means to be good; and as we have seen, "good" is one of the central instances of associated non-synonymy, of *pros hen legomena*. With this in mind, the simultaneously non-synonymous and comparable ways in which ends and those things which are for the sake of them are good is suddenly clearly visible in the famous opening lines of the *Nicomachean Ethics*:

> Every art and every investigation, and likewise every action and choice, seems to aim at some good. The good, therefore, has rightly been affirmed to that at which all things aim. Yet there appears to be a certain difference amongst ends. For some are activities, while others are products over and above these activities. And in the case that there are ends over

and above the activities, among these the products are by nature better than the activities. (*EN* i.1 1094a1-6)[85]

The topic of Aristotle's inquiry into goods and ends here relates the specific domain of human action, yet the underlying contrast applies perfectly generally. First, Aristotle asserts the equivalency of ends and goods – the good is "that at which" theory and practice, action and choice all aim. In the next line, Aristotle makes explicit that what it means to be that at which things aim is to be an end (*telos*). Yet he also tells us that there is a difference amongst ends: not all aims are aims in the same way. On the one hand, there are those aims that have are final, that have nothing beyond themselves; these are what Aristotle calls "products" or "results" (*erga*). On the other, there are those activities subordinated to the production of these final ends. And, as a consequence of this distinction between subordinate and final ends, the latter are *by nature* better than the former. A few lines later, Aristotle justifies these claims with an example: when, he tells us, there is a single overarching practice (*technê*), for example and a number of practices subordinated to these (for example, military strategy, which is the overarching aim of horseback riding, which in turn is the aim of bridle-making) "in all of these [practices] the ends of the overarching practice (*ta tôn architektonikôn telê*) are to be preferred to the ones subordinate to them." (i.1 1094a14-15)

In this and all other cases, the final end is that which is called good *simpliciter* – hence Aristotle's consistent equation throughout the corpus of ends and *the* good, *to telos kai tagathon*.[86] That which is for the sake of an end is called a good *because* of the *telos,* its final cause, and (the goodness of) the *telos* is prior to and explanatory of (the goodness of) those things which are for

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[85] Πᾶσα τέχνη καὶ πᾶσα μέθοδος, ὁμοίως δὲ πρᾶξίς τε καὶ προαίρεσις, ἀγαθοῦ τινος ἐφίεσθαι δοκεῖ· διὸ καλῶς ἀπεφήναντο τἀγαθόν, οὗ πάντ' ἐφίεται. διαφορὰ δέ τις φαίνεται τῶν τελῶν· τὰ μὲν γάρ εἰσιν ἐνέργειαι, τὰ δὲ παρ' αὐτὰς ἔργα τινά. ὧν δ' εἰσὶ τέλη τινὰ παρὰ τὰς πράξεις, ἐν τούτοις βελτίω πέφυκε τῶν ἐνεργειῶν τὰ ἔργα.
[86] *Meta*. A.3, 983a31; Cf. *Meta*. A.2, 982b4-5, *Phys* ii.2, 194a33, *Phys*. ii.3, 195a25, *Somn*. 455b16, *PA* 639b19, *GA* 717a16; *EE* 1218b9; *PA* 687a16; *Pol*., 1252b34-1253a1, *IA* 704b17 and 708a9. See Ch. 1, Appendix A.

its sake.[87] What makes bridle-making good? Its contribution to riding, which is in turn good because of its contribution to military matters more generally (for the purposes of the example, Aristotle stops here). This is just the same pattern we saw between health and those things which are instrumental in producing health and which are for its sake. Moreover in all these cases, the account of "good" as it is predicated of the instrumental goods will include the account of "good" as it is said of the end, in addition to the information about how the instrumental good is for the sake of the *telos*, but not vice versa. That is, the account of goodness in each case is subtly different, yet intimately connected: comparison in terms of a non-synonymous predicate is thus possible. Indeed, it is at the heart of Aristotle's argumentative strategy in the first book of the *EN*.

III. Ways of natural goodness

We have just seen that Aristotle holds "good" to be species-specific. As he puts it, "the accounts [of goodness] are different and varying (*heteroi kai diapherontes hoi logoi*)" (*EN* i.6 1096b14) depending on the entity to which it is being applied. If it were true that comparisons can only be made using synonymously predicated terms, then – based on the different and varying ways in which different and varied creatures are good – this or that creature could not be better than others. However, I have argued that at least in some cases, where there is not merely non-synonymy but also a tight association between the various senses and relations of priority between them (as there must be for a term to be *pros hen legomenon*), there can also be comparison.

Is the difference in the accounts of goodness for different natural kinds one of these instances of non-accidental non-synonymy? To see that it is, we must turn to the way in which the prime mover – Aristotle's divine first principle, upon which he claims that "heaven and nature

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[87] Cf. Meta Λ 10, 1075a15 and Ch. 3, I§6.

depend" (*Meta*. Λ 7, 1072b13) – operates in his cosmos as a final cause. The following picture is no more than a sketch, which is elaborated in fuller detail in the following chapters.[88]

Every organism, in pursuing the actualisation of its own internal form, also acts for the sake of the prime unmoved mover, not as an additional beneficiary, but as an external normative exemplar, a standard. (Λ 7 1072b1-3; *EE* vii.15, 1049a21, where Aristotle compares god to a standard, *horos,* that determines successful action. Cf. *DC* ii.12 292b9ff.) In this sense, Aristotle remains faithful to the conceptual core of Platonic paradeigmatism, even as he rejects the notion that all things must instantiate a common property in *just the same way*. Rather, each kind of being goes about reaching a *telos* shared with others in a way that is distinct and particular to the kind of thing it is. By holding these two notions – the unity of the prime mover's telic status and the diversity of ways in which kinds of beings go about approaching (or trying to approach) the standard – we can begin to see a *pros hen* structure for natural goodness.

Species are themselves good in different ways insofar as they emulate the pure intellectual activity of the prime unmoved mover *differently*. While sublunary creatures can only partake of the "eternal and divine" by reproducing and leaving behind offspring (*DA* ii.4 415a23-b8), the stars and planets move eternally in their circular orbits. Finally, Aristotle suggests that even amongst animals and plants, all of which reproduce, humans have a special connection with the divine, since reason (*nous*) is both divine (*EN* x.7, 1177b30) and the most human part of us. (1178a8)

Moreover, the prime unmoved mover's role as the unitary telic principle for all of these species allows them to be rank-ordered based on how well their different ways of being actually

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[88] Another promising direction would be to investigate the different human ways of life: for Aristotle is both committed to the idea that the life of virtuous activity is better than that of pleasure, but also that these are good in different ways.

achieve their common aim. This is not merely a comparison of individuals, based on how close two specimens come to their respective species-specific ends, but a meaningful comparison of the species themselves. This is only possible if on Aristotle's account, different kind of things can and do pursue perfect actuality – can "try" to be like the prime unmoved mover – in a manner that is determined by their species-being while also sharing a common, external *telos*. This in turn requires making fundamental modifications to our understanding of Aristotelian teleology, because Aristotle is usually thought to conceive of teleological explanation "internally," on the basis of the relation between an organism and its species-specific form. In the following Chapter, I first show that, while this kind of internal teleology is apt for biological contexts, it cannot account for the ascription of teleology to the prime mover. Next I develop an account of teleology that distinguishes between *external* and *internal* final causation and argue that it is the latter of these that characterises the prime mover.

omnis enim per se divom natura necessest
inmortali aevo summa cum pace fruatur
semota ab nostris rebus seiunctaque longe;
nam privata dolore omni, privata periclis,
ipsa suis pollens opibus, nil indigo nostri,
nec bene promeritis capitur neque tangitur ira.

For it is necessary that divine nature by itself
enjoys immortal life in the greatest peace
far removed and separated from our affairs;
since without any pain, without dangers,
providing for itself and needing nothing from us,
it is neither taken in by good deeds nor touched by anger.

Lucretius, *De rerum natura*, I 44-49

Ch. 3: 'All things ordered toward one:' A reading of *Metaphysics* Λ

We have so far taken the initial steps toward resolving a dilemma faced by Aristotle and his inheritors. On the one hand, Aristotle holds that goodness is a species-specific property. On the other, he also claims that certain species are better than others. So, while he thinks that to be good means something *different* for fish and for humans, he also holds, at the same time, that humans are *better* than fish. In the previous chapter, I showed that Aristotle does not hold that the logic of comparisons categorically require a univocal value in terms of which entities are compared. Moreover, we also saw that comparisons are possible in certain instances of non-univocity in which the various non-synonymous senses of a term are related as *pros hen legomena*. In the specific case of goodness, for entities that are good in different ways to be compared *in terms of goodness*, there must be a common good thing, a *telos*, with reference to which each thing is called good, even though they act for its sake in their own distinct ways. Aristotle's prime unmoved mover, I have suggested, is the most obvious candidate for this role.

However, there are a set of interrelated questions which will be the task of the current chapter to answer:

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(1) *How* is it that the prime unmoved mover is an Aristotelian *telos*?

(2) Of *what* is it the end: does it (teleologically) explain only the rotation of the heavens or does it also explain occurrences in the sublunary world of generation and corruption, of plants and animals?

(3) If the more expansive answer to (2) is correct – as I shall argue that it is – how is this compatible with Aristotle's usual focus on the good of the individual organism?

Part I of the present Chapter addresses (1). Here, I propose a fundamental re-orientation of our usual understanding of Aristotelian teleology. Meanwhile, an answer to (2) and (3) begins in Parts II and III. This Chapter programmatically lays out the comprehensive theoretical picture of the good within the Aristotelian cosmos and in some sense then represents an end to the first stage of my inquiry. The following chapters will turn to how this theoretical model of the cosmos plays out "in practice": first we shall see a case study from Aristotle's cosmology and astronomy (Ch. 4) and then we shall turn to the question of what, if any, direct practical consequences this has for the human relationship to the natural world (Ch. 5).

I. The final causality of the prime mover

I§1

In the eighth book of the *Physics*, Aristotle presents an elaborate, interwoven series of arguments for the necessity of a prime unmoved mover. In *Metaphysics* Λ, however, he takes an altogether different approach, giving only the most compressed argument for such a mover before moving on to other concerns: "If, then, there is a constant cycle, something must always remain, acting in the same way" (Λ 7, 1072a9-10). Aristotle's argument for a prime unmoved mover, both in its full form in the *Physics* and as it is alluded to here, rests on his assumption that motion must be eternal. It is a fundamental principle that the Aristotelian cosmos is ungenerated and

imperishable, that the celestial bodies have always been, and will always be, doing exactly what they are doing right now. And though individual creatures of course die, the species to which they belong have always existed in precisely the same form as they do now. (Aristotle, for all his perspicuity in observing the way of life of living things, had no conceptual room for the possibility of extinction; had that been an occurrence of which he was aware, perhaps his natural philosophy, and indeed his metaphysics, might look quite different.[89])

There is a purely logical or conceptual argument for the eternity of motion. This easiest to see by considering Aristotle's appeal to the concept of time. Time is understood as dependent on motion – it is "either the same thing as motion or an accident (*pathos*) of motion." (*Meta.* Λ 7, 1071b10)[90] But it is conceptually impossible for there to be a beginning to time: the idea of a *before* time (or indeed an *after* time, if we are looking forward rather than backward) would itself presuppose time, since *before* and *after* are temporal concepts. To say that time came into being would be equivalent to positing something like a "time before time" – but that is just to admit that time is, after all, eternal. Given that time is dependent on motion, Aristotle argues that the necessity of *time's* eternity also requires the eternity of motion.

And if motion is to be eternal, then it must have an unmoved cause. Aristotle's argument for this next claim is premised on the connection between change and potentiality. In the most general sense, motion or change is the passage from potentiality (*dunamis*) into actuality (*energeia*). (*Phys.* iii.1, 201a10-14) A cause of motion that is itself moving, a moved mover, thus contains potentiality just in so far as it is in motion. But as Aristotle says, "it is possible

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[89] This is despite the fact that Aristotle spent a significant amount of time on Lesbos, which contains significant fossilised remains.

[90] In the parallel argument in the *Physics*, Aristotle calls time the "number of motion" – that is its measurement. (*Phys.* viii.1, 251b10ff.) José Benardete's reconstruction of what he calls the "argument from time" remains compelling, see his "Aristotle's argument from time," *The Review of Metaphysics* 12, no. 3 (1959): 361-369.

(*endechetai*) for that which has a potentiality (*to dunamin echon*) not to actualise it (*mê energein*)."

(Λ 7, 1071b13) The eternity of motion, however, is absolutely necessary according to Aristotle, not merely contingently the case. (This is a consequence of Aristotle's view that whatever is eternal is necessary, as well as vice versa. It is not simply that, as a matter of *fact*, motion and time have always and will always been in existence: they cannot even conceptually cease.) The motion of a cause of further motion (a moved mover), whether moved by itself or by something else, insofar as it is potential, could cease and thereby stop causing motion in other things. Positing a moving cause of motion thus fails to secure the necessity and eternity of the motion that it causes. The ultimate principle of motion must be without any potentiality, must be purely actual, and therefore must be motionless.

I§2

Having established, if only in outline, why Aristotle believes in the necessity of a motionless cause of motion, we are now in a position to consider why and how he conceives of this first principle to be a *telos*.

Aristotle introduces the teleological conception of the prime mover in Λ 7 through the claim that it causes motion as an object of thought (*noêton*) and desire (*orekton*). The argument for this claim is obscure, relying on a so-called "Pythagorean table of opposites" mentioned by Aristotle at *Meta.* A 5 (986a23) and the claim that the most intelligible thing must also be the best thing. And, since the prime unmoved mover makes the cosmos intelligible insofar as it serves as an explanation for cosmic motion, the thought seems to be that it must itself be supremely intelligible, and therefore supremely good. Since rational desire pursues the (real) good as its *telos*, and since the prime mover is the best thing, the prime mover is an object of rational desire and therefore a *telos*. This argument works as far as it goes, but the obscurity of the Pythagorean

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doctrine means that it does not throw much light on Aristotle's general conception. But at the end

of the passage, he also provides further support for the claim that this first principle – which he is

soon to identify with god (1072b15ff.)[91] – causes motion as a teleological cause:

> That 'that-for-the-sake-of-which' exists amongst the things without motion, is made clear (*dêloi*) by the following distinction. For "that for the sake of which" is for something and of something. Of these there is the former but not the latter <amongst things without motion>. It imparts motion, then, as an object of *erôs*, while other things impart motion as something being in motion. (1072b1-3)[92]

This distinction, telegraphed by a case difference in Greek, but not spelled out, is supposed

to explain – to "make clear" (*dêlein*) – how it is that the prime mover can cause motion as that for

the sake of which other things move. What then is the distinction?

Almost all commentators, ancient and modern, take it to refer to two sorts of final cause.

Most often, the contrast is between the end-as-beneficiary ("I'm buying a present for *my friend*")

and the end-as-aim or -goal of some process ("I'm in school in order *to learn*"). On this reading,

the dative pronoun is an instance of the *dativus commodi;* the end-as-aim is denoted by the

genitive, which can (among many other functions), indicate the object of verbs of desiring in

Greek.[93] Distinguishing between these two senses is meant to defuse a possible objection to

Aristotle's claim: a thing that can be benefited is a thing that can be improved, and improvement

is a sort of change, a passage from merely potential perfection to actual perfection. If this is what

Aristotle has in mind, then the point is an obvious one, drawing on a tradition of rationalist

theology going back to Xenophanes, that is critical of anthropomorphic religion. That it is

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[91] For the identity of the prime mover and god, see John DeFilippo, "Aristotle's Identification of the Prime Mover as God," *Classical Quarterly* 44, no. 2 (1994): 394-409. But see also Richard Bodéüs, *Aristote et la théologie des vivants immortels* (Saint-Laurent: Bellarmin, 1992) and Michael Bordt, SJ, "Why Aristotle's God is not the unmoved mover," *OSAP* 40 (2011): 91-109.

[92] ὅτι δ' ἔστι τὸ οὗ ἕνεκα ἐν τοῖς ἀκινήτοις, ἡ διαίρεσις δηλοῖ· ἔστι γὰρ τινὶ τὸ οὗ ἕνεκα καὶ τινός, ὧν τὸ μὲν ἔστι τὸ δ' οὐκ ἔστι. κινεῖ δὴ ὡς ἐρώμενον, κινούμενα δὲ τἆλλα κινεῖ.

[93] David Sedley, "Is Aristotle's Teleology Anthropocentric?" *Phronesis* 36, no. 2 (1991): 179-96; Gabriel Richardson Lear, *Happy Lives and the Highest Good* (Princeton: Princeton University Press, 2004); Monte Johnson, *Aristotle on Teleology* (Oxford: Oxford University Press, 2005)

obviously inappropriate – something taken for granted rather than a controversial point that needs an argument – to regard the divine as a beneficiary is clearly recorded by Plato, who has Euthyphro reply without hesitation or pause "No, by Zeus, I do not" when Socrates asks him if he thinks that, "whenever you do something holy, you make one of the gods better?" (*Euthyphro* 13c-d)

Other scholars take the contrast to be broader than between aims and beneficiaries, though encompassing this. For example, Konrad Gaiser frames the distinction as one between (1) an objective, universal, normative standard, denoted by the genitive and (2) the subjective good of specific individuals, denoted by the dative.[94] At an even more abstract level, Andreas Graeser suggests that the contrast should be understood as grounded in the distinction between imperfect *kinêseis*, denoted by the dative, and perfect *energeiai*, denoted by the genitive.[95] Given the already mentioned connection between change and benefit, these alternative accounts are not obviously contradictory, or even necessarily in tension with one another. So, we can draw up a preliminary pair of lists characterising the two sorts of final cause:

A	B
Genitive (*tinos, hou*)	Dative (*tini, hôi*)
Aim	Beneficiary
Objective	Subjective
Universal	Local
Unchangeable	Changeable
Perfect	Imperfect
Energeia	*Kinêsis*

Figure 2: Two sets of characteristics of final causes

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[94] "Das Zweifache Telos bei Aristoteles," in *Naturphilosophie bei Aristoteles und Theophrast,* edited by Ingemar Düring, 97-113 (Heidelberg: Stiehm, 1969).

[95] "Aristoteles' Schrift 'Über die Philosophie' und die zweifache Bedeutung der 'causa finalis,'" *Museum Helveticum* 29, no. 1 (1972): 44-61.

I§3

As we shall see, there is much in this division that is sound. Indeed, the contrast between changelessness and perfection, on the one hand, and mutability and imperfection – and a correlative capacity for perfection – on the other, shall be central in what follows. However, the various versions of the standard account are, on closer inspection, inadequate for providing an interpretation of 1072b3.

On the standard reading, the sentence I have translated as

> "'that for the sake of which' is for something (*tini*) and of something (*tinos*); of these, one, but not the other is found amongst things without motion"

is understood as meaning:

> "… 'that for the sake of which' is both a beneficiary (*tini*) and an aim (*tinos*); of these, the *latter but not the former* is found amongst things without motion."

This faces two textual/linguistic problems, one relatively minor, the other more significant.

(i) It requires us to reverse the most natural order of the dative and genitive qualifications of "that for the sake of which." The former-latter contrast is signaled by the correlative particles *men…de*. When used to refer back to a preceding clause or sentence containing two contrasting items, the standard sense is former (*men*) and latter (*de*). In order to have Aristotle claiming that "an end+GEN" (or the "aim" – *to hou heneka tinos*) but not "an end+DAT" (or the "beneficiary" – *to hou heneka tini*) can be changeless, we must change the usual order of *men…de* to mean "latter…former" rather than "former…latter." This is not unprecedented, either in Greek prose generally or Aristotle particularly, though it is very rare.[96] Moreover, it is also possible to retain the usual "former…latter" order by taking Aristotle to be saying that the "former (*to hou heneka*

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[96] It occurs in Aristotle at *Poet.* 1448a16-18 and *GC* ii.4, 331b15-16; cf. J.D. Denniston, *The Greek Particles,* 2nd ed. (Indianapolis: Hackett, 1996), 370-1.

tini) is *changeable*, while the other is not," though this requires a rather dramatic and unannounced shift in the predicate from the preceding sentence from *en tois akinêtois* to *kinêton*.[97]

(ii) The second issue is more problematic. The Revised Oxford Translation (ROT) of the phrase *esti gar tini to hou heneka kai tinos* is representative: "… that for the sake of which is both that *for which* and that *towards which*." (Some translators go further and replace "for which" and "to which" directly with "aim" and "beneficiary," but even without this degree of intervention the ROT version is certainly congenial to the understanding of the genitive-dative distinction described above.)

However, the Greek has indefinite, not relative pronouns. What the text of 1072b3 actually says is *not* "that for the sake of which [is] that for which and that of [or "toward"] which," but "that for the sake of which [is] *for something* and *of something*." The contrast is less between two ends than between two ways in which they stand in relation to those things of which they are ends, since the "something" denoted by the indefinite does not refer anaphorically to the noun phrase "that for the sake of which," as it would be if we had relative pronouns appended to *to hou heneka* instead of indefinites.[98] Instead, it introduces new entities.

Though she arrives at her view from a different direction than mine, Jessica Gelber has recently presented an important departure from the conventional reading of the distinction between dative and genitive. Rather than distinguishing between *kinds of end*, Gelber suggests that the contrast Aristotle is drawing is at its base between *ways of being for the sake of an end*. (This may, in turn, map onto a distinction between kinds of end, but is conceptually distinct from it.)[99] In her

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[97] This strategy is adopted by Lear, *Happy Lives,* 76.

[98] Aristotle does use relative pronouns to mark a distinction between two senses of *to hou heneka* at *DA* ii.4. The translation "that for the sake of which *for which* and *towards which*" would be appropriate *there*. However, to refer to the distinction at 1072b3 it is not. These linguistic discrepancies should prompt us to ask whether the two senses of *to hou heneka* indicated by indefinites at 1072b3 are the same as those indicated by relatives at *DA* ii.4. For the sake of argument, I shall grant that the *DA* reference is to the beneficiary-aim distinction.

[99] Jessica Gelber, "Two Ways of Being for an End," *Phronesis* 63 (2018): 64-86.

view, the genitive and dative refer to "directive" and "huperetic" (or instrumental) ways that ends can govern natural processes. For example, the heart is directed at (for the sake of) the organism as an originating principle – Aristotle holds that the heart is the first organ to be generated and governs the development of the rest of the organism – while other, less essential, parts are *tools* for that organism. The first of these, Gelber contends, is denoted by the genitive and the latter by the dative, which can denote an instrument in Greek.

In the case of *Metaphysics* Λ 7, Gelber suggests that the reference to "the distinction" at 1072b3 is meant to clarify that the prime mover does not stand in the same relation to those things which are for its sake (most importantly the first heaven) as users do to their tools. Because the prime mover is changeless, it therefore stands in no need of any tools or instruments and thus "is not an end in the huperetic way."[100] The prime mover, then, according to Gelber's typology, is a *directive* end. However, Gelber's model is fundamentally biological: the paradigmatic case of a directive end is one in which the end is generated or comes about in the process of organic generation. In more general terms, Gelber describes the *directive* way of being for an end as the relation "which holds between something and the aim or objective it is in the business of *producing or achieving*."[101] This, however, cannot serve as a description of the sort of relation that holds between the prime mover and the things which move for its sake. For if being benefitted (or on Gelber's view, using tools) implies changeability, then being produced or achieved surely does.

In short, Gelber – in directing attention toward the *relation* between ends and those things which are for their sake, and away from ends conceived independently of these relations – makes a crucial step in the right direction. However, like most contemporary interpretations of Aristotle's teleology, her account fails to provide a model for teleological causation apt to characterise the

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[100] Ibid., 64
[101] Ibid., my emphasis.

prime mover, because it is too closely based on the biological model. Her reliance on the biological model of organic generation is not unique.

Here are a few examples in the Anglophone literature: Alan Gotthelf's influential account of teleology takes as its paradigmatic instance a situation in which "A stage in development, *A*, comes to be for the sake of the mature, functioning organism *which results from the development, B*."[102] Similarly John Cooper, who otherwise disagrees with Gotthelf, characterises the final cause "something good (from some point of view) that *something else causes or makes possible*, where this other thing exists or happens (at least in part) because of that good."[103] And David Charles writes, of teleological processes, that "some things happen or exist because of some further good *they help to produce*."[104] None of these are yet *analyses* of teleology: they are merely the starting points from which the authors develop an analysis, and as such reveal the presuppositions built into their developed accounts. As such, their inability to capture the sort of final causality exercised by the prime mover indicates the need the rethink basic assumptions about Aristotle's notion of final causality if we are to fully grasp the claim that the prime mover is a "that for the sake of which."[105]

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[102] Alan Gotthelf, "Aristotle's Conception of Final Causality," in *Teleology, First Principles, and Scientific Method in Aristotle's Biology* (Oxford: Oxford University Press, 2012), 12. My emphasis.

[103] John Cooper, "Aristotle on Natural Teleology," in *Language and Logos*, eds. Malcolm Schofield and Martha Nussbaum (Cambridge: Cambridge University Press, 1982), 197. My emphasis.
Cooper's disagreement with Gotthelf is primarily over the role of value in teleological explanation. As suggested by the quotation, Cooper argues against Gotthelf's claim that final causes can be analysed in a value neutral fashion (see also Ch. 1, Appendix A).

[104] David Charles, "Teleological Causation," in *The Oxford Handbook of Aristotle*, ed. Christopher Shields (Oxford: Oxford University Press, 2012), 227. My emphasis.

[105] The 17th-century Jesuit scholar Francisco Suárez, in his commentary on Metaphysics Λ, recognised the centrality for understanding the causality of the prime mover of the distinction between ends that are produced and those that exist outside the process which they teleologically govern:

> From here you have Aristotle's distinction between two ends. One is pre-existent, the other not. The first is to be attained through some means, the other however must be produced and therefore he says that the first kind of end is present in the prime mover, but not the other.
> *Ex hoc vero loco habes ab Aristotelem distinctionem duplicis finis. Unus est praeexistens alter non praeexistens. Prior acquirendus per media, posterior etiam efficiendus, et ideo priorem rationem finis ait habere locum in primo motore, non vero posteriorem.*

I§4

Following Gelber's lead, I want to sketch two ways in which the dative-genitive contrast marks out not two kinds of end, but two ways in which one thing can be for the sake of another. On my view, the contrast should be interpreted as being between an *internal* and an *external* relation between a final cause and that which happens for its sake (or between a process and the goal toward which it is directed). The prime mover is a final cause that is external to the first heaven, as well as anything else of which it is the end, while biological final causes are internal to the species in question. In order to begin to develop this account, we must first ask how it is explained by the contrast between dative and genitive. It is the dative, I believe, that denotes external final causality, while the genitive points to the internal. (Note that this reverses the usual identification of the prime mover with the genitive.) Once we have grasped the relevance of the grammatical contrast, we shall then be able to adequately account for why Aristotle claims the prime mover causes motion "as an object of *erôs*." (I§6)

The division between external and internal final causal relations emerges from either of two alternative ways of understanding the contrast between dative-genitive. Though either of these readings work equally for the argument I am making, I am mildly inclined to accept (1) over (2). On either account, the genitive is taken to denote possession: insofar as an end is "*of* something," it is something that that is proper and peculiar to that something. This is a (partial) characterisation of immanent natural ends, which are species-specific final causes for the organisms of whose substantial being they constitute. Not only is there a particularly intimate connection between this kind of end and the things which are for their sake, but they are ends *only* for these things. Canine

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A Commentary on Aristotle's Metaphysics, ed. John P. Doyle, Milwaukee: Marquette University Press, 2004), 372.

form, for example, for the sake of which dogs grow and develop, is the special property, as it were, of one and only one particular species.

The prime mover, on the other hand, the nature of whose final causality the distinction at 1072b3 is meant to clarify, is neither immanent to anything besides itself, nor is it uniquely related to one kind of thing. At the very least, Aristotle states it to be the final cause of the various heavenly spheres; but as I will go on to argue, he also considers it to be a *universal* final cause. How does the dative signal this?

Option 1: "dative of reference"

The first way of understanding the dative is as a so-called dative of reference, a catch-all term used by modern grammarians for a dative object that signals, as Kühner-Gerth puts it, a person "in whose eyes" a given thing is characterised.[106] According to this reading, the dative is meant to indicate that the prime mover is "viewed as" an end by some entity even though it does not "belong" to it in the same way as an end + GEN would.[107] Adopting Option 1, the key phrase might be paraphrased:

> "That for the sake of which" is either (i) that which is "viewed" <as a final cause>
> by a thing (DAT)**,** or (ii) that which <intrinsically> belongs to a thing (GEN)

Option 2: a contrast between genitive and dative expressions of possession

Both the dative and genitive can be used in Greek to denote possession. Saying "X is *to me*.DAT" and "X is *of me*.GEN" can both imply that X is mine. However, there are semantic differences – rooted in proto-Indo-European structures – between the cases under discussion. As

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[106] Kühner Gerth §423, 18, b: "Der Dativ lässt sich oft durch 'nach dem Urteile, in den Augen jemandes' übersetzen."
[107] Note that "viewed" here should be understood metaphorically, not psychologically, similar to talk of plants "desiring" even though they possess only a nutritive soul.

one recent study of the contrast between genitive and dative expressions of possession puts it, the genitive implies that the relationship to the possessor is "an intrinsic attribute of the Possessee."[108] Similarly, speaking of Indo-European more generally, Emile Benvéniste contrasts a "prédicat d'appertenance" (genitive) with a "prédicat de possession" (dative).[109] The genitive primarily gives information about the object, answering the question of to whom it belongs; an immanent end, belonging solely to a single species, would be apt to be predicated of its species using the genitive. The dative, by contrast, indicates that which a given person has; the possessee has a greater degree of autonomy and is not defined on the basis of its belonging to the possessor.[110] This sort of relationship of belonging is more appropriate to describe the fundamentally asymmetric relation between the prime mover and natural world. The heavens, for example, "have" the prime mover as a final cause, but the prime mover does not "belong" to them – to specify *its* essence, that is, does not require any reference to this relation.[111] Adopting Option 2, the key phrase might be paraphrased thus:

> "That for the sake of which" is either (i) possessed by a thing (DAT) or (ii) properly belongs to a thing (GEN).

Regardless of which of these readings of the dative we adopt, my proposal is that we can best understand Aristotle as distinguishing between internal and external ends. For an organism, the internal end is its species form, carrying out its characteristic ways of life in a full and

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[108] M. C. Benvenuto and F. Pompeo, "Expressions of predicative possession in Ancient Greek: 'εἶναι plus dative' and 'εἶναι plus genitive' constructions," in *Annali del Dipartimento di Studi Letterari, Linguistici e Comparati Sezione linguistica* (Naples: Università degli Studi di Napoli "L'orientale"), 97.

[109] Emile Benvéniste, "'Etre' et 'avoir' dans leurs fonctions linguistiques," in *Problèmes de linguistique genérale*, v.1, (Paris: Gallimard, 1966), 187-207

[110] Compare Kühner Gerth: "Der Dativ bezeichnet die Person, für die etwas vorhanden ist, der etwas zu teil geworden ist; der Genitiv (§418, 1, b) bezeichnet die Person als den Besitzer einer Sache. z.B. X. Cy. 5.1, 6 Κῦρος οὗ σὺ ἔσει τὸ ἀπὸ τοῦδε, in dessen Gewalt du von jetzt an sein wirst, wo der Dativ ganz unpassend sein würde." (II.1, §423, 15, Anm. 18) Cf. Smyth 1480

[111] The essential connection between internal final causes, as I am calling them, and the things to which they properly belong would be an example of the second kind of essential or in itself (*kath' hauto*) predication Aristotle identifies at *APo* i.4 (72a34ff.), in which *A* is said *kath' hauto* of *B* not insofar as *A* is part of *B's* essence but insofar as *B* is part of *A's* essence.

flourishing way; it is good "not simply, but in relation to the substance of each thing."[112] (*Phys.* ii.7 198b5-9) The internal, immanent end of deer, say, will involve doing deer-like things, which will in turn determine the arrangement of its matter and the regular development of organic parts that functionally interact to enable this activity (what Aristotle calls, at *EN* i.7, the species' *idion ergon*). The realisation of this internal end is immanent; it cannot be separated from the organism in question. The form of a deer does not exist apart in the hylomorphic arrangement of matter and form that constitutes a particular deer. Realising this end is also good *for* the organism (that is, a deer *benefits* when it succeeds in performing the characteristic activities of its species well) but I do not think the benefit that accrues to the subject in pursuing its internal, species-specific goals is what Aristotle is referring to with the dative pronoun in 1072b1.

Rather, the qualification of "that for the sake of which" with "*for something*" should be read not as a reference to the species-specificity of the goodness of a certain kind of end, but rather to a second, external end that is distinct from the species-specific form. Unlike the first, internal kind, this sort of end would be separate from the hylomorphic compound that make up Aristotelian organisms; it is not the result of a process of generation and growth, of a passage from embryonic potentiality to mature activity. It can be without change. This second, external sort of final causality, then, can apply to the prime unmoved mover. The first cannot. Unlike an external *telos*, it cannot exist independently of any process of coming to be, it is the result of a change.

If this interpretation is correct, then this also explains how the prime mover can function as an overarching normative principle without being the form or essence of any one of these

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[112] James Lennox and Lindsay Judson call this Aristotle's "teleological axiom" and use it to argue for a purely species-spcecific reading of Aristotle's teleology in Lindsay Judson, "Aristotelian Teleology," *OSAP* 29, (2005): 341-366; James Lennox, *Aristotle*: On the Parts of Animals (Oxford: Oxford University Press, 2001).

things.[113] The internal, immanent end is not only something that comes to be, it is also that which makes things what they are – in organisms, the (internal) end and the essence coincide.[114] Nevertheless, the prime mover is an end *for them* insofar as it exemplifies the state of being purely actual and without any possibility of improvement.

What I am suggesting is that the dative and genitive modifications of "that for the sake of which" at 1072b3 do not, as has been widely assumed, refer to a distinction between beneficiary and aim but to different ontological relations in which ends can stand to those things which are for their sake. This distinction is orthogonal to, though compatible with, the one between beneficiary and aim:[115]

	Internal (*to hou heneka tinos*)	External (*to hou heneka tini*)
Aim (*to hou heneka hou*)	An embryo developing into its *adult form*	*God*/the *prime mover* *Objects* of desire
Benefit (*to hou heneka hôi*)	*Oneself* (self-preservation)	A *friend* A doctor healing a *sick person*

Figure 3: Internal/external final causes in relation to the aim/beneficiary distinction

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[113] That is, teleological relation to the prime mover will be a *necessary* but not *essential* feature of the characteristic activities of the various things that it moves. Cf. *APo*, i.4; Kit Fine, "Essence and Modality," *Philosophical Perspectives* 8, (1994): 1-16.

[114] Equations of the form (*eidos/morphê*) and *telos* in *Physics* ii are at ii.2 194a27-b15, ii.7 198a25; 198b1-4, ii.8 199a30-32, ii.9 200a14-15

[115] I account for how this way of reading the distinction works in two of the four remaining passages in which Aristotle makes it. *EE* vii.15, 1249a21ff. is discussed at the end of I§3; *DA* ii.4, 415a23ff. is discussed in II§2. Very briefly, however, here is how I account for the other two passages:
(i) Toward the end *DA* ii.4, 415b20 Aristotle invokes the distinction to explain how it is that the soul (*psuchê*) can be a body's *telos*. I suggest that Aristotle be read as reminding that reader that the soul is an internal *telos* of the body, insofar as the soul is defined as the activity of the body. (*DA* ii.1, 412a20ff.) The distinction's force, then, may be to dispel any notion that the soul (or the entire soul, at least – Cf. *DA* III.5) is separate from the body.
(ii) At *Phys*. ii.2, 194a35, Aristotle notes that human beings are "in a way" (*pôs*) an end for other natural things. The internal-external distinction maps on here to the aim-beneficiary distinction (though it need not always do so – cf. the chart above). Human beings can be considered both external ends for other natural beings and ends-as-beneficiaries.

It should be noted that this way of reading the reference to two ends at 1072b3 is not entirely new; Ibn Rushd's (Averroes) commentary on the *Metaphysics* takes a similar line:

> Aristotle says: "That-for-the-sake-of-which, then, exists in a thing <and is?> a thing." He means: The 'that-for-the-sake-which' which does not exist in itself exists in [another] – like happiness in the soul or health in the body –, while for the one which exists in itself (*qā'imun bi-nafsihi)* as a determinate thing (*šay' mušār*), there is another determinate thing (*šay' mušār*), that is, one which exists for itself (*qā'imun bi-nafsihi*).

> Aristotle says: "One of these is found [amongst the motionless things], while the other does not." He means: Of these two ends, the one which is a substance exists in itself, just as the king exists in relation to (*li*) the people of the city, while the other sort of end does not exist in itself but only exists in another. (1605,16-1606,6)[116]

Ibn Rushd's text here is somewhat unclear and the Arabic text of the *tini-tinos* distinction seems to be corrupt; as such it is impossible to determine with any certainty whether he means the external self-sufficient end to refer to *to hou heneka tini* or *tinos*, although it appears that Ibn Rushd identifies the prime mover with *to hou heneka tini*.[117] (However, understanding the two senses of *to hou heneka* as referring to a distinction between internal and external ends, as I have proposed, does not require granting that the external end – and thus the prime mover – is *to hou heneka tini* and the internal end is *to hou heneka tinos*.) Regardless of this textual issues, the division Ibn Rushd is drawing between final causes that can only exist as part of a hylomorphic compound and those that exist as "determinate things" is quite close to the one I have suggested above, according to which internal ends cannot exist separately, while external ones can. In Ibn Rushd's examples,

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[116] **wa-qūluhu** *wa-ḏalika 'inna ma min 'aǧlihi yūǧadu li-šay'in* [*wa-li-ḏā*] *šay'.* **yūrīdu** *wa-ḏālika 'inna ma min 'aǧlihi 'allaḏī laysa huwwa qā'iman bi-nafsihi yūǧadu li-šay'in miṯli as-saʿādati fī an-nafsi wa-ṣ-ṣaḥati fī l-badani wa-'ama 'allaḏī huwwa qā'imun bi-nafsihi fa-huwwa li-hāḏā š-šay'i l-mušāri 'ilayhi šay'un 'āḫaru mušāru 'ilayhi 'ayḍan 'ay qā'imun bi-ḏātihi.*
wa-qūluhu *wa-ḏalika minhā mawǧūdun wa-'ama hāḏā fa-laysa bi-mawǧūdin.* **yūrīdu** *aš-šay'u 'allaḏī, huwwa ǧawharun min hātayni l-ġāyatayni huwwa mawǧūdin bi-ḏātihi miṯli l-maliki li-'ahli l-madīnati wa-n-nawʿu l-āḫaru minhā huwwa ġayrun mawǧūdin bi-ḏātihi wa-'innama huwwa mawǧūdin fī ġayrihi.* (*Tafsir maʿd aṭ-ṭabiʿat,* Texte arabe inédit, vol. VII, ed. M. Bouyges, Beirut: Imprimerie Catholique, 1948)
Deleting [*wa-li-ḏā*] in the first line with Genequand. The Greek original from which Ibn Rushd was working was translated seems to have read: ἔστι γὰρ τινὶ τὸ οὗ ἕνεκα καὶ τι. Cf. Bouyges, *Averroes Tafsîr mâ baʿd al-Tabiʿa,* vol. V, Notice, clxxiv.
[117] Indeed, I was led to reconsider the referents of *to hou heneka tini* and *tinos* after encountering Ibn Rushd's text.

a king is a final cause for (*li*) his subjects, but exists for itself (*mawǧūdin bi-ḏātihi* or *qāʾimun bi-nafsihi*), that is, externally. The other sort of final cause is exemplified by health and happiness, which each act as a goal for individual human agents but cannot subsist for itself (*laysa qāʾimun bi-nafsihi*) but can only exist in another being (*mawǧūdin fī ġayrihi*).

I§5

　　Looking at another place where Aristotle makes the distinction between two senses of *to hou heneka* is especially illuminating. At the end of the *Eudemian Ethics*, he notes that just as a doctor possesses a "certain standard (*horos ti*) to which he refers" in determining health and judging what ought to be done to the patient, so too is there a standard for determining the human good more generally. (vii.15, 1249a21) He then asks *what* could play this role and identifies theoretical reason (*to theoretikon*), immediately equating this "ruling part" with god.[118] He then notes while it is true that god "needs nothing," (*outhenos deitai*) this need not rule out that it – and theoretical reason – is a genuine end, since "that for the sake of which has two senses." (1249b16) While the traditional construal is that god cannot be *benefitted*, this is presumably grounded in god's pure self-sufficiency, which in turn entails that god is separate from, i.e. external to, human beings. Aristotle then writes that god/theoretical reason is not an "ordering ruler" (*epitaktikôs archôn*, 1249b14), but is rather "that for the sake of which practical reason gives orders." (1249b15) Rather than *telling* the latter to do (which would impute undue anthropomorphism to god), god are the sought-after standard (*horos*) – the paradigm – toward which one ought to look in determining how one should live.[119]

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[118] Cf. the more extended argument for the divinity of *nous* at *EN* x.7-8 and the claim that god's life of pure *nous* is one we can enjoy sometimes at Λ 7 1072b25.

[119] On Aristotle's theological anti-anthropomorphism see David Sedley, *Creationism and its Critics in Antiquity* (Berkeley: University of California Press, 2007).

Returning to the claim from Λ 7 that god is an object of desire, we can now begin to see that it is not an object of desire in the sense of something that one desires to possess, at least directly. Rather, it is an object of desire in the much more general sense that it determines the conditions for successful action. It is a *telos* insofar as we can use it to measure when an activity is done or complete (the basic meanings of the verb *teleô*). This basic sense of a *telos* as a standard or paradigm also applies to natural organisms and internal ends: when an organism is successful, when it is good according to its kind, it more perfectly realises its form, it comes closer to it. Which is just to say that it approximates or imitates it. There is nothing mysterious – let alone slightly mystical – about imitation, nor does this notion import fundamentally alien concepts into Aristotle. (In the Appendix to this chapter, I show that though talk of "imitation" may be a terminological innovation of later commentators but is not therefore a conceptual distortion – and especially that it is not a Platonist filter.)

Rather, talk of "imitation" is simply a way of articulating the idea that one way of being a *telos* of something else by being its exemplar, a normative standard, that which encodes the conditions of its success. One could expand this list of expressions, but the basic idea remains the same. If *A* is or acts for the sake of *B* in this way, then *B* determines (or simply *is*) the criterion by which we can judge *A* to be successful in so acting. In the case of an organism and its form, an organism is said to be better just insofar as it more fully realises its form: when it is more like its form. Here, the normative standard is set internally to the form of life of the particular creature; creatures can thus be said to act for the sake of their form by "becoming" it as fully as possible.[120] However, as Gabriel Lear puts it, "a living thing can realize its own form, but it cannot become god."[121] So in the case of divine teleology, this *telos*-as-standard must be separate from and

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[120] Richardson Lear, *Happy Lives*, 77.
[121] Ibid., 78

external to the process it governs. The eternal, noetic activity (cf. Λ 9) of the prime unmoved mover is the *telos* of the heavens neither by being their form nor by being an object which they acquire, but by rather *by serving as their object of aspiration*. Since they cannot *be* god, they must try to be *like* god. A return to the comparison with the more mundane case of human actions may be helpful. If what one first and foremost desires is *A*, but one has the possibility of attaining only *B* or *C*, then since one's first choice *A* is ruled out, a choice between the other two *B* and *C* might then be grounded on the basis of their similarity to *A*.[122]

I§6

     We are now in a position to see how the changelessness of the prime mover as an object of desire is emphasised even more strongly by Aristotle's somewhat mysterious line in Λ 7, that the prime mover causes motion *hôs erômenon,* or as an object of *erôs*. Insofar as the line has received attention, this has been largely about the force of the particule "*hôs*" which, like its English translation "as" can be read either as asserting a real or merely metaphorical identification: if we choose the former, the line is equivalent to "insofar as it is an object of *erôs*;" if the latter, it is equivalent to "as if it were (though it is not) an object of *erôs*." But even if the merely metaphorical reading of *hôs* could be shown to be correct, this alone would not indicate that Aristotle took the prime mover not to be a final cause, as proponents of this reading have suggested.[123] Indeed, implicit in the merely metaphorical reading is the admission that the term *erôs* suggests something beyond its usual meaning. But then the whole objection fails on its own terms: even if the prime

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[122] I am not claiming that this choice-procedure is the only conceivably rational one. Given the absence of *A*, one might simply forego looking for something like it in favour of something that simply satisfies another set of desires, thereby switching the choice value, rather than remaining faithful to the original, impossible-to-satisfy desire.
[123] Enrico Berti, "Unmoved mover(s) as efficient cause(s) in Metaphysics Lambda 6" in *AML*, 200; Berti, "The Finality of The Unnmoved Mover in Metaphysics Book 12, Chapters 7 and 10," *Nova et Vetera*, English Edition, 10, no. 3 (2012): 863; Rita Salis, "La causalidad del motor inmóvil según Pseudo Alejandro," *Estudios de Filosofia* 40, (2009): 203.

mover is not literally an object of *erôs*, this does not rule out its status as a *telos* – metaphors, after all, work on the basis of common features between the objects being compared.[124]

We still do not know what *erôs* in particular is doing here, over and above the claim that the prime mover moves as (or *as if it were*, on the merely metaphorical reading) an object of desire desire (*orexis*). One suggestion, made most clearly and convincingly by Lear, is that this is a reference to Plato's *Symposium*. There, Plato's Socrates tells his drinking partners that Diotima told him that *erôs*, which he initially thinks is of beauty, is in fact of "generation and giving birth in the beautiful" (206e) which is in turn the option open to mortals for attaining immortality, that is, of approximating the divine. If this is right – that is, if Λ 7 is indeed a reference to the *Symposium* – and if Diotima describes mortal *erôs* as a way of approximating the eternal and divine, [125] two things follow. Not only does this, first, explain what *erôs* is doing at 1072b2, it also, second, provides grounds for conceiving of the relationship between the prime mover and that whose motion it explains in terms of imitation or approximation. But there is another possibility, namely that rather than (or in addition to) this being a reference to Platonic *erôs*, it is (also) a reference to a more mundane emotion. Lear entertains this possibility, speculating that perhaps what Aristotle has in mind is the way in which certain "charismatic people often make certain tastes and interests valuable in the eyes of their admirers."[126] While the impulse to think of more ordinary experiences of love is sound, and the experience Lear identifies is a real one (it is roughly what Freud called

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[124] A response on the part of the merely metaphorical camp is that this common feature with the prime mover is just the fact that the objects of thought and desire are motionless. But if this were so, the metaphor would be entirely useless for providing insight: we have already been told that the prime mover causes motion without being in motion by the time Aristotle tells us it causes motion *hôs erômenon*. Giving us a metaphor where the commonality is limited precisely to the property (being a motionless cause of motion) we have already identified and trying to understand, not only fails to provide new information, it is positively misleading.

[125] As Lear argues in "Appendix: Acting for Love in the *Symposium*," in *Happy Lives*, 209-19.

[126] Ibid, 83

identification and internalisation), I do not think it is the one that Aristotle has in mind. [127] The widespread Greek conception of *erôs* as an essentially asymmetric phenomenon, on the other hand, may be just what he is referring to here. Understanding this conception, even if it is merely the cultural background against which Aristotle is writing rather than a specific reference, will also show why *erôs* should not be translated by our "love."

The paradigmatic case of *erôs* in fifth- and fourth-century Athens was between older men and adolescents of the same sex. The conception of *erôs* as "essentially asymmetrical," is apparent from the terms used for the parties involved in a paiderastic *erôs*-relationship. The older, "active" party was the *erastês*, an active noun formed from the verb *erân* ("to feel *erôs* for"); the younger was the *erômenos,* a passive participle of the same verb. (This is the same participial form used of the prime mover at 1072b23.) Though I leave both *erastês* and *erômenos* untranslated throughout, but the contemporary twink-daddy opposition in gay (male) culture captures something of the dynamic at play. The relationship between older and younger man was conceived of – by Aristotle and others – as asymmetrical in at least three regards:[128]

> (i) *Aims*: Aristotle takes the relation between *erastês* and *erômenos* to be paradigmatic of utility friendship, in that the *erastês* aims at pleasure and mutual affection, while the *erômenos*, insofar as he consents to a relationship in the first place, aims solely at material benefits. (*EN* viii.8, 1259b12-19; ix.1, 1164a2-13) But even where he takes both parties to aim at pleasure, these are of different sorts: the *erastês* derives his pleasure "from looking at (*horôn*) the *erômenos*, while the latter from having his needs attended to

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[127] A number of writers have suggested that the account of *erôs* in the *Phaedrus* – which departs perhaps more than any other classical Greek text from the essentially asymmetrical conception of *erôs* I am describing – anticipates these Freudian notions, and in addition the tendency for identification to be narcissistic. See for example A.W. Price "Psychoanalysis looks at the *Phaedrus*," in his *Plato and Aristotle on Love and Friendship,* 1987 (Oxford: Oxford University Press, 2004), 215-222 and the references in David Halperin, "Plato on erotic reciprocity," *Classical Antiquity* 5, no. 1 (1986): 62n5.

[128] There may be well more than these, but they will serve as illustration.

(*therapeuomenos*) by the *erastês*."[129] (*EN* viii.4, 1157a7-8) So even when both parties aim at one thing, they do so in different ways.

(ii) *Emotion:* If the *erômenos* feels anything at all, it is not usually *erôs*. Kenneth Dover notes that whereas a wife was said to return the *erôs* (*anterân*) of her husband, the same verb, used in the context of paidererastic relationships, usually denoted a rival *erastês* for the affections of a common *erômenos*.[130] Even though Plato is the major exception to this view, he also records it clearly. In the *Phaedrus,* Socrates discusses a young *erômenos* who *does* reciprocate *erôs*: "he feels *erôs*, but for whom he does not know and nor does he know or is *he able to name* that which he experiences." (*Phdr.* 255d) Even though Socrates can recognise the young man's feeling as a form of *erôs*, the young man himself cannot. Rather "he calls it – *and thinks it to be* – not *erôs* but affection (*philia*)." (255e) Even though he feels *erôs* toward his *erastês*, he does not call it by its true name; and not just because he is afraid of censure (which would be a possible interpretation if the verb of saying were there alone), but because the common view is so strong that he is quite simply not aware of what he is feeling.[131]

(ii) *Sex*: Dover's exhaustive analysis of homoerotic vase paintings, along with the sparse (and rather vague) discussions of the sex acts in written texts leads him to the answer to the question "In crude terms, what does the eromenos [*sic*] get out of submission to his erastes? [*sic*] The conventional Greek answer is, no bodily pleasure."[132]

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[129] The reference to seeing here may be a nod to the poetic tradition, which conceives of *erôs* as affecting the eyes of the *erastês*. Archilolocus writes that "such an *erôs* for affection curled up in my heart/ pours out mist over my eyes." (West, *IEG* 191) Cf. Sophocles, *Ant*. 795.

[130] Dover, *Greek Homosexuality*, 52. For example, scholia in the margins of the possibly Platonic *Amatores* note *anterastai* as an alternative title to *erastai*, under which title it is usually known in Greek. In English the dialogues are usually known by a translation of this alternate title: *Rival Lovers*.

[131] On the *Phaedrus'*s departure the conventional view of *erôs*, see Halperin, "Plato on erotic reciprocity."

[132] *Greek Homosexuality,* 52. Dover is explicit later on to note that this is very much an ideal, and that reality was surely rather different: in vase paintings, he writes, "the penis of the erastes is sometimes erect even before any

It is also true that Greek conceptions of paiderastic *erôs* were also often connected with notions of possession and domination (and penetration) by the *erastês*. This might be thought to undermine the identification of the prime mover with the *erômenos*, since god, surely cannot be possessed or dominated. However, it is not clear that this is integral to the notion of *erôs*; indeed, while the relation between *erastês* and *erômenos* often maps onto one of domination and submission, these two polarities are not only separable, but in fact may be seen as contradictory.[133] For one does not need to successfully seduce the object of his *erôs* in order to count as a genuine *erastês*. When the attractive young Cleinias enters the gymnasium in Plato's *Euthydemus,* "behind him followed a great many *erastai,* including Ctesippus." (273a) When, in the *Charmides*, the title character enters the palaestra, not only did everyone already there "seem [to Socrates] to feel *erôs* toward him," but "many other *erastai* followed along behind him." (154c) The implication is not that Cleinias or Charmides has a sexual relationship with any of the men following him (though he may). At the limit case, he does not need to have any relationship with them at all. One could be the *erômenos* of one or more *erastai* without knowing anything much about him or them at all, perhaps even that he exists.

The conventional view is summed up neatly, as it often is, by Xenophon: "The boy (*pais*), unlike a woman, does not share the pleasurable feelings of sex with the man; rather he looks on, sober, at someone drunk on sex."[134] (Xenophon, *Symp*. viii.21) When their admirers follow the beautiful young Charmides and Cleinias, the two young men remain reserved and aloof; when a

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bodily contact is established, whereas that of the eromenos [sic] remains flaccid even in circumstances to which one would expect the penis of any healthy adolescent to respond willy-nilly." *Greek Homosexuality*, 96.

[133] Even someone who wished to insistence on the centrality of possession (by the *erastês*) to the Greek conception *erôs* need not deny that the prime mover aptly characterised as an *erômenos*. For what is really central is surely the *desire* to possess for oneself, not the fact of possession. Indeed, *erôs* might be thought of as constitutively unfulfilled, and therefore unfulfillable.

[134] οὐδὲ γὰρ ὁ παῖς τῷ ἀνδρὶ ὥσπερ γυνὴ κοινωνεῖ τῶν ἐν τοῖς ἀφροδισίοις εὐφροσυνῶν, ἀλλὰ νήφων μεθύοντα ὑπὸ τῆς ἀφροδίτης θεᾶται.

young man permits his older *erastês* to engage him sexually, the conventional ideal is for the older

man's physical arousal at the younger to find no opposite. The physical opposition of passive and

active partners in the sexual act is reversed: though the *erômenos* is typically portrayed as the

physically passive – that is receptive – partner, it is the *erastês* who is really passive, overtaken by

a violent passion, someone to whom *erôs happens*: "Like a blacksmith, *erôs* strikes me again with

his giant / hammer, plunges me into a winter stream." (*PMG* 413)[135] Xenophon's *erastês* stumbles

around drunk on *erôs*, while the beautiful *erômenos* remains calm and still, even as he causes all

this commotion. He is, in short, an unmoved mover.[136]

I§7

     Could the asymmetry fundamental to the paiderastic *erôs* relationship be what Aristotle is

referring to when he makes the remark that the prime mover causes motion "as an object of *erôs*"?

Certainty on this score may be impossible; but entertaining it as a possibility allows the contours

of the prime mover and its relationship with Aristotle's cosmos to come into sharper focus. The

comparison with an *erômenos* anticipates the rest of *Metaphysics* Λ, in which Aristotle turns his

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[135] Among the lyric poets, Sappho may best represent best this tradition of *erôs* as a violent force, and the one who experiences it as a passive figure. One of the best expositions of this *topos* is poet-classicist Anne Carson's *Eros the Bittersweet* (Princeton: Princeton University Press, 1986). The third century AD grammarian Appolonius Dyscolus made the case that the genitive case of object of the verb *erân* (to feel *erôs* for) indicated the passivity of the *erastês*. He first noted that verbs of seeing (e.g. *horaô*) tended to take an accusative object while verbs of smelling, earing and feeling *erôs* – unlike *philia* – took an oblique case and then hypothesised that the case difference represents a difference in how much control the (grammatical) agent has over the experience: it is very easy to close one's eyes and stop seeing, harder to effectively stop oneself from hearing or smelling something, and harder still to stop feeling *erôs* at will. "It is agreed," Apollonius writes, "that feeling *erôs* means being affected (*to prosdiatithesthai*) by the *erômenos*," for which reason he claims *erôs*, unlike *philia*, is not clear (*saphês*) or sensible (*sunetos*) but rather "corroding rationality" (*parephtorotos to logistikon*) (*On Syntax*, 2.2.419) This passage is cited in James Davidson, *The Greeks and Greek Love: A Bold New Exploration of the Ancient World* (London: Weidenfield and Nicholson, 2007), 73. Ch. 4 of Davidson's book contains an interesting discussion of the essentially asymmetric conception of *erôs*.

[136] My thanks to Martha Nussbaum for initially suggesting the connection between Aristotle's mention of *erôs* and the normative ideals of Greek homosexuality.

focus directly first to sort of relation to the cosmos in which the prime mover stands and then finally to how this relates to the goodness of the universe.

My suggestion is that the essential asymmetry of paiderastic *erôs* in the Greek imagination signals an asymmetric relation of ontological priority and separation between the prime mover and the cosmos.[137] Aristotle's account of ontological priority is complex, but at its core is a notion of dependence:[138]

> *A* is ontologically prior to *B* if (i) *A* is independent of *B* and (ii) *B* depends on *A*.

This general formula for ontological priority as matter of asymmetric dependence is open to multiple interpretations, however:

> *Existential*: *A* is ontologically prior to *B* if (i) *A* can exist without *B* existing and (ii) *B* cannot exist without *A* existing.

> *Essential:* *A* is ontologically prior to *B* if (i) *A* is what it is without *B* being what it is and (ii) *B* cannot be what it is without *A* being what it is.

> *Causal:* *A* is ontologically prior to *B* if (i) *A* is a cause of *B* and (ii) *B* is not a cause of *A*.[139]

The, first, existential sense of priority is ruled out as a characterization of the relationship between god and cosmos: the most canonical case of one thing being prior to another is that of the mature organism's priority over the immature one (or in traditional Aristotelian jargon, that which is posterior *in generation* is prior *ontologically* to that which is prior in generation).[140] But while an adult animal cannot exist without a juvenile one having existed, a juvenile one can – perhaps

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[137] "Ontologically prior" is also translated "prior in being/substance." Aristotle takes it to by synonymous with "prior by nature" (*proteron phusei* or *kata phusin*) at *Meta*. Δ 11 1019a2, which is in turn equated with "absolutely prior" (*proteron haplôs*) at *Meta*. Δ 11 1018a10.

[138] The literature on ontological priority in Aristotle is large and growing, though all commentators take priority to be an asymmetric relation. I cite selectively in what follows. Though I do necessarily take sides on some contentious questions, the general characterisations I offer are meant to be relatively neutral.

[139] This distinction is drawn from Michael Peramatzis, *Priority in Aristotle's Metaphysics* (Oxford: Oxford University Press, 2011). Cf. the three ways in which substance (*ousia*) is said to be prior in Meta. Z 1 1028a32: in account (*logos*), in knowledge (*gnosis*) and time (*chrônos*). These correspond, albeit roughly, to the essential, causal (insofar as knowledge is knowledge of causes, for Aristotle), and existential senses of priority listed above.

[140] E.g. at *Phys*. viii.7, 261a13; *PA* ii.1, 646a24ff.; *Meta*. A 8, 989a15; Δ 11 1018b20-1; Θ 8, 1050a4.

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sadly – exist without ever growing up. [141] Souls, moreover, are ontologically prior to bodies, yet cannot exist without them. (*DA* ii.4, 415b7ff.)[142] So ontological priority is not (only) a matter of asymmetric existential dependence. The relationship of the adult organism to its temporally earlier ("prior in generation") stages is also, of course, teleological and the connection between ontological priority and being an end is intimate. Both of the other sorts of asymmetric ontological dependence offered as candidates for ontological priority characterise the relationship of a natural organism to its internal end, its form. The form (i) is a cause of the being of the organism, (ii) is that for the sake of which generation and growth take place and (iii) makes the organism what it is.

In *Metaphysics* Z, Aristotle takes priority to be the characteristic mark of substance (Z 1, 1028a32) and for reasons along the lines of those just mentioned (cf. Z 3 1029a27ff.), he takes form to be the best candidate for substantiality because of its essential and causal priority over both matter and the matter-form compound. (Cf. Z 4, esp. 1029b13) Nevertheless, none of the three major candidates for substance in *Metaphysics* Z (cf. Z 13, 1038b1ff.) manage to fully satisfy all three kinds of priority or primacy. The aporetic conclusion of the investigation of sensible substance seems to be that nothing here on earth can satisfy these competing criteria for substancehood, and that if anything can be simultaneously essentially and causally prior, while also remaining existentially independent, unlike sensible form, it will have to be eternal and separate. In this respect, Aristotle says, Plato and his followers were *right* in positing the Forms or

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[141] That is, mature organisms are ontologically prior to juvenile ones, but *posterior* to them at least in respect of generation.

[142] This is different from the developmental case, since bodies cannot exist without souls. Again, in more technical terms, soul and body "reciprocate with respect to their being" (*Cat.* 13b27ff.), that is, the existence of a body entails that of a soul, and vice versa. (Note that for Aristotle, a corpse may be materially identical to a living body, but it is only homonymously a body – *DA* ii.1, 412b18ff.; Cf. *Pol.* i.2, 1253a19ff.)

Ideas as class of separate and eternal substances: where they went wrong is in saying that they exist both apart from and "in" (*epi*) many things. (cf. Z 16, 1040b28ff.)

It is against this background that the ascription of ontological separation and priority to the prime mover must be read. We have already seen that Aristotle characterises the prime mover as an end, and we have begun to understand how such an end could be changeless. Slightly later in the Λ 7 passage on which we have been focusing, after he has established that it is an end, Aristotle characterises the prime mover using language that strongly suggests a relationship of priority and dependence: "heaven (*ho ouranos*) and nature *depend* (*êrtêtai*) on such a principle heaven." (1072b13-14, my emphasis; Cf. *Meta*. Γ 2 1003b16-17)

This dependence must be causal, since we have been told already that the prime mover is a cause of motion. This is also true of the priority of form in natural organisms: they are teleological causes that govern natural development. But as we have seen, in the case of organisms the form is also in a sense causally (as well as temporally) *posterior*, since while the mature organism is a *final* cause of the juvenile one, the juvenile organism is an *efficient* cause of the mature one. Final and efficient causes are systematically inter- or co-related in this way in Aristotle's account of the natural world. This is why the search for a natural, sensible substance that is "prior absolutely" *(prôton haplôs*; Meta. Z 1) is ultimately unsuccessful according to the criteria laid out above. The prime mover, however, stands outside the natural and sensible world (Λ 1 1069b1), though natural substances – both the heavens and the rest of nature (Λ 7, 1072b13) – depend on it. As such, the things of which it is a final cause do not in turn stand in an efficient-causal relation to it. Not only does the prime mover not come into being, it does not contain any unactualised possibilities. (Λ 6, 1071b15-22) As a result, it stands in no need of an efficient cause to explain *that*, *what*, or *how* it

is. Unlike natural ends, it does not require anything else to explain its existence or essence. It exists separately.[143]

I§8

What need though, do other things have of the prime mover? What explanatory work is the asymmetric relation of dependence between the prime unmoved mover and the cosmos performing? The answer is that it explains the *goodness* of the cosmos. Though questions of value have, as we have already seen, cropped up throughout the book, the last chapter of *Metaphysics* Λ poses the question of cosmological goodness explicitly. Having explicated the mode of causality and the activity of the prime mover, Aristotle now turns to the question of how it is that the universe is good. More specifically, he asks, in what is plausibly read as a nod to the Idea of goodness of the *Republic*, whether the good exists "as something separate and itself by itself" (*kechôrismenon ti kai auto kath' auto*) or rather whether it is something immanent and internal to the "order" (*taxis*) of natural kinds. Aristotle does not reject this Platonic separate good out of hand. Rather he asks whether it isn't possible for *both* of these options to obtain, and then explains how this might be so. In making the case for a simultaneously internal and external account of goodness, Aristotle develops two analogies: one of the relation between a general and his army; the other between a household and its various constituents. It is the first analogy that is of immediate relevance for understanding the importance of priority and ontological dependence in Aristotle's cosmotheology. The opening of Λ 10 runs thus:

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[143] I am using "separate" here to mean what Emily Katz calls "weak separation" – that is, *A* is separate from *B* just in case it is ontologically independent from *B*. She argues for a view she calls "strong ontological separation," on which *A* is separate from *B* just in case (i) *A is* ontologically independent from *B and* (ii) *B* is ontologically dependent on *A*. That is, ontological priority and ontological separation are mutually entailing but conceptually distinct. Though I do not adopt her terminology, my account of the prime mover's priority and separation is compatible with understanding it as a case of strong ontological separation (i.e. it is not merely ontologically independent from the cosmos; the cosmos is also ontologically dependent upon it). See Emily Katz, "Ontological Separation in Aristotle's Metaphysics," *Phronesis* 62 (2017): 26-68.

It is also necessary to consider how the universe has the good (*to agathon*) and the best (*to ariston*): whether *as something separate and itself by itself* or in respect to its order. What about in both ways, like an army? For there is good (*to eu*) in the order and the general is *the* good, and more the general. For the general is not good in virtue of the order but rather the order is good in virtue of him. And all good things are ordered together in some way, though not in the same way – swimming things and feathered things and plants. And not such that one thing is unrelated to another, rather there is some relation. For all things are ordered together with reference to one thing (*pros hen*). (1075a11-23; my emphasis)[144]

It is indisputable that Aristotle holds the good to be an end.[145] (Cf. Ch. 1, App. 1) And yet in this explication of how the entire universe is good and is related to *the* good, the equation of goodness and being an end has struck readers not only as implicitly left out, but as explicitly ruled out. The absence of teleology is inferred from image of a general and his army. The relationship between a general and the order of the army he commands seems to be paradigmatically one of efficient causality.[146] The image seems to be that of a general marching up and down barking orders while the subordinates scramble to carry them out.

But it would be surprising if, after all this, Aristotle were to hold that the relationship between the good itself and the universe's goodness were merely one of efficient causality. First, we have seen how in the *Eudemian Ethics*, he explicitly describes god (*ho theos*) as *not* being like an "ordering leader" (*epitaktikôs archôn*) but rather "that for the sake of which practical reason gives orders." (vii.15, 1249b14) So if the picture of the general as efficient cause is right, this would be in direct conflict with the claim at *EE* vii.15. Second, in *Metaphysics* A, Aristotle

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[144] Ἐπισκεπτέον δὲ καὶ ποτέρως ἔχει ἡ τοῦ ὅλου φύσις τὸ ἀγαθὸν καὶ τὸ ἄριστον, πότερον κεχωρισμένον τι καὶ αὐτὸ καθ᾽ αὑτό, ἢ τὴν τάξιν. ἢ ἀμφοτέρως ὥσπερ στράτευμα; καὶ γὰρ ἐν τῇ τάξει τὸ εὖ καὶ ὁ στρατηγός, καὶ μᾶλλον οὗτος· οὐ γὰρ οὗτος διὰ τὴν τάξιν ἀλλ᾽ ἐκείνη διὰ τοῦτόν ἐστιν. πάντα δὲ συντέτακταί πως, ἀλλ᾽ οὐχ ὁμοίως, καὶ πλωτὰ καὶ πτηνὰ καὶ φυτά· καὶ οὐχ οὕτως ἔχει ὥστε μὴ εἶναι θατέρῳ πρὸς θάτερον μηδέν, ἀλλ᾽ ἔστι τι. πρὸς μὲν γὰρ ἓν ἅπαντα συντέτακται.
[145] *Meta.* A.3, 983a31; Cf. *Meta.* A.2, 982b4-5, *Phys* ii.2, 194a33, *Phys*. ii.3, 195a25, *Somn*. 455b16, *PA* 639b19, *GA* 717a16; *EE* 1218b9; *PA* 687a16; *Pol*., 1252b34-1253a1, *IA* 704b17 and 708a9.
[146] E.g. Sarah Broadie, "Que fait le premier moteur d'Aristote? (Sur la théologie du livre Lambda de la « Métaphysique »" trans. Jacques Brunschwig, *Revue Philosophique de la France et de l'étranger* 183, no. 2 (1993): 379n4; Cf. Lloyd Gerson, *God and Greek Philosophy: Studies in the Early History of Natural Theology* (London: Routledge, 1990), 135-6.

criticises Plato for conceiving of the Good as a purely efficient, and not a final, cause: "Similarly, those who posit 'the one' and 'being' [i.e. Platonists] say that something of this sort [the good] is a cause of being, but not that [being] either is or comes to be for the sake of this, such that they both do and do not say that the good is a cause." (A 7, 988b10-14)[147] So it would be strange if Aristotle were to say here that the good is an efficient and not at all a teleological cause of the universe's goodness.[148]

However, I do not think that the analogy is about causality, at least directly. It goes without saying that metaphor does not involve reproducing every feature of the object to which something is being compared. In fact, metaphor relies on picking out one or some relatively small number of features that bring out something salient in the phenomenon upon which one wants to shed light. Generals have more ornate uniforms and sleep in larger and more comfortable tents than the rest of the army. Clearly this does not mean that this specific inequality holds true of the relationship between "the good and the best" and the rest of the universe. But even the more abstract, theoretical characteristics of the general-army relation need not be reproduced in every detail. So why assume that the comparison is directly about causality? [149]

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[147] ὡς δ᾽ αὕτως καὶ οἱ τὸ ἓν ἢ τὸ ὂν φάσκοντες εἶναι τὴν τοιαύτην φύσιν τῆς μὲν οὐσίας αἴτιόν φασιν εἶναι, οὐ μὴν τούτου γε ἕνεκα ἢ εἶναι ἢ γίγνεσθαι, ὥστε λέγειν τε καὶ μὴ λέγειν πως συμβαίνει αὐτοῖς τἀγαθὸν αἴτιον

[148] Here again, as in the neo-Platonic commentaries described in the Appendix, we see an emphasis on *efficient* and not teleological causality as one of the features that sets Plato apart from Aristotle.

[149] Though my argument does not require that the military analogy account for the final causality of the prime mover, commentators have tried to read it in just this way:

(i) Themistius's commentary (now lost in Greek) is the earliest to which we have access for Λ. In his comments on the discussion of the causality of the unmoved mover in Λ 7, after telling us that the unmoved mover is a "perfection and final cause," (Brague 86, II.9 = Badawi 15 = Landauer 17), he goes on to explain its causing motion as an object of desire (1072b4) by comparing it to a king, who is surrounded by concentric circles of courtiers, who stand in for the spheres, and are *for the sake of the king*. (Brague 88, VII.14 = Badawi 16 = Landauer 18) This change of general to king is insignificant; those who object to a general being a *telos* should have just the same objections to a king being described in these terms. Moreover, Themistius compares the teleological causality of the unmoved mover to the law – a standard to which one adheres. (Brague 87-88, VII.13 = Badawi 15-16 = Landauer 18) For the text of the commentary, see Rémi Brague's French translation, *Paraphrase de la Métaphysique d'Aristote (livre lambda)* (Paris: Vrin, 1999); the complete Hebrew translation in *Commentatoria in Aristotelem Graeca*, vol. V.5, ed. (Berlin: Reimer, 1903); and the Arabic fragments from the version on which the Hebrew was based, Abd al-Rahman al-Badawi, ed., *Arisṭu 'inda al-'Arab* (Cairo: Maktabat al-Nahḍah al-Miṣrīyah, 1947).

It is much more perspicuously understood as illustrating the way in which the good is related to the world by a relation of asymmetric dependence. This will, for the reasons we have just seen, involve causality, since dependence is a causal notion for Aristotle. Viewed from this light, the analogy is meant to further substantiate his description of the highest good as "separate" and thereby to elucidate how the universe can contain the good in two ways, as something separate *and* as emerging from the internal ordering of the world. (1075a12; cf. Λ 1 1069a35; Λ 7, 1073a14 where the prime unmoved mover is called separate.) In claiming the status of something separate for the prime unmoved mover and the good, Aristotle is responding to Plato's characterisation of the Idea of the Good, echoed linguistically by his use of Plato's characteristic tagline "itself by itself" (*auto kath' hauto*) in the same line.[150]

But despite this sentence being good evidence for there being less of a gulf than commonly assumed between an Aristotelian and Platonic metaphysics of goodness, it does not mean that Aristotle simply adopts Plato's position.[151] Indeed, part of that difference might lie in what it means

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(ii) Ibn Rushd – who had access to a translation of Themistius as well as Alexander – compares the unmoved mover to a monarch and again makes the comparison not to underline the *efficient* capacity of the unmoved mover, but precisely its status as a *telos* and more specifically as an exemplar. After noting that *telê* can either be perfections *acquired* by a subject or the external aims of that subject (his somewhat idiosyncratic understanding of the two senses of "that for the sake of which"), he explains the second as "substances external to the thing moving towards them by making itself similar to them, for instance all the actions of the slaves imitate the master and his aim, and the people of the same kingdom strive in accordance with the goal of the king." (1605,10-13) The passage is particularly notable because it is one of the places where Ibn Rushd is reporting Alexander's interpretation of the passage in question, raising the distinct possibility that the comparison between the unmoved mover and a king goes back to Alexander. This possibility is made all the more plausible given that Themistius, like Ibn Rushd, had access to Alexander's commentary and that the comparison occurs at the same juncture of Aristotle's text for both Themistius and Ibn Rushd, suggesting (though by no means definitively) a common source of inspiration. For the text of Ibn Rushd's commentary, see *Tafsir ma ba'd aṭ-ṭabi'at*, Texte arabe inédit, vol. VII, ed. Maurice Bouyges (Beirut: Imprimerie Catholique, 1948). An English translation is available in *Ibn Rushd's Metaphysics: A Translation with Introduction and Commentary on Aristotle's Metaphysics, Book Lām*, trans. Christopher Genequand (Leiden: Brill, 1986).

[150] *Auto kath' hauto* used of the Forms at, among other places, *Hippias Major* 299c; *Symposium* 211b; *Republic* 524e; *Parmenides* 129aff. Stephen Menn, "Aristotle and Plato on God as Nous and as the Good," *The Review of Metaphysics* 45, no. 3 (1992): 543-573 takes the unmoved mover to be an Aristotelian analogue to the Idea of the Good of Plato's middle dialogues.

[151] The famous "polemics" against Plato at *EN* i.6 and *EE* i.8 are, undoubtedly, harsher in tone than Λ 10, but they do not unambiguously reject a separate good or the notion of absolute goodness. Separation is mentioned explicitly only once in either of those two passages (at *EN* i.6, 1096b33) and when it is, Aristotle entertains it as a possibility, though he suggests it will be "unattainable for human beings." (1096b34) It is of course true Aristotle raises severe

for something to be separate. Plato's Idea of the Good was supposed to be utterly transcendent, unrelated to any worldly good thing – it was so separate that Plato called it "beyond being." (*epekeina tês ousias* – *Rep*. vi, 509b) Aristotle's good-itself, though separate, is most definitely a being or substance, if of a particularly excellent sort. [152] The "separation" between the good (god, the unmoved mover) is one of dependence: the world is good on account of it, but it is good in itself (1075a15) – i.e. no reference needs to be made to the world in accounting for its goodness. That is, its goodness is ontologically prior to the goodness of the cosmos in all of the ways that we have seen above: it can exist independently of the good of the cosmos (but not vice versa), it is the cause of the good of the cosmos (but not vice versa) and it explains, ultimately what it is for the cosmos to be good (but not vice versa). The goodness of the prime mover satisfies all of the criteria for separate and self-subsistent priority that Aristotle set out in *Meta. Z.* But Aristotle doesn't rely only on technical philosophical vocabulary to make this point. Rather he invokes an analogy – of the general and his army – in order to illustrate it. Moreover, the relationship between the prime mover and the world – that which it moves – does not fall victim to the sort of objection that we have seen Aristotle level against (his reconstruction of) Platonic metaphysics (*Meta. Z* 16, 1040b28ff. Cf. *Meta*. A 6, 987b8-14): it is not one thing that is somehow "in" many, as he takes Plato's Forms to be. Rather, it is that for the sake of which they act.

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problems for a Platonic metaphysics of the good, but his arguments there are almost entirely destructive – he does not give a concrete proposal of his own. Indeed, when it comes to giving his own views, he says in *EN* i.6 that the good *does* likely have something common, and that its unity will be provided either *pros hen* or by analogy. Nevertheless, he dismisses this question as irrelevant for his present inquiry and says that it ought to be deferred to another occasion. Perhaps Λ 10 is just that occasion.

[152] As Mary Louise Gill puts it, "the being of divine substance, though of a rarefied sort (pure actuality or activity), seems not to differ in kind from that of mundane substances." "Aristotle's *Metaphysics* Reconsidered," *Journal of the History of Philosophy* 43, no. 2 (2005): 246.

II. The scope of the prime mover's causality

How far, though, does the teleological causality of the prime unmoved mover extend? That is, if the prime unmoved mover is an external end, *of* what is it the end? There are two questions here. The first of these can be addressed relatively quickly (II§1); the second will take more elaboration; a sketch is begun in II§2, while a full illustration is given in the following Chapter.

II§1

First, what if there are multiple unmoved movers, multiple gods? The grounds for inter-species comparison would then seem to slip away, since there would not any longer be a common normative standard, even one that is realised very differently by different sorts of things. The question is not merely a hypothetical one. At the beginning of Λ 8 he poses the question "Whether it is necessary to posit one such substance or several, and <if several,> how many." (1073a14) And though he answers the same question in the singular in *Physics* viii.6 with the comforting response that "one ought (*dei*) to judge that there is one rather than many," (259a9-10) we get no such assurance in Λ 8. Rather, we find there that there are not only more than one, but as many unmoved movers as there are homocentric spheres necessary to account for the motions of the planets, sun, and moon in Aristotle's version of the Eudoxan-Callipian model: that is, give or take, 50 unmoved movers of the heavens (55, from which six can be subtracted, though the existing manuscripts all read 47 instead of expected 49).[153]

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[153] For the details of the astronomy, see G.E.R. Lloyd, "Metaphysics Λ 8," in *AML*, 245-273 and Jonathan Beere, "Counting the Unmoved Movers: Astronomy and Explanation in Aristotle's Metaphysics XII.8," *Archiv für Geschichte der Philosophie* 85 (2003): 1-20.

The question of the relationship between the fifty odd movers of Λ 8 and the apparently single mover not only of *Physics* viii.6 but also of the other parts of Λ is enormously complicated. Let us note three points in favour of a single prime mover drawn from Λ itself:

(i) After positing the merely analogical sameness of the principles of sensible substance in Λ 4 (matter, form, privation – to which potentiality and actuality will be added in Λ 5), Aristotle introduces the possibility of "that which sets all things in motion as the first of all things" (*to hôs proton pantôn kinoun panta*). (1070b35) This strongly suggests that in *contrast* to the analogical sameness of the sensible principles, this "first of all things" is one in number and is the cause of motion of everything.[154]

(ii) In Λ 7, after explicating the way in which the unmoved mover moves the (first) heaven, Aristotle says that "from such (*toiautê*) a principle the heavens and nature depend." (1072b13-14) It is possible, placing rather heavy emphasis on the indeterminacy of "such" (*toiautê*) to read this as referring to (or at leaving open the possibility of) multiple such principles. Nevertheless, this is not the most natural way to read it, especially since Aristotle goes on to praise the divinity of this principle in the *singular*.

(iii) In Λ 10, the chapter concerning the nature of goodness, after Aristotle has criticised his predecessors, he closes not just the chapter but the book – and indeed the treatise, if Λ was composed independently – with a Homeric quotation, spoken by Odysseus during one of the many quarrels between the Achaean chieftains on the Trojan battlefield: "The rule of many is not good. Let there be one ruler." (Λ 10 1076a4; cf. *Il.* B 204)[155]

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[154] Cf. Crubellier, "Metaphysics Λ 4," in *AML*, 157-9

[155] οὔκ ἀγαθὸν πολυκοιρανίη: εἷς κοίρανος ἔστω. The point is elaborated over a further two lines (B 205-6) in the Homeric text: "…εἷς βασιλεύς, ὧι δῶκε Κρόνου πάϊς ἀγκυλομήτεω / σκῆπτρόν τ'ἠδὲ θέμιστας, ἵνά σφισι βουλεύηισι" ("…one king, to whom the son of crooked-counseling Kronos gave / the scepter and the laws, in order that he might make decisions for them.")

None of these are absolutely decisive, and even if they were, it would not thereby rule out the possibility of Aristotle holding conflicting views between Λ 8 and other passages. We should not allow the focus on the many unmoved movers of Λ 8 to completely overshadow the much more frequent references – in Λ and elsewhere – that are made very explicitly to a single highest principle. And, more importantly, Λ 8 does not abandon this perspective completely. For it does not speak of multiple *first* unmoved movers, each the highest end and goal of the motion of their respective spheres. It reserves that appellation, tellingly, for the prime mover of the outermost heaven, upon which everything depends. What is left unresolved in Λ 8 is *how* the single highest mover relates to the particular movers of each sphere. A historical conclusion has been to say that the subordinate movers are the *souls* of the spheres which act for the sake of the single highest mover.[156] (Medieval Christian and Muslim commentators went even further, claiming that the first unmoved mover is god and that the subordinate ones are angels.[157])

The conceptual basis of this approach may well be sound. Aristotle opens his discussion in Λ 8 with a characterisation of the *first* (i.e. prime) unmoved mover as "the principle and the first of beings, motionless in itself *and accidentally*." (1073a23-24) The other movers, meanwhile, are characterised as motionless in themselves, but *not* as motionless accidentally. The unmoved movers of the planets, unlike the first unmoved mover, would then be motionless *qua* causes of motion, but not absolutely motionless. As a formal description, this would allow for the reading of the lower unmoved movers as souls, though far more would need to be done to establish this

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[156] For how this historical reading emerged, see H.A. Wolfson, "The Problem of the Souls of the Spheres from the Byzantine Commentaries on Aristotle Through the Arabs and St. Thomas to Kepler," *Dumbarton Oaks Papers* 16 (1962), 65-93.

[157] While no one has made *that* claim recently, several contemporary writers do at least raise the possibility that the unmoved movers of Λ 8 are souls. In addition to Broadie, "Que fait le premier moteur" and her "Heavenly bodies and First Causes," in *A Companion to Aristotle*, ed. Georgios Anagnostopolous (Malden, MA and Oxford: Wiley-Blackwell, 2009), 230-241, see also Aryeh Kosman "Aristotle's Prime Mover," in *Self-Motion: From Aristotle to Newton,* eds. Mary Louise Gill and James Lennox (Princeton: Princeton University Press, 1994), 135-154.

positively. Regardless, however, this leaves room for these "secondary" unmoved movers being teleologically subordinated to the prime mover or to god.[158]

But as we leave Λ behind for other texts in the corpus, we shall find that the possibility of many divine principles – many highest *archai* – seems to be a one-time affair, perhaps the isolated effect of an attempt to fit his metaphysics with the latest astronomy and, it seems, compatible with the universal teleological causality of the prime unmoved mover.

II§2

We have already seen *how* the prime mover operates a final cause. We must now ask *of what* it is a final cause. Does it merely explain the motion of the heavens – the fixed and wandering stars (planets) – or does its causality extend further down, to the sublunary world? Though the specific focus of *Metaphysics* Λ is largely on the heavens, there are several textual clues that indicate Aristotle has the broader role for the prime mover in mind.[159]

First, as we have already seen, Aristotle says that both the heavens and nature depend on (*êrtêtai*) the prime mover. (Meta. Λ 7, 1072b13) If Aristotle restricted the dependence on the prime mover to the heavens, the addition of nature (which includes the heavens, but also the sublunary world), would be out of place here. One might be tempted to respond by saying that a form of dependence is preserved, since – at an appropriate level of remove – the course of the sun along

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[158] István Bodnár has argued this is impossible because at 1074a19 Aristotle says that *every* such mover "has attained the best according to itself" (*kath' hautên tou aristou tetuchêkuian*), i.e. that its goodness is not determined by anything outside itself. But this mention of "the best according to itself," might also simply be taken to mean that these "lower" unmoved movers are the best sort of thing that *that they can be*, leaving open the possibility of them being for the sake of the prime unmoved mover. See István Bodnár, "Cases of Celestial Teleology in *Metaphysics* Λ," in *NEML*, 247-267.

[159] Along similar lines see Charles Kahn, "The Place of the Prime Mover in Aristotle's Teleology." in *Aristotle on Nature and Living Things: Presented to David Balme on His Seventieth Birthday,* ed. Alan Gotthelf (Pittsburgh/Bristol: Mathesis/Classical Press, 1985), 183-205. I am largely sympathetic to Kahn's view, though his central metaphor of the prime mover as "a kind of metaphysical magnet drawing all natural potencies on to their realisation in act and to the acquisition of their specific form" (184) seems to suggest – perhaps unintentionally – that the prime mover is an efficient cause *and not* a final one.

the ecliptic is efficient-causally responsible for sublunary change (Λ 5 1071a13-17) and that the sun depends in turn on the prime mover. But this kind of attenuated connection between the sublunary world and the prime mover would make the latter prior only existentially. And it is far from clear that one can speak of a legitimate causal chain in which the mode of causality switches between teleological and mechanical causes. In other words, if *A* is the *final* cause of *B* and *B* is the *efficient* cause of *C*, it is hardly obvious that *A* can be said to be the cause of *C*. In the present case, on the hypothesis that the prime mover is the final cause of the first heaven's motion, which is in turn the *efficient* cause of the rest of the cosmos, we cannot say that the prime mover is an efficient cause for the sublunary world, since it is, *ex hypothesi* not an efficient cause. But the model also rules out the prime mover as a *final* cause, in denying that sublunary motion take place for the its sake. If this were so, the claim that not just the first heaven, but also the rest of nature, depends on the prime mover, as Aristotle asserts at 1072b13, would be untenable.

Second, in the opening passage of Λ 10, whose military analogy we have already examined at some length, Aristotle is investigating the way that the *entire* universe ("the nature of the whole" 1075b11) is good. The question of whether the good is something separate or immanent – or, as Aristotle would have it, in both ways – is not restricted to the goodness of the heavens. This is further emphasised by the examples he gives in sketching his answer: "… all goods are ordered together in some way, though not in the same way – swimming things and winged things and plants. And not such that one thing is unrelated to another, rather there is some relation. For all things are ordered together with reference to one thing (*pros hen*) …" (1075a16-18) If the prime mover were a *telos* only for the heavens, then this elaboration of cosmological goodness in terms of three broad classes of sublunary beings would be out of place. Moreover, on the previously

mentioned suggestion that the prime mover is a *final cause* for the heavens, which are an *efficient cause* for the sublunary world, the connection with goodness here on earth would be severed.

Third, there are passages outside of the *Metaphysics* that require a common end for every natural being, over and above their own species-specific forms. Perhaps the most notable, and the one which I shall focus on here, is the famous passage at *DA* ii.4 where Aristotle sets out to explain the functions of the nutritive soul, shared by all living beings.[160] This basic biological capacity includes, but is not limited to, what we would now call "nutrition" – the taking in and digestion of food. Most importantly, it also aims at reproduction. In the case of taking in and digesting food, an appeal to the species-form may seem like a sufficient explanation: living things eat (or, in the case of plants, absorb nutrients) for the sake of maintaining their strength and continuing in their existing activities as much as possible. That is, eating is teleologically subordinate to the actualisation of their form. But what about reproduction? One might argue that humans, along with other cognitively complex animals, have a desire for children (indeed, that children satisfy a deeply felt need in the structure of their lives) and that the pursuit and realisation of this desire constitutes and expresses species form and is thus internally good. But this seems hardly plausible in the case of animals with less complex cognitive structures – fish, say – let alone plants. Aristotle has another answer, to why living things reproduce:

> … it is among the most natural functions (for anything mature and not deformed or spontaneously generated) to make another like itself – for an animal to make an animal and a plant a plant, so that they take part in the eternal and the divine as much as they are able to. For everything desires this, and everything does what it does by nature for the sake of this (that-for-the-sake-of-which is twofold – both the "of which" [*to hou*] and the "for which" [*to hôi*]). Since it is impossible to participate in the eternal and the divine by continuation because nothing corruptible is able to remain the same and numerically one, each thing does so thus, as much as it can, some more and others less, and does not remain

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[160] Other key passages include *GA* ii.1, *GC* ii.10, and *DC* ii.12. The last of these shall be the focus of Ch. 4.

itself, though something like it does, not one numerically, but in form.[161] (415a23-b8)

At a purely terminological level, the connection with *Metaphysics* Λ is immediately apparent: (i) the eternal and divine, two key attributes of the prime mover, are explicitly named as a final cause;[162] (ii) the ascription of final causality is argued for on the basis of an appeal to the distinction between two senses of "that for the sake of which" (*to hou heneka*); (iii) the mode by which the entities (in this case, natural organisms) act for the sake of this end is explicitly named as desire. The identification of the prime mover with *to orekton* – the object of desire – in Λ 7 corresponds to the verb *oregomai of DA* ii.4.

Most commentators on this passage, on the assumption that the dative and genitive mark a beneficiary-aim distinction, take Aristotle's claim to be that the *aim* of generation, picked out by the genitive, is the eternal-and-divine – or "immortality," for short – while its *beneficiary,* denoted by the dative, is the individual and/or the species. On my reading, which takes the distinction to be one between internal and external ends (ends *of* and ends *for*) participation in the eternal-and-divine – becoming "immortal" is an external, but not an internal, end for natural things.[163] Moreover, Aristotle provides an explanation of why living beings must achieve this external aim through reproduction. They are incapable of actual immortality, so must settle for second best, attaining eternity and divinity, not by literally staying alive forever, but through the continuity of the species to which they belong.

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[161] φυσικώτατον γὰρ τῶν ἔργων τοῖς ζῶσιν, ὅσα τέλεια καὶ μὴ πηρώματα ἢ τὴν γένεσιν αὐτομάτην ἔχει, τὸ ποιῆσαι ἕτερον οἷον αὐτό, ζῷον μὲν ζῷον, φυτὸν δὲ φυτόν, ἵνα τοῦ ἀεὶ καὶ τοῦ θείου μετέχωσιν ᾗ δύνανται· πάντα γὰρ ἐκείνου ὀρέγεται, καὶ ἐκείνου ἕνεκα πράττει ὅσα πράττει κατὰ φύσιν (τὸ δ' οὗ ἕνεκα διττόν, τὸ μὲν οὗ, τὸ δὲ ᾧ). ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ ἀεὶ καὶ τοῦ θείου τῇ συνεχείᾳ, διὰ τὸ μηδὲν ἐνδέχεσθαι τῶν φθαρτῶν ταὐτὸ καὶ ἓν ἀριθμῷ διαμένειν, ᾗ δύναται μετέχειν ἕκαστον, κοινωνεῖ ταύτῃ, τὸ μὲν μᾶλλον τὸ δ' ἧττον, καὶ διαμένει οὐκ αὐτὸ ἀλλ' οἷον αὐτό, ἀριθμῷ μὲν οὐχ ἕν, εἴδει δ' ἕν. (415a23-b8)
[162] I am taking the eternal and divine to refer to *one* entity; i.e. construing the conjunction *kai* as epexegetical – *to aei kai to theion* might be rendered "that which is eternal and divine."
[163] Here, my distinction between internal-external ends lines up with the usual beneficiary-aim distinction as well as Gelber's hyperetic-directive distinction.

II§3

What then of Aristotle's much-cited claim – which we have already encountered in Chapter 1 – that teleological explanations are indexed to kinds. Or, as he puts it in the *Physics*, that such explanations make reference to the fact that a given occurrence is "better so, not simply, but in relation to the substance of each thing?"[164] (ii.7, 198b8-9) This principle is usually understood as meaning that the explanatory role of goodness is restricted to good *in a kind*. In other words, teleological explanation is supposed to be an internal affair. But the teleological causality of the prime unmoved mover unambiguously cannot, for reasons we have already seen, be characterised as internal to the things it explains. So why might Aristotle be drawn to this "external perspective," and how are we to reconcile it with the internal one?[165]

In other words, what justifies the distinction I have tried to develop between internal and external ends? The prime unmoved mover – god – can only be understood as a *telos* in terms of an external end. Sensible forms, on the other hand, are the internal, specific ends of the organism in question. Viewed internally, the *telos* of each organism will look very different: not only in terms of which physiological processes it must undergo in order to count as fully formed, but also and more importantly in terms of the activities that characterise its flourishing, its internal good. The good life of a bird involves, inter alia, flying; of a fish, swimming; of a human, thinking.

This much is uncontroversial. The further question is whether Aristotle believes there is any way of standing outside of the internal perspective of each species and asking what sort of higher unity there is linking these. My contention, of course, is that that Aristotle responds affirmatively. More specifically, while he accords primacy to the internal view when it comes to

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[164] διότι βέλτιον οὕτως, οὐχ ἁπλῶς, ἀλλὰ τὸ πρὸς τὴν ἑκάστου οὐσίαν. Cf. *IA* 704b15-18.
[165] The language of "internal" and "external" perspectives is drawn from Martha Nussbaum, *Fragility of Goodness: Luck and Ethics in Greek Tragedy and Philosophy* (Cambridge: Cambridge University Press, 1986): 375.

explaining the particular features and ways of life of individual species and their members, he also believes that there are times when it is crucial to adopt precisely the kind of external perspective I have been alluding to. At the level of sublunary organic species, we have seen (as in *DA* ii.4) that the external perspective allows an answer to the question of why it is that organisms pursue survival not at the individual level, but as a species. (To say that this is simply instinctive behaviour would not, for Aristotle, be adequate. It would be a non-explanation.)

It is true that Aristotle adopts this external perspective only rarely. But to note the absence of appeals to the divine in the context of asking why, say, deer have horns (*PA* iii.2 663a34-663b10) or humans have hairy heads (*PA* ii.14, 658b2-10) would be, I think, fundamentally to misunderstand the point of the external perspective. The external view, the reference to the teleological role of the divine, explains as we have seen, the eternity and regularity of motion and change. But when he is explaining why animals have the parts they have, he is not concerned with the overall patterns of regularity and stability in the cosmos, but rather with the particular ways in which particular parts of the cosmos are arranged in discrete regions. Invoking the fact that horns help deer be godlike as much as is possible for them, in so far as it helps them live full and reproductively successful lives, would certainly not be *false* and indeed, in a full demonstrative explanation going all the way back to first principles, it might even be made explicit. Yet it is also not necessary for him to mention it in a biological context.

I§4

We can see these final points illustrated in the following series of questions and answers between an Aristotelian and a somewhat sceptical student:

Q: Why do deer have horns?

A: For the sake of protection.

This is the point at which teleological explanations typically cease in the biological works. (There are sometimes also appeals to material causation: for example, deer have horns because there is an excess of earthy matter out of which they can be made at *PA* iii.2, 663b29-35.[166]) But there is no reason why the conversation cannot continue:

Q: Why do deer pursue protection?

A: Well, first of all in order not to be eaten; but in general for the sake of their flourishing.

Q: What is flourishing for a deer?

A: Performing the characteristic activities of their kind – doing deer-like things – in an excellent way.

Q: Why is *that* good?

A: Because performing the characteristic activities of one's kind in an excellent way is just what it means to be good for each kind of thing.

Up to this point, the answers to the questions have stayed within the internal perspective, referring only to the species itself. But one can easily imagine an interlocutor, dissatisfied with Aristotle's last response, pressing on:

Q: Yes, but *why* is *that* good – what is so good about performing one's characteristic activity well?

To this further question, Aristotle could reply that his interlocutor has quite missed the point – that there is nothing further that unifies the good of each kind beyond the analogical unity[167] of the various kinds of things and their various characteristic activities.[168] But he can also shift perspectives and leave behind the internal point of view of the organism and look outward:

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[166] On Aristotle's practice of more than one demonstration for a single phenomenon, see Comay del Junco, "Aristotle on multiple demonstration."

[167] But on the problems with analogical unity, see Ch. 1, Appendix B.

[168] This is the point at which most contemporary "neo-Aristotelian naturalists" – e.g. Philippa Foot, Rosalind Hursthouse, Michael Thompson, different as they all may be – would say that this is the correct answer and that beyond here, the conversation ceases to be intelligible.

A: Well, usually I stick with the perspective of each kind of thing. But viewed very generally, the characteristic activity of each kind is good because it is that kind's way of acting for the sake of the prime unmoved mover, for god.

Q: Fine. But how does each thing act for the sake of the prime mover or god?

A: By becoming like it – by becoming divine – as much as possible. In the case of *all* sublunary organisms, this means pursuing immortality indirectly, through reproduction (that's the point of *DA* ii.4). In other cases, like the stars and planets, they can actually attain eternal activity. And at least one species, human beings, pursues immortality through both reproduction *and* through their capacity for reason (*nous*), which is a kind of timeless activity, even if they can only activate this capacity for brief moments.

Of course, the questioner may feel the need to ask at least one more final question, even at the risk of impiety:

Q: This is all very interesting, but I still have a more basic question: why should members of individual species try to become like god? Or if I can be more blunt: why is *god* good?

A: After this I'll have run out of explanations: god is not just the best thing; it is *the* good.[169]

At this point, Aristotle will finally say that explanations have run out. But in moving from the internal, species-specific perspective, to the external one, he has left beyond the biological domain in which the conversation began and entered into metaphysics and, more specifically, into theology. Are these perspectives coherent? There is certainly a degree of tension between them, but once we see that they are operating at entirely different levels of generality, the tension is one of emphasis and scope; it is not a contradiction. The internal perspective can, in the final analysis and at a suitable level of generality, be grounded in the external one.

This does not mean that the value of everything else besides the prime unmoved mover is dependent on it in the same way as the value of *means* is dependent on that of ends. It would be mistaken to think of the teleological relationship between individual species and Aristotle's god in terms of means and ends. Organisms act for the sake of the prime unmoved mover in so far as it

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[169] Λ 10 1075a11, cf. Λ 9 1075a9; cf. Menn, "Aristotle and Plato on God."

determines the conditions of their success in the most general way possible. But they do not act

for the sake of the prime mover in the sense of providing necessary conditions for *its* realisation.

From considerations of what we have seen so far – that (a) Aristotle unambiguously characterises

his god, the prime unmoved mover, as an end, a "that for the sake of which;" (b) that the prime

unmoved mover, is, by definition, absolutely without modification; (c) that the way other things

act for its sake is best understood in terms of aspiration and emulation. What we should instead

conclude is that the relationship of means and ends is only one instance of a much more capacious

sense of what it means to be for the sake of something. Our investigation of teleology in Aristotle's

theology thus has significant implications for our account of final causation in his work more

generally.

III. The clarity of ancient opinion

If everything that has been said so far is approximately correct, one might be tempted to

ask whether, after all this, Aristotle's god must exist. After all, if it causes motion as the object of

love, and more specifically as the object of emulation or aspiration, might it not remain a purely

ideal entity of reason, with no existence independent of those things that love it and aspire to be

like it? To be clear, there is no question that Aristotle considered his god, the prime mover, to have

real – indeed the most real – and autonomous existence. Yet the question still remains as to

whether, having argued for there being a *telos* of cosmic motion, he is *entitled* to this existential

certainty. Sarah Broadie takes this question as constituting grounds for doubting whether Aristotle

did in fact consider the prime unmoved mover to be a *telos*: "Bien qu'un objet d'amour ou de désir

puisse ne jamais exister (il pourrait rester un idéal à jamais irréalisé), le Premier Moteur, comme le dit clairement le texte, est un être actif, effectivement existant."[170]

At face value, this objection seems to rest on considerations that Aristotle would find utterly foreign. For it supposes that celestial bodies are like human beings, of whom it is surely true that there can be ends and objects of desire that do not really exist, or do not really constitute ends. Among other things, we can be profoundly mistaken about what is actually good for us and act on this; the *apparent* good is just as suitable an object of desire for explaining human actions as is the *real* good. But in so far as *god* is the object of desire, the subject of desire is acting on behalf of the *real* good.[171] This is crucial for Aristotle's explanation of the regularity of heavenly motion: the heavens move in perfect and eternal circles because (a) they have only the prime unmoved mover as their object of thought and desire and (b) the prime unmoved mover is the *real*, not merely apparent good.

There is another reason why Aristotle would find scepticism about the real existence of the divine to be unwarranted. He is perfectly willing to part company with received opinions, even with common sense, in the face of good philosophical objections. But it is also well-known that he also accords great significance to something like the "rational kernel" that he believes is contained above all in the thinking of his philosophical and naturalist predecessors, but also in popular religion and theology.[172] In his cosmological treatise, *De Caelo*, he writes the following:

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[170] Broadie, "Que fait le premier moteur?" 378 As David Sedley puts it: "Reverence for this higher being may help us focus our moral aspirations correctly, but merely to serve that purpose it is not clear why god need even objectively exist" ("The ideal of godlikeness," 315-16). Sedley holds – controversially – that this is the route taken by Epicureanism but agrees that Aristotle almost certainly did not have this view.

[171] This also explains why being godlike is held to be the highest and most secure form of human goodness in *EN* x.7-8.

[172] See Nussbaum, *Fragility of Goodness*, Ch. 8; Cf. Dorothea Frede, "The Endoxon Mystique: What endoxa are and what they are not," *OSAP* 43 (2012): 185-215; Joseph Karbowski, "Endoxa, facts, and the starting points of the Nicomachean Ethics," in *Bridging the Gaps Between Aristotle's Science and Ethics*, eds. Devin Henry and Karen Margrethe Nielsen, 113-129 (Cambridge: Cambridge University Press, 2015).

And indeed – just as is the case in general philosophical circulation (*egkukliois philosophêmasi*) about divine matters (*ta theia*) – it often comes to light by arguments that that the divine (*to theion*) and everything first and highest is necessarily unalterable, which bears witness to what has been said. For neither is there something else stronger that will move it (for then that would be more divine) nor does it possess any defect or lack of any of the things that are fine for it. (*DC* i.10, 279a30-35)[173]

The lack of qualitative change of the celestial bodies justifies the traditional ascription of divinity to them. Aristotle is not here talking about the unmoved mover, but about the celestial spheres, which are subject to change of place, but not qualitative alteration. (Note that he does not say that these celestial bodies are *god*, but that they are *divine*.)

The term I have translated as "general philosophical circulation" here is rare in Aristotle. The Oxford translation renders it as "popular philosophy," but this is perhaps a bit too strong. In another occurrence (*EN* i.5, 1096a3) it appears to mean "works designed for public consumption," or the (now lost) exoteric part of the corpus. It does not seem, however, to have this meaning in the *DC* passage, since an appeal to Aristotle's *own* public claims would hardly provide any kind of grounds – that is "bear witness to," or "confirm" in the Oxford translation – for the point Aristotle is trying to establish: that there is something particularly divine about the heavens. It may simply denote widespread philosophical/scientific consensus on a point. The key word, *egkyklios*, in addition to its literal sense of "circular" or "cyclical,"[174] also means "everyday" or "general." Whatever the precise referent, if in fact there is one, Aristotle is clearly arguing on the basis of *idées reçues,* or at least what is valuable in them.

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[173] Καὶ γάρ, καθάπερ ἐν τοῖς ἐγκυκλίοις φιλοσοφήμασι περὶ τὰ θεῖα, πολλάκις προφαίνεται τοῖς λόγοις ὅτι τὸ θεῖον ἀμετάβλητον ἀναγκαῖον εἶναι πᾶν τὸ πρῶτον καὶ ἀκρότατον· ὃ οὕτως ἔχον μαρτυρεῖ τοῖς εἰρημένοις. Οὔτε γὰρ ἄλλο κρεῖττόν ἐστιν ὅ τι κινήσει (ἐκεῖνο γὰρ ἂν εἴη θειότερον) οὔτ' ἔχει φαῦλον οὐδέν, οὔτ' ἐνδεὲς τῶν αὐτοῦ καλῶν οὐδενός ἐστιν.

[174] My choice of "circulation" is meant to preserve the possibility of wordplay, since Aristotle is after all, discussing the circular paths of the heavenly bodies. Something of the sense of public knowledge is preserved in the term "encyclical."

This last caveat is particularly important. Someone disinclined to take Aristotle's theological interests seriously might respond by emphasising the essentially conservative, non- or pre-theoretical nature of the appeal to common sense. Aristotle makes a similar argument for the identification of the celestial bodies generally with gods in Λ 8 (and thus implicitly the unmoved mover with *god*, since by this stage in the argument, he has established the dependence of heavenly motion on the prime unmoved mover). First, he notes that a "tradition has been passed down from ancient times" to the effect that the heavenly bodies are gods and that that the divine "surrounds" the universe. (Λ 8 1074b1-3) So far this is exactly parallel to the *DC* passage. But then he makes a critical intervention: he notes that "the rest" has been added "mythically" on for the purposes of "persuading the many, and the laws, and beneficial purposes." (1074b5-6) What are these mythical additions, which Aristotle seems to be implying are made less on the basis of their truth than for the socially expedient function they might serve? "They say that the gods are anthropomorphic or like the other animals and other things following on and similar to these claims," (1074b6-7) says Aristotle. It is only by separating out the first core claim, he says, namely that the "first beings" are gods, that we are able to make sense of the tradition of cosmo-theological theory: "only in this way are the ancestral and ancient opinions clear to us." (1074b14-15)

Aristotle's combination of cosmology and theology is driven, then, by a conscious desire to incorporate and respond to traditional concepts in both domains. But it is not *merely* driven by such a desire; Aristotle retains what he takes to be valuable and coherent in his tradition while discarding those aspects which he takes to be less defensible, like anthropomorphism. One misses the point, then, should one dismiss the cosmo-theological project of *Metaphysics* Λ as merely a "likely story" (*eikos logos*) and suggest that Aristotle does not claim this story to be true properly

speaking.[175] It is, of course, true that Aristotle conceded that observation of the faraway celestial bodies is much more difficult than the observation of living things here on earth. (cf. *PA* i.5) Yet he does not uncritically adopt traditional conceptions of the heavens or the gods, but rather tries to synthesise their core insights with the observed facts and with philosophical argument.

So, it seems certain that the historical Aristotle would find scepticism about the objective existence of the prime unmoved mover to be unwarranted. However, this may not be so unwelcome for contemporary readers who are motivated not only by the aim of accurate reconstruction of positions and arguments, but also by the aim of finding out what is "live" for philosophical appropriation. A cosmo-theological treatise like *Metaphysics* Λ might not seem like the obvious place to make such discoveries. Both its theology and cosmology may seem to be of merely antiquarian interest, even compared to other sections of Aristotle's scientific corpus (e.g. a reader sceptical of the strong metaphysical commitment to the eternity of species might find the detailed descriptions and functional analyses in the zoological writings of enduring value). And the notion of a cosmological order grounded in the divine may provoke some unease more generally if we are looking for arguments of contemporary relevance.

That Aristotle himself clearly did not feel worried about an objection like Broadie's is perhaps best witnessed by the fact that nowhere does he give an "argument" for the existence of god (as distinct from an argument for the necessity of the prime unmoved mover, which, as we have seen, he most certainly argues for).[176] In equating the prime mover with god, he can be said to take for granted that the divine plays a role in the explanation of what goes on in the cosmos.

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[175] E.g. David Charles, "Teleological Causation," in *The Oxford Handbook of Aristotle*, ed. Christopher Shields, 227-266 (Oxford: Oxford University Press, 2012); Cf. Andrea Falcon, *Aristotle and the Science of Nature, Unity without Uniformity* (Cambridge: Cambridge University Press, 2005); Mariska Leunissen, "Explanation and Teleology in Aristotle's Cosmology," in *NPDC,* 215-238.

[176] Cf. Nussbaum: "Would he say of god, as he does of *phusis* in *Physics* II.1, that the attempt to argue for something so basic to our experience of the world is fundamentally misguided and must involve going outside what we can possibly know from our own lives?" *Aristotle's* De Motu, 136. See also Johnson, *Aristotle on Teleology*, 258-263.

As we have seen, his equation of the prime unmoved mover with god is based primarily on an engagement (though by no means uncritical) with his tradition. We can, perhaps, in a similar vein, try to find what is "clear to us" in this ancient opinion as I have presented it, thereby uncoupling Aristotle's external perspective from its grounding in the existence of god. I am certainly not claiming that Aristotle himself took this route, but shorn of its realist theological commitments, adopting a view along the lines of his external perspective might provide an inspiration for thinking about value in the natural world without recourse to human beings and our interests. This Kantianising move would replace the really existing, unchanging, and self-subsisting substance that is Aristotle's god with an ideal, a specification of that which all end-directed beings have in common.[177]

We have seen that in *De Anima* ii.4, the striving for immortality shared by all living beings grounded their common reproductive and nutritive capacities: by staying alive and by leaving behind another specimen, individual organisms are able, Aristotle says, to attain immortality "in kind" if not "in number." This common reproductive capacity does *not*, however, ground any kind of hierarchy amongst those members that possess it, for it is one shared by all living beings – plants as much as humans. So, on the one hand, *DA* ii.4 is an example of global teleological thinking in Aristotle and presupposes the sort of universal final causality I have argued that pertains to the prime mover. On the other hand, it neither presupposes nor entails a hierarchy grounded in species' differential rates of success in pursuing this universal final cause. Nevertheless, as I have alluded

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[177] "Kantianising" insofar as it would make the ultimate cosmic end an ideal, rather than real, being (*Kritik der Urteilskraft*, §77); however, it would part ways with Kantianism rather quickly, since it would in not place human beings at the top of the cosmic order. (cf. *KrU* §83)
This suggestion is in some sense analogous to Gerasimos Santas's account of Plato's Form of the Good of the *Republic* as merely a hypostasisation of collection of features that make things good. ("The Form of the Good in Plato's Republic," *Philosophical Inquiry* 2, No. 1 (1977): 374-403) But unlike Santas with Plato, I am not in any sense suggesting that this alternative view was even countenanced, let alone endorsed, by Aristotle. I think it is worth exploring the possible separability, if not actual separation, of axiology from cosmo-theology as a way of seeing what is of more than simply historical interest in the cosmological picture.

to above, reproduction is not the only way Aristotle believes that beings can attain immortality and thereby approximate divinity. First, he holds that the *individual* heavenly bodies are capable of eternal motion (that is, they are eternal numerically, not just specifically). Second, in *De Caelo*, he presents an alternative way of conceiving of the way in which beings – including both heavenly bodies and sublunary organisms – act for the sake of the prime mover. Here the emphasis is not on reproductive capacity, but on the degree of *effort* which each species must exert in order to fully achieve its characteristic mode of life. Turning toward a close study of that text, then, is a natural next step in our inquiry and shall be the subject of Chapter 4.

Appendix to Ch. 3: The historical objection(s) to the prime mover as final cause

A**§**1

It is worth turning more directly to an objection against understanding the prime

unmoved mover which has not yet been fully articulated. This is a historical one and its core

claim is that understanding the prime mover teleologically is a later, primarily Platonic,

interpolation. The basic outlines of the historical side of the objection are summed up in the

following passage by Enrico Berti, who has been the most vigorous defender of the

revisionary/deflationary re-reading of the unmoved mover as a merely efficient cause. He writes:

> The interpretation of [the prime mover] as a final cause already existed at the time of
> Aristotle, as Theophrastus attests, in the works of several Platonists who posit that between
> the heaven and the unmoved mover there is a relationship of "imitation," which is coherent
> with the logic of Platonism. This interpretation was consolidated with Alexander of
> Aphrodisias, influencing the entire tradition, not only in commentaries, but also
> philosophically in the most general sense. It acquired a justification above all in the creation
> philosophies, Christian, Jewish, and Muslim, because in the creationist visions, God, being
> the total and sole cause of the universe, and having only himself as the end of his own
> actions, is himself also proposed as the end of the entire universe.[178]

Let us respond to each of these general contentions directly. In A§2, I will examine the

claim that a teleological understanding of the prime mover is fundamentally Platonic, rather than

Aristotelian. Contrary to Berti's claim, things are, in fact, just the other way around: in the work

of Platonising commentators, we find critiques of Aristotle precisely because he considered the

prime mover to be a final, rather than an efficient cause; in non-Platonic commentators, that claim

is absent. Likewise, the assimilation of Aristotle to what Berti calls the "creation philosophies"

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[178] Berti, "The Finality of the Unmmoved Mover," 876. For Berti's reading of Theophrastus and Alexander, see
respectively his "Teofrasto e gli Accademici sul moto dei cieli," in *Gigantomachia: Convergenze e divergenze fra
Platone e Aristotele*, ed. Maurizio Migliori, 339-58 (Brescia: Morcelliana, 2002); "Il movimento del cielo in
Alessandro di Afrodisia," in *La filosofia in età impériale: Atti del Colloquio, Roma, 17-19 giugno 1999*, ed. Aldo,
225-43 (Brancacci, Naples: Bibliopolis, 2000).

required understanding the divine precisely as an efficient cause, as a creative deity fundamentally *alien* to Aristotle's philosophy, not as a final cause.[179]

I have already argued (in Chapter 3, I§5) that even if "imitation" is not a central Aristotelian term, it may usefully capture the conceptual relation at the heart of Aristotle's notion of final causation. In A§3 I offer historical-textual evidence in support of the use of imitation. While the earliest entry for *mimêsis* in conjunction with the prime mover (in Theophrastus's *Metaphysics*) does indeed use the term to refer to Platonic, rather than Aristotelian accounts of heavenly motion, Theophrastus introduces it in discussing features of the two theories that are in *agreement*, rather than divergence.

A§2

There are two sources from the late ancient Platonic commentary tradition that speak directly to the issue not only of the way in which the Aristotelian unmoved mover is a cause of motion, but also to the relation of the Aristotelian theory to competing views, above all those of Plato and his followers. The first discussion comes from the end of Proclus's commentary on the *Timaeus:*

> Some people wonder at the way in which Plato takes it for granted that the demiurge of the universe exists and that he looks to a paradigm [in creating it]. For, <such people think> there is no demiurge looking to that which stays the same. Indeed, many ancients stood behind this account. For the Epicureans claim that there is no demiurge or any cause of the universe at all, while those from the Stoa claim there is one, but maintain that it is inseparable from matter, while the Peripatetics say there is something separable, but that it is not a creative (*poiêtikon*) cause, but final. Thereby they uproot the paradigms and posit an indivisible intellect (*nous aplêthuntos*) before everything else. But Plato and the Pythagoreans hymned (*humnêsan*) the demiurge of the universe as separate and removed

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[179] This is not to say that Christian, Jewish, or Muslim authors might not also have thought about the relationship between god and world in terms of final causation. The point is simply a creative deity must, if nothing else, be an efficient cause, not only of motion, but of being – another point of divergence with understanding the unmoved mover as a final cause of motion.

and creator of everything and <having> providence (*pronoian*) for all things – and rightly so! (Proclus, *In Plat. Tim.*, 266,28)[180]

Before going into detail regarding the information provided by Proclus, let us get on the table the second text, by the slightly later, but also Platonic, philosopher Simplicius, whose commentary on the *Metaphysics* is lost, but who discusses the causality of the unmoved mover at the end of his commentary on the *Physics*:

> Since some think that Aristotle says that the first mover – which he indeed hymns (*anumnei*) as mind and eternity and god – is only a final and not also an creative (*poiêtikon*) cause of the cosmos, as it is eternal and consequently ungenerated, because they hear him frequently saying that it causes motion as an object of *erôs* (*hôs erômenon*) and frequently proclaiming <the first mover> as a final cause, it is a good to show in this instance too that he is in harmony with his master [sc. Plato] in calling god not only a final, but also a creative (*poiêtikon*) cause of both the entire universe and of the heavens. Indeed, from the *Timaeus* ("Let us, then, say through what cause the creator created coming-to-be and the entire universe – he was good."), it is clear that Plato calls god both final and creative (*poiêtikon)* cause of the cosmos. (Simplicius, *In Phys.* 1360,24-31)[181]

The similarities between the two passages are striking. Both start out by noting an opinion held by a vague "some people" (*tines*). Even stronger similarity is provided by the common, and very striking mention of Plato (by Proclus) and Aristotle (by Simplicius) as "hymning" their cosmological first principles. Indeed, the verb, *humneô*, is rare enough in general, and rarer still in

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[180] ἀποροῦσι δέ τινες, ὅπως ὁ Πλάτων ἔλαβεν ὡς ὁμολογούμενον τὸ δημιουργὸν εἶναι τοῦ παντὸς εἰς παράδειγμα βλέποντα· μὴ γὰρ εἶναι δημιουργὸν εἰς τὸ κατὰ ταὐτὰ ἔχον ὁρῶντα· πολλοὶ γὰρ καὶ τούτου προεστᾶσι τοῦ λόγου τῶν παλαιῶν· οἱ μὲν γὰρ εἶναι δημιουργὸν Ἐπικούρειοι καὶ πάντη τοῦ παντὸς αἴτιον οὐκ εἶναί φασιν, οἱ δὲ ἀπὸ τῆς Στοᾶς εἶναι μέν, ἀχώριστον δὲ ὑφεστάναι τῆς ὕλης, οἱ δὲ Περιπατητικοὶ χωριστὸν μὲν εἶναί τι, ποιητικὸν δὲ οὐκ εἶναι, ἀλλὰ τελικόν· διὸ καὶ τὰ παραδείγματα ἀνεῖλον καὶ νοῦν ἀπλήθυντον προεστήσαντο τῶν ὅλων. Πλάτων δὲ καὶ οἱ Πυθαγόρειοι τὸν δημιουργὸν ὕμνησαν τοῦ παντὸς ὡς χωριστὸν καὶ ἐξηρημένον καὶ πάντων ὑποστάτην καὶ πρόνοιαν τῶν ὅλων, καὶ μάλιστά γε εἰκότως·

[181] Ἐπεὶ δέ τινες οἴονται τὸν Ἀριστοτέλη τὸ πρώτως κινοῦν, ὅπερ καὶ νοῦν καὶ αἰῶνα καὶ θεὸν ἀνυμνεῖ, τελικὸν μόνον, ἀλλ' οὐχὶ καὶ ποιητικὸν αἴτιον λέγειν τοῦ κόσμου καὶ μάλιστα τοῦ οὐρανοῦ ὡς ἀιδίου ὄντος καὶ διὰ τοῦτο ἀγενήτου, ἀκούοντες αὐτοῦ πολλάκις λέγοντος, καὶ ὅτι κινεῖ ὡς ἐρώμενον, καὶ πολλάκις ὡς τελικὸν αἴτιον ἀνευφημοῦντος, καλῶς ἔχει κἂν τούτῳ δεῖξαι συμφώνως αὐτὸν τῷ σφετέρῳ καθηγεμόνι μὴ τελικὸν μόνον, ἀλλὰ καὶ ποιητικὸν αἴτιον τὸν θεὸν λέγοντα, τοῦ τε κόσμου παντὸς καὶ τοῦ οὐρανοῦ. ὁ μὲν δὴ Πλάτων ἐκ τῶν ἐν Τιμαίῳ "λέγωμεν δή, δι' ἥντινα αἰτίαν γένεσιν καὶ τὸ πᾶν τόδε ὁ ξυνιστὰς συνέστησεν· ἀγαθὸς ἦν" δῆλός ἐστι τελικὸν ἅμα καὶ ποιητικὸν αἴτιον τοῦ κόσμου τὸν θεὸν λέγων.

a philosophical context,[182] at least to raise a real possibility that Proclus's *Timaeus* commentary was both a source and a target for Simplicius.[183] However, while the stylistic and lexical similarities may provide evidence for an historical link between the compositions, they differ in their arguments. Whereas Proclus's "some people" (*tines*) are exponents of anti- or non-Platonic systems, among whom Aristotle is a chief rival, for Simplicius they are those who raise doubts not against Plato, but against *Aristotle*. For Simplicius, the charge to be answered is namely that *Aristotle* failed to hold the unmoved mover to be an efficient, as well as final, cause.

In Proclus, the unmoved mover is a *competitor* for the role of cosmic first principle, vying alongside the Stoic *logos* and Platonic demiurge (the other ancient school, the Epicureans, are cited as denying that there is any such thing as a first principle of the universe). The course of Proclus's classification takes the form of dichotomous division. It starts out by asking (i) whether a given doctrine accepts the existence of a first cause/principle (the Epicureans answer in the negative and are thus dismissed), then proceeds to ask (ii) whether this first cause/principle is separable (the Stoics are eliminated for denying this) and then finally (iii) whether the separate first cause/principle is *merely* final or both final and efficient. Aristotle and Plato are held to agree on (i) and (ii), that there is a separate first cause, but are held to disagree as to the nature of its causality. Plato alone, who holds the first principle (the demiurge) to be both final *and* efficient, comes out victorious. Aristotle makes it one round further than the Stoics but is eliminated for claiming that the unmoved mover is merely a final cause.

The interest of these two possibly related passages, lies in that fact that they not only bear witness to the ancient roots of the debates about the causality of the unmoved mover, but also that

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[182] Plato uses the verb with some frequency, but not in the same sense (quasi-religious praise) or construction (with double accusative); in his dialogues, e.g. *Protagoras* 317a; *Republic* 549e, 364a, it has rather the mildly pejorative sense of "say repeatedly," or "harp on."
[183] The sense of a resemblance is strengthened further by the common construction with double accusative.

it is its *efficient* causality upon which the Platonists want to insist in both cases. In the first case, Proclus holds that Aristotle makes the unmoved mover "not a creative (*poiêtikon*) cause, but <only> a final one," in contrast to Plato, who rightly, in his view, recognised that the separable and divine first principle was a creative, that is efficient-causal, force.

In the second passage, Simplicius has the same underlying *philosophical* position as the earlier Proclus – namely that the first principle of the cosmos is in point of fact an efficient and not merely final cause – but takes an altogether more positive view of how Aristotle fares on this score. Against those who interpret Aristotle as holding that the unmoved mover is only a final cause (given the overlap between the passages, he may well have Proclus in mind here), Simplicius holds not only (a) that the unmoved mover is *in fact* both a final and efficient cause but also (b) that Aristotle, despite possibly misleading appearances to the contrary, saw this too. Simplicius even offers an explanation for why inattentive readers might be led to the wrong conclusion, namely that Aristotle "frequently" says that the unmoved mover causes motion "as an object of *erôs*" (*hôs erômenon*) (quoting *Meta*. Λ 7, 1072b4) and, even more to the point, can be heard "frequently proclaiming" it to be a final cause. The implication, of course, is that even if Aristotle says – even if he *frequently* says – says that the unmoved mover is a final cause, this does not rule out that it is also an efficient cause, a position he tries to argue Aristotle in fact holds by citing *Physics* ii.2 (to which we will turn shortly).

The difference between Proclus and Simplicius, then, is primarily an exegetical, not a philosophical one, in so far as these can be separated. Both agree that the first principle of the cosmos – identified in both cases with the Platonic demiurge – is both a final and efficient cause. What they disagree on is whether to assign this view to Aristotle. And it is in fact not at all surprising, pace Berti, that this is the orthodox Platonic view, and that in as much as Aristotelian

natural philosophy and metaphysics was being increasingly assimilated within the (neo-)Platonic framework, that it is the *efficient* causality of the unmoved mover would be ascribed to him. For unlike Aristotle's impassive, purely thinking deity, the demiurge of the *Timaeus* is an altogether different sort of god. True, it is because "he wanted everything to become as much like himself as was possible" (*Tim*. 29e) that the demiurge went about creating the world of becoming – good evidence for Berti's contention that imitation is "coherent with the logic of Platonism" – but already here the distance separating Plato and Aristotle begins to manifest itself. For unlike the Aristotelian heavens, which set *themselves* in motion for the sake of the unmoved mover, the demiurge, true to his name,[184] "took over all that was visible … and brought it from a state of disorder to one of order, because he believed that order was in every way better than disorder." (*Tim*. 30a) The Platonists' belief in creationism, and more specifically creation by an intelligent, crafting agent made it altogether understandable that they would hold a cosmic divinity to be an efficient cause. And, insofar as they were in the business of assimilating Aristotle and Plato, it is also understandable that they would read Aristotle as holding the same.[185] A similar interest in the efficient causality of the divine would seem to hold true, mutatis mutandis, for other "creation philosophies" that is for Christian, Jewish and Muslim appropriations of Aristotle, all of which would draw heavily on the neo-Platonic synthesis of Platonism and Aristotelianism.[186]

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[184] *Dêmiourgos* means not just any craftsmen, but an *artisan*, that is, someone working on matter with their hands (LSJ, s.v., A I)

[185] The assimilation of Aristotle to Plato is a better description than an Aristotelian-Platonic synthesis or the like. While neo-Platonic philosophers were certainly willing to adopt Aristotelian vocabulary and concepts, it was Aristotle that was made to fit with Platonic doctrine, whatever that was taken to mean, not vice versa. For an overview of the early part of this trend, see G.E. Karamanolis, *Aristotle and Plato in Agreement? Platonists on Aristotle from Antiochus to Porphyry* (Oxford: Clarendon Press, 2006). Unfortunately, both Proclus and Simplicius fall outside the scope of Karamanolis's book. See also the work of Lloyd Gerson, who not only describes the history of this interpretation, but defends the unity of Aristotle and Plato in his *Aristotle and Other Platonists* (Ithaca: Cornell University Press, 2005).

[186] A similar discrepancy as the one just described between Proclus and Simplicius can be detected, several centuries later, in the commentaries on *Metaphysics* Λ by Ibn Sīna (Avicenna) and Ibn Rushd. Like our two Platonists, both Muslim commentators hold that god must be a creative as well as final cause. And, whereas Ibn Sīna, like Proclus, faults Aristotle for not recognizing this (48,30-38) the later Ibn Rushd, ever the loyal Aristotelian, confidently

The argument that Aristotle's unmoved mover is an efficient, as well as a final, cause of motion is not implausible. But this is not all that a Platonising reader – let alone a Christian, Jewish, or Muslim one – might wish to claim. For even if we grant the contention that the Aristotelian unmoved mover is an efficient cause (even if it is *only* an efficient cause) it remains a cause of *motion* of other things, not of their existence. But this is precisely what Simplicius ascribes to Aristotle, and what Proclus faults him for missing.[187] Note that in the two passages cited above, they describe the two sorts of causality of god as final (*telikon*) and *creative* (*poiêtikon*), not just efficient (i.e. *kinêtikon*).[188]

For what it's worth, I think that it is not a mistake to ascribe to Aristotle the view that the unmoved mover is an efficient, as well as final, cause. If we are trying to explain why something – in this case, the outermost sphere of the fixed stars – moves or undergoes change, then the explanation and cause will of necessity be "efficient" just insofar as what we are trying to understand, the *explanandum*, is why a certain change took place. This can, of course, be a process of production: a builder building a house or a father producing a child.[189] But this is not the only sort of explanation that Aristotle's canonical taxonomy of causes classes as "efficient."

Consider now the explication of the efficient cause from *Physics* ii.2, which we have already seen quoted by Simplicius: "Furthermore, the 'whence the primary source of the change

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asserts that Aristotle recognises both sorts of causality (Bouyges 1594,4-1595,2; Genequand, 149). This account simplifies somewhat, for Ibn Sīna is concerned not primarily with the efficient-causal status of god, but of its role as a cause of the *being* or *existence* of the cosmos.

For the text and translation of Ibn Sīna see *Commentaire sur le livre Lambda de la Métaphysique d'Aristote (chapitres 6-10), sharḥ kitāb maqālat al-lām (faṣl 6-10) min kitāb mā baᶜd aṭ-ṭabiᶜat li'arisṭūṭālīs (min kitāb il-inṣāf)* ed. and trans. Marc Geoffroy, Jules Janssens, Maryem Sebti, Paris: Vrin 2014; for Ibn Rushd, see for the translation *Ibn Rushd's Metaphysics: A Translation with Introduction and Commentary on Aristotle's Metaphysics, Book Lām,* trans. Charles Genequand (Leiden: Brill, 1986) and for the text, *Averroes tafsīr mā baᶜd aṭ-ṭabiᶜat*, vol. VII, ed. Maurice Bouyges, (Beirut: Imprimerie Catholique, 1948).

[187] Proclus's explicit statement that the world gets its existence (*to einai*) from god is at *In Plat. Tim.* 267,10-12

[188] Gerson, *Aristotle and Other Platonists,* Ch. 6, esp. the section on "Divine Causality," 200-205, provides a good summary of neo-Platonic treatments of Aristotle on divine causality, but fails to make the distinction between efficient and creative causation.

[189] The sex of the parent is of the utmost relevance for Aristotle.

or rest' <is a cause>, for example, [1] the person deliberating is a cause, and [2] the father of the child and generally [3] the maker of what is made and [4] what changes of what is changed." (*Phys*. ii.2, 194b30-32)[190] Aristotle does, of course, recognise the "maker" (*to poioun*) as *an* instance of efficient causality here. But it is only one instance and it is not at all clear that it is the paradigmatic one. The unmoved mover is an efficient cause just insofar as it is a mover: insofar as it is *kinoun*, its activity is, among other things, *kinetic*. [191] But just as this does not mean that the unmoved mover literally reaches out and pulls the physical world along, nor does it mean that it is an efficient cause in the sense of maker, that is, a *creative* cause.

It is, however, just in this more specific sense of efficient cause that Simplicius seizes on in his project of harmonising Aristotle with the master, Plato: he quotes the same passage from *Physics* ii.2. However, he all too conveniently omits the fourth and final item, as follows (with the omission marked):

> But <to show that he thinks> it is also a creative (*poiêtikon*) cause, I think that his ascription of creative (*poiêtikon*) causality to the "whence the primary source of the change or rest" in the distinction of the causes in the second book of the *Physics* is sufficient. "Furthermore, the 'whence the primary source of the change or rest' <is a cause>, for example, the person deliberating is a cause, and the father of the child and generally the maker of what is made [***]" What could be clearer to say than these <words> in order to clarify that the first mover is a creative (*poiêtikon*) cause? (Simplicius, *In Phys.* 1360,11-18)[192]

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[190] ἔτι ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἡ πρώτη ἢ τῆς ἠρεμήσεως, οἷον ὁ βουλεύσας αἴτιος, καὶ ὁ πατὴρ τοῦ τέκνου, καὶ ὅλως τὸ ποιοῦν τοῦ ποιουμένου καὶ τὸ μεταβάλλον τοῦ μεταβαλλομένου.

[191] Aristotle does refer to the unmoved mover as *poiêtikon kai kinêtikon,* at 1071b12. However, this need not be taken as a reference to "creative" or demiurgic causality – after all, *poiein* can just as well be translated "do" as "make." We are only licensed to translate the second way in the *Physics* ii.2 passage because *to poioun* and *poiomenon* are offered as generalisations of the sort of efficient causality that obtains between parent and child. We know that *poiêtikon* likewise refers Simplicius not just to efficient causation generally, but to creative causality specifically by their references to the Timaean demiurge.

[192] ὅτι δὲ καὶ ποιητικόν, ἀρκεῖν οἶμαι τὸ ἐν τῷ τῶν αἰτίων διορισμῷ κατὰ τὸ δεύτερον τῆς Φυσικῆς ἀκροάσεως ποιητικὸν αἴτιον λέγειν τὸ ὅθεν ἡ ἀρχὴ τῆς κινήσεως· "ἔτι ὅθεν ἡ ἀρχὴ τῆς μεταβολῆς ἡ πρώτη ἢ τῆς ἠρεμήσεως, οἷον ὁ βουλεύσας αἴτιος καὶ ὁ πατὴρ τοῦ τέκνου, καὶ ὅλως τὸ ποιοῦν τοῦ ποιουμένου [***]" τί οὖν ἦν τούτων σαφέστερον εἰπεῖν πρὸς τὸ δηλῶσαι, ὅτι τὸ πρώτως κινοῦν ποιητικόν ἐστιν αἴτιον;

Well, for one thing, it would be a much clearer case if Aristotle's claim were that all efficient causes – every "whence the primary source of motion" – were a maker. But the inference runs the other way: it is makers that are efficient causes, not vice versa. But by leaving out the final item on Aristotle's list, Simplicius allows a casual reader the false impression that "the maker and what is made," prefaced by the adverb "generally" (*holôs*) represents the generic pattern for efficient-causal explanation.

The purpose of looking closely at Proclus and Simplicius is not to impugn those who have more recently ascribed efficient causality to the unmoved mover as making the same error; none of the commentators, to my knowledge, have made the claim that Aristotle's unmoved mover, like the Platonic demiurge (or like the God of Abraham), is a creative, as well as motive, force – a cause of existence as well as motion. Rather it is to show that far from a settled question, either in antiquity or later (see n187 *supra* for a parallel debate in Islamic Aristotelianism), the efficient causality – though not the efficient causality alone – of Aristotle's prime mover was not only widely argued for, but appears to be the default interpretation. And, examining these texts, we have also had the opportunity to see what is correct about the ascription of efficient causality.

But more recent writers have gone further. For as we saw with the long quotation from Berti with which we began, they claim not only that the unmoved mover is an efficient cause, but that it is *only* an efficient and not a final cause.[193] The primary argument for this thesis has been

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[193] With this in mind, it will be clear why I do not address the argument that the reference to the unmoved mover as *poiêtikon kai kinêtikon,* at 1071b12 (noted above in n22) is evidence for its efficient causality.
This reference – as well as the linguistic point that the *-ikon* suffix denotes the ability to act in a certain way and hence efficient causality – is taken to be evidence for the status of the unmoved mover as efficient cause. (Berti, "Unmoved Mover(s)," 186; Bradshaw, "A new look," 7) Alberto Ross, arguing against ascribing efficient causality to the unmoved mover, notes that the two adjectives are mentioned in a description of "what the Prime Mover is not" ("The Causality of the Prime Mover," *NEML*, 219) – that is, Aristotle raises the possibility of things capable of performing an action, but not doing so and argues that if this were the case with the unmoved mover, there would be no motion; hence the unmoved mover must be constantly imparting motion to the heavens and be fully actual. But since this "intermittent" unmoved mover is ruled out and efficient causality is only clearly ascribed to such an

negative, that is, a number of problems have been raised for the "traditional," that is, teleological, understanding of the unmoved mover. Addressing the most significant of these problems will be the task of the next section. But for now, Simplicius can have the last word – even as he argued that Aristotle's god was an efficient, and more particularly a creative, cause, he also made sure to note that, "as for Aristotle, no one disputes that he calls god (or the prime mover) a final cause." (*In Phys.* 1360,10)[194]

A§3

I have already argued, in Chapter 3, I§5, that despite its non-Aristotelian provenance, "imitation" may nonetheless capture an important feature of Aristotelian teleology. But it is also worth considering the question through a more historical-textual lens: as we have seen, Berti claims that the discussion of the unmoved mover's final causality in terms of imitation is the product of Platonic cross-contamination, and that this in turn renders it at least prima facie suspect. However, even *if* the term were wholly alien to the *corpus Aristotelicum*, that this would not be sufficient *philosophical* grounds for judging that it ought to be eliminated from our own discussions and interpretations of Aristotle (indeed, I have argued for its usefulness, independent of its provenance). But even granting for the moment the basic legitimacy of the ultimately dubious notion that terminological innovation ought to be viewed with suspicion, matters may look a great deal more complex than the simple opposition between Platonic distortion of an Aristotelian original.

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intermittent principle, this does not force us to accept the efficient causality of the fully actual – constant – unmoved mover.

Since I am willing to grant the efficient (in addition to final) causality of the unmoved mover, I will say no more about this point; Ross's argument is interesting, but it is beyond the scope of my aims here, which are concerned with arguing *for* the final causality of the unmoved mover, not against its efficient causality.

[194] ὁ δὲ Ἀριστοτέλης ὅτι μὲν τελικὸν λέγει τὸν θεὸν ἤτοι τὸ πρώτως κινοῦν, οὐδεὶς ἀμφισβητεῖ·

Three sources help us to see this complexity. The first is Theophrastus's *Metaphysics*, where he raises certain problems about explaining heavenly motion teleologically with reference to the unmoved mover. In particular, he raises the following difficult question: Since the unmoved mover is the object of the desire and thought (*orekton* and *noêton*) of the heavens, it must follow, according to Theophrastus' argument, that the heavens are capable of desire and thought, that is, are endowed with intellect. [195] Why, then, do they approximate the divine through local motion, rather than simply contemplating? (5a6-23) Thus, he goes on to ask, why is it that they pursue motion, rather than rest. This, he says, is a problem not only for Aristotle, but also for other philosophers:

> There is also this puzzle (*aporon*): how is it that they [the heavenly bodies] pursue not rest, but motion, though they have a natural desire? Why then do they claim this, along with (*hama*) imitation (*têi mimêsei*), in a similar way both those who speak of the one and those who speak of numbers? For they say that the numbers *are* the one. (5a23-27)[196]

The standard reading of this passage is that Theophrastus's mention of "natural desire" is a reference to Aristotle, while the proponents of imitation include the Academic and Pythagorean philosophers fond of various mathematical idioms (the One and the numbers), but *not* Aristotle. The problem, however, of why the cosmos pursues motion rather than rest, is identical for all three groups. Building on this observation, we might also read the mention of imitation as picking out something common, linking not just both currents in the academy, but including Aristotle, too. The second sentence might then be translated: "Why then do those who speak of the one and those who speak of numbers claim this thing [sc. that the heavens pursue not rest but motion], along with

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[195] Given that one thing being *orekton* and/or *noêton* logically implies the existence of something or one with *orexis* and/or *noêsis*, Broadie's objection that Aristotle does not *mention* a soul of the heavens seems overly literal. See "Que fait le premier moteur," 378.

[196] ἄπορον δὲ καὶ πῶς ποτε φυσικὴν ὄρεξιν ἐχόντων οὐ τὴν ἠρεμίαν διώκουσιν ἀλλὰ τὴν κίνησιν. τί οὖν ἅμα τῇ μιμήσει φασὶν ἐκεῖνο ὁμοίως ὅσοι τε τὸ ἓν καὶ ὅσοι τοὺς ἀριθμοὺς λέγουσιν; καὶ γὰρ αὐτοὶ τοὺς ἀριθμούς φασιν τὸ ἕν.

imitation." Given the implicit reference to Aristotle, who also affirms "this thing" (*ekeino*), namely the motion rather than stillness of the heavens, we might then take imitation as another, common item linking him with both branches (the proponents of the one and those of number) of the Academy. On this reading, we might then supply an implicit "just as Aristotle does," following the sentence.

This is speculative and I do not want to press the point too far. All the more so because *even* if imitation is ascribed to the Academics alone, this is hardly devastating: "imitation," even if we grant that Theophrastus understands it as a strictly Academic term, is mentioned here at a place where the Aristotelian and academic accounts of heavenly motion are *in substantive agreement, not one where they diverge* (the divergence being terminological). All three accounts – that the heavens move (i) out of desire for the unmoved mover, (ii) in imitation of the One, or (iii) in imitation of the numbers – face the same problem, which is that none of these principles seem to explain why the heavens should move at *all*. So even if the usual understanding is right, and Theophrastus is witness to "imitation" as a strictly Platonic term of art, it is invoked in precisely a location where the Aristotelian and Platonic/Academic accounts are similar, at least insofar they face a common objection. It does not mark a point of divergence between them, except terminologically. (If there is a deeper difference here, it is the entity playing the role of first principle – divine intellect versus mathematical objects). Might it then be appropriate, even while acknowledging that Aristotle himself doesn't talk (much, at any rate) about the imitation of the first principle, to import this language into an Aristotelian framework?

That is the strategy that our second source, Alexander of Aphrodisias, seems to have adopted, to judge from what exists of his relevant writings on the subject. But even assuming that he gets the term "imitation" from Platonic sources, we need not infer that Alexander is *illicitly*

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importing Platonic *doctrine* to Aristotle. Unlike the later, post-Plotinian commentators, fitting Aristotle to the framework of Platonism was not part of Alexander's project. His use of the term "imitation," if indeed it is of Platonic origin, may simply be a matter of finding and re-purposing a useful term from his general philosophical milieu.

Though Alexander's commentary on *Metaphysics* Λ is lost, we can identify two sources for his interpretation. The first are the traces of the *Metaphysics* commentary preserved in Ibn Rushd's *Tafsir*, which has allowed the reconstruction of various fragments. Ibn Rushd is a strong proponent of god both as an object of desire and more specifically as an object of *imitation* or *emulation* (*tašabbuh*). (Bouyges 1606,14; cf. Bouyges 1651[197]) Perhaps Alexander's influence is at work here. This hypothesis is not entirely speculative. First, it is rendered much more plausible by Alexander's frequent references to imitation to explain heavenly motion in his *Quaestiones*, a collection of short essays written in response to certain problems or *aporiai*, which are not explicit commentaries on Aristotelian texts, but which are very much written as the expression of an Aristotelian worldview.

In answer to a question "concerning nature being a principle of motion," (ii.18), Alexander reminds his reader of the canonical Aristotelian tripartition of substances into (a) eternal and unchangeable, (b) eternal and changeable, and (c) changeable and subject to growth and decay. (*Quast,* ii.18, 63,16-25; Cf. Aristotle, *Meta.* Λ 1) The way in which nature is a principle of change in this final category is clear – it governs the pattern of generation and growth that an organism undergoes and the natural place to which the elements tend. (63,20) But in the case of the second category, of natural but eternal things, this is less clear, since as Alexander says, they are already in their natural place (63,23-24) and they do not need to pass from imperfection into perfection

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[197] For the translation see Genequand 154 and 173.

(63,25-6). So, what way is there left in which their nature can be a principle of motion? Alexander's

answer is that instead of provoking either organic development (as in living sublunary beings) or

movement toward their natural place (as with elements), the nature of these celestial beings tends

> …rather to becoming like (*homoiousthai*) the best of all things through their activity in accordance with it, namely by eternal and continuous and consistent motion, imitating (*mimoumena*) both the necessity (*to dein*) of it [the best of all things] being in activity as well as its changelessness and rest (*to akinêton kai stasin*). Through being in motion <they imitate> its being in actuality. (Motion is a kind of actuality. For the imitators of that which is totally (*haplôs*) in actuality and which has no part of potentiality must do this through the activity natural for *them*.) And through being continuously in motion, and in an ordered way and consistently (*homoiôs*) they imitate its eternal nature. (ii.18, 63,27-34)[198]

Though not a commentary *per se*, Alexander is trying to explain a set of problems that go

back, as we have already seen, to Theophrastus. First, why does the desire for the unmoved mover

experienced by the heavens give rise to circular motion? Second, given that the unmoved mover

is *eo ipso* motionless, why should these subjects of desire set themselves in motion, rather than

staying still? Imitation provides Alexander with an answer to these problems. By moving

consistently, continuously and for all time, they become as much like the unmoved mover as it is

possible for things with a body – even one made of ether – to become. The lines just following the

ones I have quoted are addressed the specific objection we saw Theophrastus direct not just at

Aristotle, but also at the proponents of imitation: why they move rather than stay still. Alexander's

answer is that it is the nature of bodies to be capable of motion, and that the heavenly spheres have

no reason to stay still, as corruptible bodies do, on account of their being mortal or weak. The

unmoved mover sets the success conditions for the heavens – not on account of its motionlessness,

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[198] ἀλλ’ εἰς τὸ διὰ τῆς κατ’ αὐτὸν ἐνεργείας ὁμοιοῦσθαι τῷ τῶν ὄντων ἀρίστῳ, τῇ ἀιδίῳ τε καὶ συνεχεῖ καὶ ὁμαλῇ κινήσει, μιμούμενα τό τε ἐνεργείᾳ δεῖν εἶναι αὐτοῦ καὶ τὸ ἀκίνητον καὶ τὴν στάσιν. διὰ μὲν τοῦ κινεῖσθαι τὸ ἐνεργείᾳ εἶναι αὐτοῦ (ἐνέργειά τις ἡ κίνησις· ἔδει γὰρ τὰ μιμούμενα τὸ ἁπλῶς ἐνεργείᾳ ὂν καὶ μηδαμῶς κοινωνοῦν δυνάμεως δι’ ἐνεργείας τῆς κατὰ φύσιν αὐτοῖς τοῦτο ποιεῖν), διὰ δὲ τοῦ συνεχῶς [ἢ] καὶ τεταγμένως καὶ ὁμοίως ἀεὶ κινεῖσθαι τὴν ἀίδιον αὐτοῦ μεμίμηται φύσιν.

but on account of its actuality, continuity, consistency, and eternity. The spheres, given their nature as enmattered, if incorruptible, beings, can come closest to this standard by doing what they do best, moving in a circle.

Does this import new material into Aristotle? Yes and no. It does, of course, introduce a level of complexity and terminological richness that is not present in *Metaphysics* Λ. But that is not the same as saying that it is incompatible with the picture drawn there. And indeed, it seems better described as an expansion and re-working of the model present in Aristotle – adding new terminology and making explicit what was either implicit or simply not worked out in the original. This is the essential work of all commentators and interpreters, of scholarship generally. That it departs in its manner of argument or presentation from the original does not mean that it does not illuminate the line of thinking present in its object.

Finally, our third source for admitting imitation as a useful way of interpreting Aristotle comes from Aristotle himself. Though he does not talk of imitation in *Metaphysics* Λ, he does so – as already mentioned – in other works. In *Generation and Corruption*, the inter-transformation of the sublunary elements is said to *imitate* (*mimeitai*) the circular rotations of the stars and planets and rectilinear motion more generally is said to be "continuous" by virtue of its "imitating motion in a circle." (*GC* ii.10, 337a4-6) Along similar lines, at *Metaphysics* Θ changeable things – and Aristotle here again mentions two elements, earth and fire – are said to *imitate* imperishable ones. (*Meta*. Θ 8 1050b28)

Neither of these two instances talks about the heavens – or anything else – imitating their unmoved mover, nor do they identify the object of imitation as a final cause. Nevertheless, they are cases in which imitation provides a mode of comparison between the "lower" and the "higher" items – between the elemental cycles and the circular motions of the stars and planets. This latter

move, I have argued, for the sake of the unmoved mover. And the *telos*, as we have seen already in both Chapters 1 and 2, is always better than those things which are for the sake of it. This is hardly conclusive evidence for "imitation" – as a term or a concept – being a part of Aristotle's core doctrines. But, along with the arguments I have already made, it should give us pause before rejecting it out of hand. It might lead us to ask, for example, whether Alexander might have been led to talk of "imitation" by finding it used – however unsystematically – by Aristotle himself, rather than borrowing it from Platonic sources. With this legitimacy secured for imitation, it will now be the task of the subsequent chapter to show *how* differential ways of approximating the prime unmoved mover – that is, of approaching godlikeness – provides the basis for inter-species comparison.

"When humans strive, they stray" – that is, insofar as they are human. We ought then to see every kind of straying not just as an open possibility of essence, but also – from the essential relationship between humans to a natural environment – as a possibility unavoidable in every conceivable human life. The paradisal human being would be infallible. But it would not be divine infallibility stemming from absolute knowledge, but a blind, accidental infallibility, for such a person would have no notion of reason, of critical evidence and justification.[199]

Edmund Husserl, "Renewal as an individual-ethical problem"

Ch. 4: Trial and error: *De Caelo* ii.12, cosmic hierarchy, and human nature

§1

As Monte Johnson, in his study of Aristotle's teleology puts it, "surely a theory of value that levels rocks, trees, cows, and humans is asinine and untenable."[200] Johnson agrees with my position that there is, for Aristotle, indeed a ranking of value in nature. In his terms, "things can be rank-ordered for Aristotle on the basis of their capacities and functions."[201] But then the question immediately arises of what makes one set of capacities or functions better than another; in what sense do these provide the necessary basis for a hierarchy? Johnson does not provide an answer to this question. However, at this stage in our inquiry, the pieces would seem to be in place for Aristotle to make evaluative interspecies comparisons and thereby endorse a form of cosmological hierarchy. Despite initial appearances to the contrary, a univocal covering value is not required for comparison. In fact, entities can be compared in the absence of univocity when the various senses of the predicate in terms of which they are compared have a particular kind of unity. This unity is a brand of what Aristotle calls being *pros hen legomenon* or being said with

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[199] "'Es irrt der Mensch, solang er strebt,' also solang er Mensch ist. Wir würden darnach das Irren jeder Art nicht nur als eine offene Wesensmoglichkeit, sondern auch – schon durch die Wesensbeziehung des Menschen auf eine natürliche Umwelt – als eine in jedem erdenklichen Menschenleben faktisch unvermeidliche Möglichkeit ansehen. Der paradiesische Mensch wäre sozusagen unfehlbar. Aber nicht wäre es die göttliche Unfehlbarkeit, die aus absoluter Vernunft, sondern eine blinde, zufällige Unfehlbarkeit, da ein solcher Mensch von Vernunft, von kritischer Evidenz und Rechtfertigung keine Ahnung hätte." Edmund Husserl, "Erneuerung als individual-ethisches Problem," in *Husserliana: Edmund Husserl Gesammelte Werke*, Bd. 27, *Aufsätze und Vorträge*, eds. Thomas Nenon and Hans Rainer Sepp (Dordrecht: Kluwer, 1989), 34.
[200] Johnson, *Aristotle on Teleology*, 292.
[201] Ibid., 293.

reference to one thing. More specifically, for Aristotle, entities can be ranked when the account of their goodness shares a common *telos,* albeit one which each of them pursues in a species-specific way. As I showed in Chapter 3, such a *telos* need not be identical with the species form; rather, it can be something external, something shared by multiple beings, something understood as a normative standard (*horos,* cf. *EE* vii.15). Aristotle's divinity plays this role: the prime unmoved mover, as described in Metaphysics Λ, as a perfectly changeless, unimprovable being that Aristotle tells us (i) is a final cause and (ii) is that to which all things, both celestial and sublunary are ordered (*suntetaktai,* Meta. Λ 10, 1075a23).

Yet we have not seen such a scheme put into practice. Indeed, we saw in Chapter 3 that when Aristotle ascribes a universal final causality to the "eternal and divine"– and thereby to the prime unmoved mover – in *De Anima* ii.4, this results less in a hierarchical gradation of organisms than in an egalitarian picture. All living things, we have seen Aristotle say, have a share in the eternal and divine through their reproductive capacities. By bringing offspring into the world, individual organisms attain a kind of immortality-by-proxy, if not in number, then at least in kind. This is only limited grounds for a rank ordering of species, since plants as much as humans or fish are effective reproducers, though it does suggest a superior position for the celestial bodies, since these, unlike sublunary beings, have eternal existence as individuals. Yet even in *DA* ii.4 Aristotle uses language suggestive of comparison:

> Since it is impossible to participate in the eternal and the divine by continuation because nothing corruptible is able to remain the same and numerically one, each thing does so in this way [=by reproduction], as much as it can, *some more and others less*, and does not remain itself, though something like it does, not one numerically, but in form."[202] (415b5-b8; my emphasis)

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[202] ἐπεὶ οὖν κοινωνεῖν ἀδυνατεῖ τοῦ ἀεὶ καὶ τοῦ θείου τῇ συνεχείᾳ, διὰ τὸ μηδὲν ἐνδέχεσθαι τῶν φθαρτῶν ταὐτὸ καὶ ἓν ἀριθμῷ διαμένειν, ᾗ δύναται μετέχειν ἕκαστον, κοινωνεῖ ταύτῃ, τὸ μὲν μᾶλλον τὸ δ' ἧττον, καὶ διαμένει οὐκ αὐτὸ ἀλλ' οἷον αὐτό, ἀριθμῷ μὲν οὐχ ἕν, εἴδει δ' ἕν. (415a23-b8)

To what, then, does the language of "more and less" – which we saw in Chapter 2 is the basic terminology in which Aristotle frames comparison – refer? It does not seem plausible to read it as a reference to success at reproduction itself, for there is no obvious standard here: would it be a matter of number of offspring at once? Over the course of a life? Of gestational period? Reproduction is one way that organisms can participate (*metechein*) in the eternal and divine. Because it does not allow for any obvious differentiation, this suggests that we should read the qualification "some more, others less" as a reference not to reproduction itself, but to participation in the divine, of which reproduction is one mechanism.

But because *DA* ii.4 is a text *about* reproduction, we will need to turn elsewhere in order to understand Aristotle's implicit comparison between organisms (i.e. "corruptible substance"). While *De Caelo* is usually held to be a significantly earlier work than *De Anima,* in part on the basis of a relative lack of teleological thinking, at least one chapter offers a detailed picture that allows for a comparative differentiation of species' activities along precisely the sort of teleological lines we have seen in passages like *DA* ii.4. Rather than focusing on reproduction, however, *DC* ii.12 evaluates species according to how close they come to the first divine principle – i.e. the "eternal and divine" of *DA* ii.4 – on the basis of the totality of their characteristic capacities. But, because each of these capacities is different, they need some overlap in order for them to be compared. Aristotle locates this common point of reference in the pure actuality of the divine first principle and evaluates each species not only on the basis of how closely they approximate it but also, in the case of species that come equally close, on the basis of how much effort they must expend in doing so.

De Caelo ii.12, however, does not take the question of cosmological hierarchy as its immediate topic of inquiry. The chapter starts with a discussion of difficult *aporiai* about the

motions of the stars and planets, which itself seems to presuppose a hierarchical view of the cosmos. And, in providing his solution to the puzzle, Aristotle makes clear his views about *what criteria* make things better than others and which things satisfy these criteria. In order to fully understand this crucial passage then, we must first get an overview of Aristotle's cosmology and astronomy.

§2

    Aristotle's cosmology is geocentric.[203] The basic picture is of a spherical earth, sitting perfectly stationary at the centre of a spatially finite, spherical cosmos. Surrounding the earth is a series of concentric spheres made of aether (a fifth element in addition to earth, water, air, and fire: the source of our "quintessence"). Unlike bodies here on earth, whose primary motion is rectilinear (that is, moving in straight lines), the celestial spheres move only circularly around a central axis. This motion, Aristotle thinks, is fundamentally more perfect than rectilinear motion. The intuition lying behind this contention can be stated as follows: When a body moves in a straight line between points *A* and *B,* there is a definite trajectory which can be interrupted. That is, it can fail to reach its destination. Assuming perfect regularity, meanwhile, a circular path has no obvious beginning or end. Circular motion can cease, but no stopping point is further or less far along than any other. Unlike rectilinear motions, as well as other forms of change like growth and generation, circular motion is not structured by beginning, middle, and end. Circular motion thus *cannot fail* to reach its destination because there is quite simply no destination for it to reach. (That is, circular motion

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[203] There are many surveys of Aristotle's cosmology, often along with editions or translations of *De Caelo.* Particularly notable are William K.C. Guthrie, *Aristotle, On the Heavens* (Cambridge: Harvard University Press, 1939); Paul Moraux, *Aristote, Du Ciel* (Paris: Les Belles lettres, 1965); Leo Elders, *Aristotle's Cosmology: A Commentary on the De Caelo* (Assen: Van Gorcum, 1966); Stuart Leggatt, *Aristotle, On the Heavens I & II. Introduction, Translation, Commentary*. (Warminster: Aris & Philipps, 1995); Alan C. Bowen and Christian Wildberg, eds. *New Perspectives on Aristotle's* De Caelo. Leiden: Brill, 2009 = *NPDC*); Alberto Jori, *Aristoteles, Über den Himmel. Übersetzung, Einleitung und Erläuterungen. Aristoteles, Werke in deutscher Übersetzung Vol. 12* (Berlin: Akademie Verlag, 2009).

is to rectilinear motion as Aristotelian *energeiai* are to *kinêseis*). Circular motion, then, is the more perfect kind of motion because, rather paradoxically, it is the closest to changelessness. The priority of circular motion cannot be separated from Aristotle's contention that changelessness or regularity – in this he remains close to Plato – is fundamental to what it means for something to be perfect.[204]

Embedded in the surface of each of these aetherial spheres is one or more celestial body. Each of these spheres – which carry the visible stars and planets – moves at a slightly different speed and angle. The sphere closest to earth carries the moon on its orbit, the next one up carries the sun, followed by individual spheres for each of the planets observable without magnification (Mercury, Venus, Mars, Jupiter, Saturn, in that order). At the outer edge of Aristotle's cosmos is the so-called "first heaven" (*prôtos ouranos*), or sphere of the "fixed stars." Unlike the other spheres, which each carry a single body, the first heaven is studded with myriad individual stars and the tendrils of the Milky Way, which move uniformly across the sky.

This basic model is not Aristotle's innovation, but one he adopted from contemporary Greek astronomers who were themselves building on the meticulous observational practices of Egyptian, and especially Babylonian astronomers (a debt Aristotle recognises at *DC* ii.12 292a8ff). Where Aristotle did innovate with respect to at least some of his contemporaries was in considering the spheres to be real substances, not merely heuristic conceptual devices.[205] Earlier astronomy

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[204] As a (rather-Aristotelian) thought experiment, imagine a universe containing nothing but a single solid sphere, perfectly regular with no marks on its surface. Because it bears no distinguishing marks, when the sphere starts to spin there will be no discernible difference from when it is at rest.

[205] This is consistent with the reading of Aristotle's astronomy as merely a "likely story," much along the lines of deflationary readings of the *Timaeus* (substituting, *mutatis mutandis*, Aristotle's *eulogos* for Plato's *eikos logos*). The issue is not whether the model is real vs. mathematical, but the degree of certainty and scientific knowledge to which Aristotle aspires in the *De Caelo* and related works. Deflationary readers include, in addition to Legatt, Robert Bolton, "Two Standards for Inquiry in Aristotle's *De Caelo*," in *NPDC,* 53-82; Mariska Leunissen, *Explanation and Teleology in Aristotle's Science of Nature* (Cambridge: Cambridge University Press, 2010); Mariska Leunissen and Andrea Falcon, "The Scientific Role of Eulogos in Aristotle's *Cael* II 12," in *Theory and Practice in Aristotle's Natural Science*, ed. David Ebrey, 217-240 (Cambridge: Cambridge University Press, 2015).

had been largely subsumed under the practice of mathematics, with the consequence that its goal was essentially to generate mathematically precise descriptions of the course of the celestial bodies. While his model of the cosmos owes much to the "findings of the mathematicians concerned with astrology" (*ta tôn mathêmatikôn legomena peri tên astrologian*, *DC* ii.14 297a1), astronomy is, for Aristotle, a natural science, albeit one of a special kind and with particular challenges that distinguish it from the more familiar life sciences concerned with sublunary beings.[206]

Unlike sublunary organisms, whose elemental nature – composed of varying proportions of the four classical elements earth, water, air, and fire – renders them susceptible to inevitable decay, the spheres and stars carried by them are composed of incorruptible aether. Incorruptibility, as a form of changelessness, is a way of signaling perfection. The celestial bodies are neither generated nor will they ever pass out of existence. Since Aristotle's world is a temporally infinite (albeit spatially finite) one, the stars and planets have always done and will always do just what they are doing now: moving in perfect circles.

§3

This then is Aristotle's cosmology *in nuce*. There is a problem, however, with this picture of celestial perfection: it doesn't cohere with observation. While the first heaven, studded with uncountably many stars, as well as the sun and moon, moves perfectly regularly, a group of five stars causes trouble for the account described thus far.[207] These are the five "wandering stars," (*ta*

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[206] On Aristotle's sources in earlier Greek astronomy, see D. R. Dicks, *Early Greek Astronomy to Aristotle* (Bristol: Thames and Hudson, 1985). For a more general overview of Greek astronomy in comparative perspective, see Otto Neugebauer's still unsurpassed *A History of Ancient Mathematical Astronomy*, 3 vols. (Berlin and New York: Springer, 1975). T.L. Heath, *Greek Astronomy,* 1932 (Cambridge: Cambridge University Press, 2014) also remains a valuable source.

[207] In fact, there is trouble with the equation of physical changelessness and perfection from the outset. There is no question of the earth, which is motionless, being superior (in value) to the higher (in location) celestial bodies. So, a similar version of the problem Aristotle takes himself to be confronting in ii.12 might arise regardless of the planets'

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planômena astra), sometimes shortened simply to "wanderers" (*hoi planêtes*): the observable five planets. They owe their descriptive name to the zigzagging course they seem to take through the sky. All of the celestial bodies have a course from east to west across the night sky. While the sun and moon perform this course nightly, the other celestial bodies follow an east-west course through the solar year, during the course of which their nightly position shifts slightly. However, the five planets appear at times to break from this east-west progression and start to backtrack relative to the celestial sphere of the fixed stars before resuming their east-west trajectory.

This is clearly a problem for the model of concentric spheres that move uniformly around their axis. A number of solutions were proposed in order to accommodate this phenomenon of retrograde motion within a geocentric model before the adoption of heliocentrism rendered retrograde planetary motion a mere illusion (the seeming backward movement of the planets is explained by the different relative speeds of earth's combined with the other planets' elliptical orbit around the sun). The most famous of these is the Ptolemaic system of epicycles and deferents – which involved adding extra circular paths to the circles described by Aristotle and in shifting their centre-points away from the earth's centre. (Unlike Aristotle's conception of the spheres as real entities, the epicycle-deferent system was very much a model or idealisation.) And in *Metaphysics* Λ 8, Aristotle provides an alternate explanation not just for retrograde motion, but for the different speeds and angles of the planets. He adopts an earlier model that posits additional intermediate concentric spheres, each of which rotates uniformly, but at slightly different speeds and angles, passing on their motion to the sphere below.[208]

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wandering paths. On why Aristotle's earth is stationary, see: Mohan Matthen, "Why does earth move to the center? An examination of some explanatory strategies in Aristotle's cosmology," in *NPDC*, 119-138.

[208] A detailed account of the complex mechanical explanation offered at Meta. Λ 8 can be found Jonathan Beere, "Counting the Unmoved Movers: Astronomy and Explanation in Aristotle's Metaphysics XII.8," *Archiv für Geschichte der Philosophie* 85 (2003): 1-20 and István M. Bodnár, "Aristotle's Rewinding Spheres: Three Options and their Difficulties," *Apeiron* 38, no. 4 (2005): 257-275.

But the problem in *DC* ii.12 is not of providing an empirically adequate description of planetary motion (indeed, there is no attempt to *model* their varying courses), but of providing an explanation for *why* it should occur in the first place. For Aristotle, as we shall see, this explanation must be teleological. And in providing an explanation for why it is for the best that these five stars wander while both the fixed stars and the sun and moon move uniformly, a difficulty arises.[209]

> [F]or what reason is it ever the case that the things further removed from the first motion [=the fixed stars] do not always have the most motions, but the things in the middle have the most. It would be reasonable to suppose, since the first body has a single motion, that the closest <to it> would have the fewest motions, e.g. two, the next three, or some other such order. But, in fact, the opposite happens. The sun and moon have the fewer motions than some of the wandering stars [=planets], even though the planets are further from the centre and closer to the first body than them. This has become clear from visual observation of some of them. (*DC* ii.12, 291b31-292a3)[210]

The aporia emerges from the conflict between the observed phenomena and an assumption of the mechanical model with which Aristotle is working:

(i)   Assumption: The further from the centre of the cosmos a body is, the more regular its motion.

(ii)   Observation: the sun and moon, which are closer than the planets, have more regular motion than them.

The support for the assumption (i) comes from the model of spherical motion briefly described above. As the outer spheres pass on their motion to the ones further along, the motion of the inner spheres grows increasingly complex as one moves away from the outside due to the influence of yet more motive forces. The closer one gets toward the centre of the cosmos, then, the less regular the motions one observes should become.

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[209] On the relation between *DC* ii.12 and *Metaphysics* Λ 8, see H. J. Easterling, "Homocentric Spheres in 'De Caelo'," *Phronesis* 6, no. 2 (1961): 138-153, which argues for their compatibility.
[210] διὰ τίνα αἰτίαν ποτ' οὐκ ἀεὶ τὰ πλεῖον ἀπέχοντα τῆς πρώτης φορᾶς κινεῖται πλείους κινήσεις, ἀλλὰ τὰ μεταξὺ πλείστας. Εὔλογον γὰρ ἂν δόξειεν εἶναι τοῦ πρώτου σώματος μίαν κινουμένου φορὰν τὸ πλησιαίτατον ἐλαχίστας κινεῖσθαι κινήσεις, οἷον δύο, τὸ δ' ἐχόμενον τρεῖς ἤ τινα ἄλλην τοιαύτην τάξιν. Νῦν δὲ συμβαίνει τοὐναντίον· ἐλάττους γὰρ ἥλιος καὶ σελήνη κινοῦνται κινήσεις ἢ τῶν πλανωμένων ἄστρων ἔνια· καίτοι πορρώτερον τοῦ μέσου καὶ πλησιαίτερον τοῦ πρώτου σώματός εἰσιν αὐτῶν. Δῆλον δὲ τοῦτο περὶ ἐνίων καὶ τῇ ὄψει γέγονεν·

In practice, the first heaven, or sphere of the fixed stars, does in fact move with perfect regularity. Meanwhile the planets, situated below this outer sphere, move in a less regular, wandering course. So far, this observational data is perfectly consistent with the two principles mentioned above. However, rather than motion becoming more and more complex as one gets further from the first heaven, it becomes simpler again: the sun and moon exhibit no backtracking in their annual procession and, at the very bottom, the earth does not even move at all.[211]

§4

Aristotle resolves this tension by revisiting and refining the assumption that the closer one gets to the first heaven, the more regular a thing's motion will be. To do so, he will need to revise the way he has been approaching the subject matter. Rather than trying to explain celestial motion in purely mechanical terms, Aristotle will introduce teleological considerations in order to resolve the tension, asking *why* and more specifically *for what purpose* each celestial body follows the specific course that it does. Once he has done so, the true gradation from the outer heaven on down will turn out not to be a matter of mere (physical) regularity, but of normative degrees of perfection. As the case of circular motion shows, regularity – indeed changelessness – is closely tied to perfection. But one of the upshots of Aristotle's account at *DC* ii.12 will be that physical regularity on its own will no longer be sufficient evidence that something is particularly perfect; rather, we will have to look at what each thing is doing – what its goals are – in order to determine this.

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[211] In support of the sun/moon being closer than the planets, Aristotle relies on the observational claim that "We saw the half-full moon pass in front of the star of Ares [=Mars], which was obscured by the dark half and lit up when passing out from behind the bright half" while for the other planets he cites the authority of the observational data of the Egyptian and Babylonian astronomers, "from whom we have much trustworthy information (*pisteis*) concerning each of the stars." (292a9). On the observation of the occultation of Mars in particular, see F. Richard Stephenson, "A Lunar Occultation of Mars Observed by Aristotle," *Journal for the History of Astronomy* 31 (2000): 342-344. On Aristotle's use of observational data more generally, see G.E.R. Lloyd, "Heavenly aberrations: Aristotle the amateur astronomer," in *Aristotelian Explorations*, 160-183 (Cambridge: Cambridge University Press, 1999); István Bodnár, "Aristotle's planetary observations," in *Logos and language: Essays in honour of Julius Moravcsik*, eds. Dagfinn Føllesdal and John Woods, 243-250 (London: College Publications, 2008).

In order to resolve the opening aporia, Aristotle explains that, despite appearances, the universe's structure reflects not just the effects of mechanical forces, but differences in how well various sorts of being succeed in achieving a common end to which they are all ordered. It is by adopting a teleological, rather than purely material, perspective that Aristotle proposes to solve the aporia. As he writes,

> It is good to search for more understanding concerning these things, even though we have few resources and are separated by a huge distance from their characteristics. Nevertheless, if one reflects on the basis of the following (consideration nothing should seem strange (*alogon*) about the present *aporia*. We think about them as though they were only bodies and units having a certain order, but altogether lifeless. But we must rather assume them to have a share in action and life. Nothing will thus seem odd (*paralogon*) about the facts. (*DC* ii.12, 292a13-21)[212]

Considering the celestial bodies as endowed with "life and action" will help Aristotle adopt a teleological perspective, and thereby to consider the different movements of the various bodies to reflect different levels of success – or failure – in reaching a common *telos*. It will also, crucially, allow him to draw a comparison between the *astra* and the end-directed activity of sublunary organisms, above all of human beings. (This is compatible with possibility that the presence of "as" – *hôs* – is to be read as merely comparative, that Aristotle is not literally asking us to consider the celestial bodies to be intentional agents.) Not only agents "act" for the sake of ends – plants do as well, as do the non-living elements. That is, Aristotle's teleology is natural, not psychic. Nevertheless, it is easier to understand the structure of teleological causation by *analogy* with human action (which is why Aristotle constantly uses examples of human craft activity throughout his exposition of natural teleology in the *Physics*). I am inclined to hold that Aristotle did, in fact,

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[212] Περὶ δὴ τούτων ζητεῖν μὲν καλῶς ἔχει καὶ τὴν ἐπὶ πλεῖον σύνεσιν, καίπερ μικρὰς ἔχοντας ἀφορμὰς καὶ τοσαύτην ἀπόστασιν ἀπέχοντας τῶν περὶ αὐτὰ συμβαινόντων· ὅμως δ' ἐκ τῶν τοιούτων θεωροῦσιν οὐδὲν ἄλογον ἂν δόξειεν εἶναι τὸ νῦν ἀπορούμενον. Ἀλλ' ἡμεῖς ὡς περὶ σωμάτων αὐτῶν μόνον, καὶ μονάδων τάξιν μὲν ἐχόντων, ἀψύχων δὲ πάμπαν, διανοούμεθα· δεῖ δ' ὡς μετεχόντων ὑπολαμβάνειν πράξεως καὶ ζωῆς· οὕτω γὰρ οὐθὲν δόξει παράλογον εἶναι τὸ συμβαῖνον.

think that the heavens are really alive, but this, ultimately, is not crucial to the rest of the argument.[213] What *is* crucial is that he considered them to be end-directed. And considering the heavens to be living beings – whether or not this is literally true – opens up the possibility of considering not only the mere shape of their motions, but also how this shape relates to an end.)

Running through Aristotle's solution to the aporia of heavenly motion is the fundamental principle that one thing is superior to another just in so far as it comes closer to a common normative standard (*horos*). At the end of the *Eudemian Ethics,* we have seen (in Ch. 3 I§5) Aristotle say that in order to choose the best life we need a certain standard (*horos ti*, *EE* vii.15*,* 1249a21), just as in medicine the doctor must look to the paradigm of health and judge the patient's varying states according to how closely they conform to that standard. We have also seen, however (in Ch. 2), that this need for a common normative standard does not mean that all comparisons require precisely the *same* account of value in each of the cases being compared. The standard can rather be realised in different ways. And we have also seen (Ch. 3) that in *Metaphysics* Λ Aristotle suggests that the prime mover (God or the good) is just such a standard, that on account of which the cosmos possesses "the good and the best," that to which all things are "ordered together" (*suntetaktai,* Λ 10, 1075a23), though "not in the same way." (Ibid.) It is this vision of goodness that is operative in the *De Caelo* passage.[214]

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[213] A parallel use of the same particle, "as," earlier in the passage, speaks rather strongly against such an anti-realist reading. Aristotle tells us that "we" usually think of celestial bodies "a*s though they were* only bodies and units," *as* being utterly soulless. This occurrence of this particle, as, from the perspective of this unnamed "we" clearly is not the irrealis or counterfactual one: other astronomers go wrong precisely because they assume that the stars and planets *are* just bodies, they do not merely treat them *as if* they were bodies (even though they recognise that they are more than that). This first occurrence of "as," then, seems to suggest that we are dealing genuinely competing accounts of what kinds of things celestial bodies are. Moreover, Aristotle seems to suggest on other occasions that celestial bodies are, in fact, living things, a position inherited from earlier astronomy and held by Plato, too. In both the first book of *De Caelo* (*DC* i.10, 279a30-35) and in Metaphysics Λ 8 (1074b1-15), Aristotle argues that the early Greek cosmo-theological tradition was basically correct in holding the heavens to be divine, even if he rejects their anthropomorphic conception of divinity. Divinity, in turn, is associated with living: indeed, Aristotle says in the *Metaphysics* that the prime mover, whom he calls not just divine, but god, is alive. (Λ 7 1072b13ff.)

[214] It has been noted that elsewhere in *De Caelo* (especially Book I), Aristotle does not seem to be operating with any notion of an unmoved mover for the sake of which the spheres rotate, or that he is describing them as

Only at the end of the solution to the aporia in question will Aristotle offer a direct formulation of the principle that the better something is, the closer it comes to its *telos*: "Reaching that first end is altogether the best for all things. But if it cannot, a thing is always better to the extent that it comes closer to the best." (*DC* ii.12, 292b16-18)[215] But before he gets here, he offers an elaborate comparison between heaven and earth that not only elucidates the hierarchical structure of the heavens, but of the cosmos as a whole. This starts out as a simple analogy:

> For it seems that a thing which is in the best state (*tôi arista echonti*) has the good without action, that a thing close <to the best state has it> through a small and single action, that things further <have the good> through more actions. So too with the <human> body: one is in a good state without any exercise; another by a little walking around; for another running, wrestling, and other exercise is needed. Finally, yet another, whatever they do, cannot ever reach this good, but only another one. (292a22-28)[216]

Aristotle's solution to the aporia begins with the principle that the better something is, the more perfect it is, i.e. the less in need of improvement. This, as we have seen, is the principle underlying the status of the highest being in Aristotle's cosmos as an *unmoved* mover: something that is even possibly subject to change is inferior to a being that is always perfectly just what it is. It can neither get any better, nor any worse.[217] The elaboration of the abstract point comes through

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teleological beings at all. Insofar, however, as this is an apt characterisation of earlier sections of his cosmology, Aristotle's remonstration against viewing the heavens merely as "bodies and units" in ii.12 must be read as a correction not only of other astronomers and cosmologists, but as an instance of self-criticism.

[215] Μάλιστα μὲν γὰρ ἐκείνου τυχεῖν ἄριστον πᾶσι τοῦ τέλους· εἰ δὲ μή, ἀεὶ ἄμεινόν ἐστιν ὅσῳ ἂν ἐγγύτερον ᾖ τοῦ ἀρίστου.

[216] Ἔοικε γὰρ τῷ μὲν ἄριστα ἔχοντι ὑπάρχειν τὸ εὖ ἄνευ πράξεως, τῷ δ' ἐγγύτατα διὰ ὀλίγης καὶ μιᾶς, τοῖς δὲ πορρωτέρω διὰ πλειόνων, ὥσπερ ἐπὶ σώματος τὸ μὲν οὐδὲ γυμναζόμενον εὖ ἔχει, τὸ δὲ μικρὰ περιπατῆσαν, τῷ δὲ καὶ δρόμου δεῖ καὶ πάλης καὶ κονίσεως, πάλιν δ' ἑτέρῳ οὐδ' ὁποσαοῦν πονοῦντι τοῦτό γ' ἂν ἔτι ὑπάρξαι τἀγαθόν, ἀλλ' ἕτερόν τι.

[217] In the first case, it would no longer be the most perfect thing; in the latter, it would be inferior to a being that was just as good and was that way without the insecurity brought about by the possibility of change. This focus on stability and security as essentially connected to goodness and perfection is one of the places where Aristotle remains very much a Platonist (cf. especially *Rep*. ii)

Aristotle's much beloved example of health, where he gives us the following ranking of individuals: [218]

   (i)   Someone who is always healthy

   (ii)   Someone who becomes healthy easily, through a little walking around

   (iii)   Someone who becomes healthy with difficulty, through actions that are both (α) difficult and (β) multiple

   (iv)   Someone who cannot become (fully) healthy, but who can still undertake actions "on the way" toward health

The fundamental division here, as Christoph Rapp has noted, is between levels (iii) and (iv).[219] The individuals described by the first three levels all manage to get to the final end: they are all, in the end, healthy, even if they may have to put in very different levels of effort to arrive at this good state. The person in the lowest state does not get there at all, but is rather stuck at least a rung below. Unlike their neighbour one level up, who can become healthy if they do many different activities (and difficult ones at that; surely Aristotle's choice of running, wrestling, and athletics to illustrate the many actions needed is no accident), the least lucky member of this ranking cannot become healthy no matter how much they do. The manner in which Aristotle thinks it is rational to respond for someone unlucky enough to be stuck in this situation is the first step toward unravelling the aporia of heavenly motion.

§5

Aristotle's basic answer is that the rational thing to do is to give up on getting to a healthy state and to focus on attaining something like a consolation prize. He is not saying that health should no longer be a concern, or even that it ceases to be the only relevant normative standard or

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[218] My elaboration of the examples in *DC* ii.12 is similar to that found in Christoph Rapp Aristotle on the Cosmic Game of Dice: A Conundrum in *De Caelo* ii.12," *Rhizomata* 2, no. 2 (2014): 161-186 and Mariska Leunissen, "Explanation and Teleology in Aristotle's Cosmology," *NPDC*, 215-238. While we are largely in agreement about the structure of the examples themselves, I shall part company with them on how the sublunary world and the heavens fit together in this chapter. See §7 below.
[219] Rapp, "Cosmic Game of Dice."

horos for such a person, but that they will never get there because of the increasing proliferation of steps and the attendant rise in the chances of something not working out that this entails. Having to run, wrestle, and perform some other form of exercise is difficult enough;[220] to have to do yet more tasks on top of this becomes simply unrealistic. Aristotle uses an analogy with a game of throwing knucklebones (*astragaloi*): getting the dice-like object to land on a particular side once, or even twice, is not terribly difficult. (292b27-8) But as the number of throws increases, it becomes less likely that one will succeed every time. In the analogy with dice, each throw stands for one stage in a teleologically structured chain of action, with each stage for the sake of and a necessary condition of the next. Just as landing a particular throw once or twice is not terribly implausible, moving successfully through one or two steps of a chain of actions is also not unduly difficult. But just as "throwing ten thousand Chian knucklebones" is impossible (292a28 – "throwing a Chian" apparently, means to have the irregularly shaped die land on its smallest side[221]), so too is a very long chain of actions less likely to yield success: "whenever it is necessary to do one thing for the sake of another, and this second thing for a third, and the third for a fourth, it is easy to accomplish (*epituchein*) one or two of these, but it is harder the more there are." (292a29-b1)[222] The most familiar modern analogy would appear to be tossing a coin, where the odds of a continuous string of heads or tails diminishes by half with each successive throw, so if success consisted of getting, say, ten tails in a row, one should not be particularly hopeful. In fact, however, Aristotle is not quite so pessimistic. For unlike a coin toss (or modern dice, for that matter) throwing knucklebones is not entirely a matter of luck; rather, a skilled player can do much

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[220] The term *konisis* is otherwise unknown in Greek and offers no etymological clues besides referring to the dust of the arena where the exercise takes place
[221] See Rapp, "Cosmic Game of Dice," for the details of ancient Greek dice games.
[222] ὅταν τοδὶ μὲν δέῃ τοῦδ᾽ ἕνεκα ποιῆσαι, τοῦτο δ᾽ ἄλλου καὶ τοῦτο ἑτέρου, ἐν μὲν ἑνὶ ἢ δυσὶ ῥᾴδιον ἐπιτυχεῖν, ὅσῳ δ᾽ ἂν διὰ πλειόνων, χαλεπώτερον.

to determine which side of the asymmetrically shaped bone lands facing up, just as an intentional agent is not someone acting by pure luck. Nevertheless, though one's odds of success do not undergo negative exponential decay, even the best knucklebone-thrower messes up once in a while. So, once the number of throws required for success becomes high enough, one realistically ought not to expect to reach the ultimate goal. The practically rational course of action is rather to set one's sights lower. Rapp thus calls this lowest rung, aptly I think, the "level of resignation."[223]

Having first introduced a criterion for ranking based on complexity of action, and then providing an analogy to two familiar human pursuits – exercise and game-playing – Aristotle then reaffirms that we must think of the heavens as intentional agents. It is at this point that the passage begins to make claims not just about the motions of the heavens, but about the axiological structure of the whole cosmos: "Therefore, one ought to suppose that the action of the stars is like that of animals and plants. Here on earth, humans have the most actions, since they are able to accomplish many good things, so that they can do a lot and for the sake of different things." (292b1-3)[224] What at first looks like a case for unthinking anthropo-supremacy – humans are the best, here on earth at least, because they are capable of many actions and can thus accomplish many good things – turns out to be more ambivalent. It is true that Aristotle thinks, as we shall see, that human beings are superior to plants and non-human animals on the grounds that they are able to come closer to a (partially) shared good. Nevertheless, this comes at a cost: though humans do achieve the highest good, they do so in a particularly laborious and less-than-ideal way, needing to perform many sorts of activities in order to get there. In contrast, Aristotle reminds us, "A thing which is in the best state (*tôi arista echonti*) has no need for action; for it is *itself* that-for-the-sake-of-which, while

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[223] Rapp, "Cosmic Game of Dice," 169.
[224] Διὸ δεῖ νομίζειν καὶ τὴν τῶν ἄστρων πρᾶξιν εἶναι τοιαύτην οἵα περ ἡ τῶν ζῴων καὶ φυτῶν. Καὶ γὰρ ἐνταῦθα αἱ τοῦ ἀνθρώπου πλεῖσται πράξεις· πολλῶν γὰρ τῶν εὖ δύναται τυχεῖν, ὥστε πολλὰ πράττειν, καὶ ἄλλων ἕνεκα.

action always involves two things: that for the sake of which and that which is for its sake." (292b4-7; my emphasis)[225] Even when two things achieve the same end, one can be better than another on the basis of the way in which it gets there. The best way is quite simply not to have had to get there in the first place, but to have been there all along. Among the group of beings lucky enough to achieve true success, there is further stratification based on how many steps it took them, that is, based on how difficult it was.

And then there are those that do not achieve true success at all. This group is also stratified, but in a mirror image of the first one. Whereas in the first group, more actions were a sign of a lower ranking, in the latter group, it is those things with fewer actions that are placed lower down, with the earth, with the fewest, at the very bottom. Aristotle first makes this case for the sublunary world, writing that, "Other [non-human] animals have fewer actions, while plants have very few and perhaps only one activity. For either there is one single thing that a plant can achieve like a human being, or alternatively the many things on its path are all ordered toward its good." (292b7-10)[226] In contrast to the knucklebone example, Aristotle here emphasises another sort of plurality to indicate the difference between humans on the one hand and other sublunary organisms on the other: not, in this case, the fact that they have more steps on their way to achieving the good, but that their good is a plural one, one that can be realised in many ways. This is a peculiarly human characteristic, we shall see, not only in contrast with plants and non-human animals, but also in contrast with the heavenly bodies.

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[225] Τῷ δ' ὡς ἄριστα ἔχοντι οὐθὲν δεῖ πράξεως· ἔστι γὰρ αὐτὸ τὸ οὗ ἕνεκα, ἡ δὲ πρᾶξις ἀεί ἐστιν ἐν δυσίν, ὅταν καὶ οὗ ἕνεκα ᾖ καὶ τὸ τούτου ἕνεκα.

[226] Τῶν δ' ἄλλων ζῴων ἐλάττους, τῶν δὲ φυτῶν μικρά τις καὶ μία ἴσως· ἢ γὰρ ἕν τί ἐστιν οὗ τύχοι ἄν, ὥσπερ καὶ ἄνθρωπος, ἢ καὶ τὰ πολλὰ πάντα πρὸ ὁδοῦ ἐστι πρὸς τὸ ἄριστον.

§6

We shall return to the peculiar status of human beings, but first we must see how Aristotle

finally resolves the aporia that opens *DC* ii.12:

> [A] One thing has and takes part in the good; another arrives at it through few <steps>
> and another through many; yet another does not attempt it, but it is enough for it to
> come near the final end. [B] For example, if health is the end, one person, of course,
> is always healthy, another gets stronger through running, and another by doing
> another activity for the sake of running, such that there are more motions. Yet another
> is unable to get to health, but only to running or getting stronger, and one of these
> will be the end for such people. Reaching that first end is altogether the best for all
> things. But if it cannot, a thing is always better to the extent that it comes closer to
> the best. [C] Because of this, the earth has altogether no motion, and the things [=sun
> and moon] near it only few motions. For it is not able to arrive at the final end, but
> rather can only reach the divine principle up to this extent, while the first heaven
> reaches it straight away through a single motion. And those in between the first
> [=fixed stars] and the last [=sun, moon, earth] arrive <at the divine principle>, but
> do so through many motions. (292b9-24)[227]

Aristotle begins by reiterating the basic axiological structure underlying the entire passage

we have been examining, re-stating the fourfold division first laid out earlier in the chapter [A],

and then reintroduces the same health analogy present there [B]. Then he applies it directly to the

solar system, where we again see the chiastic structure just described [C].

The outer sphere of fixed stars is the best because it gets to the good through the simplest

sort of action: regular rotation in a circle. The planets, with their less regular course, also get to the

good, but do so through a more complex set of actions, zig-zagging back and forth along their

larger circular courses. The sun and moon, finally, are like the fixed stars insofar as they follow a

regular circular course. But unlike the fixed stars, this makes them *worse*, not better, than the

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[227] Τὸ μὲν οὖν ἔχει καὶ μετέχει τοῦ ἀρίστου, τὸ δ᾽ ἀφικνεῖται [ἐγγὺς] δι᾽ ὀλίγων, τὸ δὲ διὰ πολλῶν, τὸ δ᾽ οὐδ᾽ ἐγχειρεῖ, ἀλλ᾽ ἱκανὸν εἰς τὸ ἐγγὺς τοῦ ἐσχάτου ἐλθεῖν· οἷον εἰ ὑγίεια τέλος, τὸ μὲν δὴ ἀεὶ ὑγιαίνει, τὸ δ᾽ ἰσχνανθέν, τὸ δὲ δραμὸν καὶ ἰσχνανθέν, τὸ δὲ καὶ ἄλλο τι πρᾶξαν τοῦ δραμεῖν ἕνεκα, ὥστε πλείους αἱ κινήσεις· ἕτερον δ᾽ ἀδυνατεῖ πρὸς τὸ ὑγιᾶναι ἐλθεῖν, ἀλλὰ πρὸς τὸ δραμεῖν μόνον ἢ ἰσχνανθῆναι, καὶ τούτων θάτερον τέλος αὐτοῖς. Μάλιστα μὲν γὰρ ἐκείνου τυχεῖν ἄριστον πᾶσι τοῦ τέλους· εἰ δὲ μή, ἀεὶ ἄμεινόν ἐστιν ὅσῳ ἂν ἐγγύτερον ᾖ τοῦ ἀρίστου. Καὶ διὰ τοῦτο ἡ μὲν γῆ ὅλως οὐ κινεῖται, τὰ δ᾽ ἐγγὺς ὀλίγας κινήσεις· οὐ γὰρ ἀφικνεῖται πρὸς τὸ ἔσχατον, ἀλλὰ μέχρι ὅτου δύναται τυχεῖν τῆς θειοτάτης ἀρχῆς. Ὁ δὲ πρῶτος οὐρανὸς εὐθὺς τυγχάνει διὰ μιᾶς κινήσεως. Τὰ δ᾽ ἐν μέσῳ τοῦ πρώτου καὶ τῶν ἐσχάτων ἀφικνεῖται μέν, διὰ πλειόνων δ᾽ ἀφικνεῖται κινήσεων.

planets. For rather than a sign of their ease of arriving at perfection, it is a sign that they cannot even get there in the first place. The sun and moon are less erratic than the planets not because they are better off, but because the good is so remote for them that it makes no sense to go through the trouble of performing more than basic circular motion. Finally, Aristotle considers the earth, which does not even move at all. Once the earth enters the picture, the circular motion of the sun and moon takes on a new light: it is still far from the easy near perfection of the fixed stars, but at least it approximates it. If there is a broader methodological lesson from Aristotle's attempted solution to this aporia, it seems to be that appearances are deceptive.

What are we to make of this? The imposition of the axiological scheme I have just described may seem unprincipled. Even if the basic intuitions behind the scheme are sound (i.e. that an easy success is better than a difficult one, that resignation is practically rational) why should we think they apply to the heavens? The only intelligible answer is that Aristotle regards the heavens as end-directed beings, each with a genuine good which can be understood along the same lines – whether they are literally alive or not[228] – as agents subject to the same principles of practical reason that apply to all agents. The account in *DC* ii.12 is best regarded as something like an inference to the best explanation. By this I mean the following: in positing (a) that the heavenly bodies are living agents and (b) that they are pursuing a common goal with (c) different degrees of success, Aristotle is able to account for the observed phenomena. This is not the rigorous scientific proof that he advocates for in the *Posterior Analytics* nor is it the sort of account – based in careful observation – found in the biological works, but given the immense distance by which we are separated from the objects under investigation, such a result is the best we can hope for.

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[228] See the discussion at §4 *supra*.

Such an account of the cosmos will not be one we, as 21st-century readers, are willing to accept. But it is one that we must try to inhabit if we are to understand not just the worked-out details of Aristotle's astronomy, but also his broader cosmology, his synoptic view of the universe and of humans' place within it. If we are willing, if not to accept, then at least to entertain Aristotle's zoological astronomy, then we can reconstruct the following initial ranking(s): [229]

		Heavens	Sublunary world
Possesses the good…	…without action	*prime mover*	*prime mover*
	…with a single action	*first heaven*	*–*
	…with many actions	*planets*	*human beings*
Does not possess, but approximates, the good…	…better and with more actions	*sun and moon*	*non-human animal*
	…less well and with one or no actions	*earth*	*plants, elements*

Figure 4: Heavenly and earthly hierarchy in *DC* ii.12

My schematic depiction raises a set of questions that will guide us for the remainder of the chapter:

(1) What justifies the inclusion of the prime mover, which is not mentioned in *De Caelo*, in the highest place?

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[229] Compare the similar tables in Rapp, "Cosmic Game of Dice," and Leunissen "Explanation and teleology." I differ from Rapp in that I have included the prime mover in the highest level of both columns (Rapp leaves both empty); Leunissen places human beings in the highest level of the sublunary column, for reasons that are not entirely clear. It is true that according to *EN* x.7, Aristotle says that we can become divine, but this "immortalising" (*athanatizein*) ourselves requires that we "do everything to live according to the best in us." (*EN* x.7, 1177b33) And difficulty and the risk of failure are of course precisely crucial criteria in *DC* ii.12. It is also impermanent, a brief state, rather than an eternal one. I discuss the temporal difference between the sublunary and heavenly realm at length in §7 below.

(2)   Does everything have *one* highest good, or are different things ranked on the basis of how "close" (*eggus*) they come to their *sui generis* goods?

(1) The best sort of thing is that which possesses the good "without action" (*aneu praxeôs*) – an entity that cannot be improved upon. This feature, the lack of improvability (or, in positive terms: perfection) is what characterises of the prime mover. What indicates that Aristotle actually has such a being in mind is the fact that none of the natural substances listed in the passage reach this highest state. Even the first heaven, the outer sphere of fixed stars, is second best: it does reach the best state, but note that it *reaches* it, rather than simply *being* there. Aristotle might have simply said that this was the best kind of success, but he does not. Rather, he consistently leaves open the space for a being good *simpliciter* and that cannot and does not change. When he first introduces the basis for ranking through the analogy of health (292a23), he does not place in first position someone who becomes healthy quickly and easily, but someone who is healthy to begin with. Summing up the solution to the aporia, he reiterates the point, this time in general terms: "One thing *has and takes part in* the good; another arrives at it through few <steps> and another through many…" (292b9ff., my emphasis) Again, he is clear that the best sort of thing does not need to do anything to become fully good, but also that neither the first heaven nor anything below it satisfies this criterion.[230]

Between these two iterations of the same set of principles, Aristotle also remarks that this best thing "has no need for action" precisely because it "is itself that-for-the-sake-of which, while action always involves two things: that for the sake of which and that which is for its sake." (292b4-7)[231] On the one hand, then, there is something that is already perfectly good; on the other, there is something directed toward this good, but which has to undergo a change to get there. But an

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[230] Cf. Easterling, "Homocentric Spheres," 151.
[231] Τῷ δ' ὡς ἄριστα ἔχοντι οὐθὲν δεῖ πράξεως· ἔστι γὰρ αὐτὸ τὸ οὗ ἕνεκα, ἡ δὲ πρᾶξις ἀεί ἐστιν ἐν δυσίν, ὅταν καὶ οὗ ἕνεκα ᾖ καὶ τὸ τούτου ἕνεκα

end, or a "that for the sake of which," must be the end *of* something. Of what, then, is this best thing an end: what acts for the sake of the prime unmoved mover?

(2) Aristotle answers that the divine functions as a global end. He does not tell us that the sun and moon fail to reach *their* specific ends, but that they "rather can only reach the divine principle up to this extent, while the first heaven reaches it straight away through a single motion. And those in between the first [=fixed stars] and the last [=earth] arrive <at the divine principle>, but do so through many motions." Though the term "final end," even in the singular, can be read to support a species-specific reading, "*the* divine principle" (***hê** theiotatê archê*) is much more plausibly read as one thing at which the various heavenly bodies are aiming, some of them succeeding after various degrees of struggle, others not quite making it. Finally, despite initial appearances, the health analogy Aristotle uses also supports the single-end reading. It may be that "health" means something different for different species, but this is not the comparison Aristotle is drawing: rather, he compares the different cosmic entities as analogous to individual *human beings* who can be compared in terms of *human* health.

Besides this clear textual warrant, there is a deeper philosophical stake to this question. To hold that Aristotle refers strictly to independent, species-specific ends amounts to claiming that *x* is better than *y* if *x* arrives at its end in a more efficient/easier/simpler way than *y* arrives at its end, where the ends of *x* and *y* are distinct. But this is simply a version of unifying goodness, and thereby licensing comparison, via analogy (*kat' analogian*). As I argued in Appendix B to Chapter 1, Aristotle rightly considers this unpromising. To briefly restate the argument in the terms now under discussion:

The proposition that *x* is better than *y* just insofar as it has an easier/simpler time reaching its end than *y* does, where the two goals are different, presupposes that the two goals themselves

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either cannot be ranked or are on a par. Let us imagine a situation in which x and y reach their common goal with just the same amount of strain: the two entities, then, would be on a par. But now imagine the two goals to be vastly different, if similar enough to be compared. To take an example from everyday life: jotting down some notes on a piece of music versus writing an extended, carefully crafted critical reflection on it. If, however improbably, these activities present the same level of difficulty and complexity for two different subjects, the accomplishments are not thereby of the same value. Indeed, the latter accomplishment is more valuable even if it involves *more* complexity. Effort is not everything, and to make it the singular grounds for comparison between different activities is to flatten meaningful differences in value between them. Where effort *does*, however, seem plausibly relevant is where multiple agents are engaged with roughly the same level of success in one and the same common activity. Imagine another case: two people each baking a cake from the same recipe. Both are successful; both of their cakes come out perfectly balanced, cooked all the way through and not burnt around the edges, not too wet, not dried out. But one baker has performed the task simply and with ease, working the ingredients confidently and executing the finished product on the first try. The other, even if the final product is ultimately indistinguishable, is more tentative – mis-measuring things, pausing to correct mistakes, throwing out an early attempt and starting again from scratch. The two *cakes* may be equals, but who is the better baker?[232] So too with the stars: the usefulness of using how hard things try as a criterion for meaningfully comparing one against the other requires that they are engaged in the same kind of activity.[233]

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[232] Of course, it is possible to argue a contrary position: since the cakes are perfect, the difference in expended effort is totally irrelevant – outcomes are all that matter – or perhaps even that since the second person went through so much trouble, this shows that they are more truly devoted to the art of baking and should thus be allocated a greater share of our esteem. Nevertheless, neither of these indicate that paying attention to effort makes sense outside the context of a common goal-directed activity, which is the alternative under question here.

[233] This raises the further question of what counts as "engaging in the same activity" beyond being for the same *telos*: that is, how can two things act for the sake of a common end, while being engaged in different activities? The

§7

That the various constituents of the cosmos are ordered toward a single good, share a single normative standard, albeit one realised by each of them in distinct ways, should lead us to expect that there will be a single, universal ranking. Yet Aristotle is elusive on this matter in *DC* ii.12; as we have seen, he presents two parallel rankings, one for the sublunary and one for the heavenly realm. This is the picture presented in Figure 4 above as well as, *grosso modo*, by the two most recent extended analyses of the chapter by Leunissen and Rapp.

On this view, the difference between the sublunary and heavenly realms lies only in the fact that the heavens include a component – the fixed stars – that reach the highest good "with a single action," while nothing on earth can do this. Here, the best sort of thing is human beings, who do possess the real good, but do so, like the planets, with multiple and complex motions. Then come the sun and moon, which are on the same level as non-human animals: they cannot possess the real good but are able to "come close" to it through their movements. Finally, both the earth and plants can also only come near the good, but can get even less close than the sun, moon, and animals and so have even simpler motions: trying any harder would result in diminishing returns on their investment of effort. Since all of these various entities must, as I have just argued, share a single good, this results in the following ranking:

(i) Prime mover

(ii) First heaven/fixed stars

(iii) Planets **and** humans

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distinction between external and internal final causes – or ends *for* and *of* things respectively – is useful here. Roughly speaking, beings which engage in the same kind of activity share a common internal end; beings, meanwhile, can share a common external telos – something can be a joint end *for,* but not *of,* them, without engaging in the same activity.

(iv) Sun, moon **and** non-human animals

(v) Earth **and** plants

This would certainly be at odds with the historically typical way of understanding Aristotle's vision of the cosmos, filtered first through neo-Platonism and then through Islamic and Christian philosophy, all of which found in texts like *Metaphysics* Λ, the germs of a more elaborate hierarchy based on principles of emanation flowing from the first divine principle all the way downward to humans and the rest of the natural world. This is, on its own, hardly evidence against such a ranking. Indeed, if this were the correct view, we would be in the position – often most welcome – of uncovering a significant discrepancy between an author's original meaning and the way that meaning has been interpreted and, in this case, distorted.

For better or worse, however, this is not the case in which we find ourselves: though never as elaborate as later philosophers that drew inspiration from him, Aristotle writes many times that the heavenly bodies – and not merely the outer sphere of fixed stars – are categorically superior to humans and to the rest of sublunary nature. At the opening of *Parts of Animals*, the heavens are said to be more honourable than the rest of nature;[234] in both *De Caelo* and the *Metaphysics,* they are said to be "divine." In the *Nicomachean Ethics*, Aristotle relies on the premise that humans are "not the best thing in the universe" in arguing for the superiority of theoretical (*sophia*) to practical reason (*phronêsis*). The final question in our interpretation of *DC* ii.12, then, is whether it can be harmonised with this thread running through a variety of Aristotle's writings.

The initial impression that the heavens and earth are *mutatis mutandis* on an equal footing overlooks at least one very crucial difference between them: whereas each of the heavenly spheres

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[234] At 644b25, Aristotle uses the positive (*timion*), not comparative (*timioteron*), form of the adjective. However, as I showed in Ch. 1 I§3, the underlying claim is unambiguously a comparative one when read in context.

will keep doing just what it is now doing for eternity, just as it always has done, all earthly beings come into and pass out of being. The inescapable reality of generation and corruption in the sublunary realm adds another dimension, namely *duration.* Two things may require the same amount of effort to reach a common goal – the planets and human beings, say – and yet one may be more secure in remaining in the state that constitutes this goal. Though Aristotle does not explicitly mention duration in *DC* ii.12, focussing his attention instead exclusively on effort, in other works he is more explicit about the importance of duration and stability.

In *Metaphysics* Λ, Aristotle notes that the prime mover is in the same good state (*diagôgê*) "such as the best which we have for a short while." (Λ 7, 1072b14-15) This is, first of all, further evidence for there being a single good in the light of which all other goods are intelligible, for we humans are surely not the only things that share a good way of living with the prime mover. Yet even though what makes the prime mover's way of life good much like humans', the durability of the former demarcates it clearly from the latter. Later in the same passage, when Aristotle begins to describe this shared good life, he singles out "contemplation" (*theôria*) as the "most pleasurable and best thing." (1072b24) Yet he immediately qualifies the equivalency between divine and human life in terms of both duration and regularity:

> If then god is always in a good state (*eu echei*), as we are at times, this would be wondrous; but if god is in an even better one, this would be even more wondrous. God is in a better state. Life also belongs to god. For the activity of reason (*nous*) is life, and god is this activity. (Λ 7, 1072b24-6)[235]

As in so much of Λ, Aristotle's prose is abbreviated and cryptic, but the emphasis on duration is incontrovertible: Aristotle first tells us that it would be a thing worthy of wonder if god were always and eternally in the same kind of good state (*eu echei*) that humans are only

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[235] εἰ οὖν οὕτως εὖ ἔχει, ὡς ἡμεῖς ποτέ, ὁ θεὸς ἀεί, θαυμαστόν· εἰ δὲ μᾶλλον, ἔτι θαυμασιώτερον. ἔχει δὲ ὧδε. καὶ ζωὴ δέ γε ὑπάρχει· ἡγὰρ νοῦ ἐνέργεια ζωή, ἐκεῖνος δὲ ἡ ἐνέργεια·

temporarily capable of achieving and adds that it would be even *more* wondrous if god were in a *better* (*mallon*) state before asserting that this is, in fact, the case. The repeated insistence on god's *actuality/activity* (*energeia*)[236] suggests that difference in effort and complexity that differentiates beings according to the criteria of *DC* ii.12 can be reframed in terms of the classic opposition between potentiality and actuality. The more work it takes for a being to get to its goal, the more potentiality it starts out with and the worse it is. Conversely, a being that is already very close to its goal, such as the first heaven, is superior because it has a correspondingly small degree of potentiality.[237]

§8

     If humans can only achieve the highest good briefly and occasionally, it is natural to ask: what is happening at the other times? The comparison that Aristotle draws between human beings and the planets is, I think, instructive. The similarity between the Greek term for planets – *planês* – and our own can be misleading. Venus, Mercury, Mars, Jupiter and Saturn are not, for Aristotle and Greek astronomy generally, anything other than stars, distinguished from the other, fixed stars, only by their irregular, or "wandering" path. (Cf. 290a19) At risk of pressing the analogy between sub- and superlunary beings beyond its proper bounds, it is nonetheless worth asking what about human beings corresponds to this planetary irregularity. As we have seen, planets and humans are

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[236] For an argument that *energeia* should consistently be rendered by "activity" rather than "actuality," see Aryeh Kosman, *The Activity of Being* (Cambridge, MA: Harvard University Press, 2013).
[237] It is worth noting that in the discussion of *eudaimonia* in *EN* x.7, he gives as one of the reasons that contemplation (*theôria*) is supreme that "we are capable of contemplating continuously *more* than any other activity." (1177a22) However, the continuity in question is a reference not to length of time, but to the fact that contemplation, more than any other human activity perhaps, is complete in an instant, pure *energeia*. The status – philosophical and textual – of *EN* x.7-8, however is controversial, and a satisfactory discussion would far outstrip the confines of this chapter. For worries – both textual and philosophical – about the place of the chapters, see Nussbaum, *Fragility of Goodness,* 376-7 and, in response, Thornton Lockwood, "Competing ways of life and ring-composition in *NE* x.6-8," in *The Cambridge Companion to Aristotle's Nicomachean Ethics,* ed. Ronald Polansky, 350-369 (Cambridge University Press, 2014).

both able to achieve the real good – divinity – albeit with great difficulty, unlike the sun, moon and earth and other animals and plants, who can only approximate divinity. Human beings' capacity for perfection as based on a divine element (viz. intellect) – their "perfectibility" in a modern idiom – is a familiar theme from Aristotle's writing. As has been quite amply remarked, this strand in Aristotle's thinking bears a clear similarity to the Platonic ideal of "assimilation to God insofar as it is possible" (*homoiôsis theôi kata to dunaton*).[238] Yet humans are not only unique among animals just in their perfectibility, but also in their *variability*. It is characteristic of human action that it is not liable to precise accounts. In contrast to Aristotle's biology in general and ethology (account of animal behaviour) in particular, discussions of human beings' behaviour and action in general can only be undertaken in a rather indeterminate way.

The dictum at the beginning of the *Nicomachean Ethics* that practical philosophy differs in its level of determinacy and exactness from natural and theoretical philosophy is one of the best-known features of Aristotle's method of ethics. It is the basis, however, for the contention that "precision (*to akribes*) is not to be sought for in all discourses (*logoi*)" (*EN* i.2 1094b12-13) that is of relevant interest for present purposes. The reason ethics is less precise than natural philosophy reflects a difference in their subject matter. In distinction to the invariances with which other branches of philosophy deal – the essences of natural kinds, logical truths, and so forth – ethics deals with human behaviour. And it is distinctive of human behaviour that it admits of a particularly wide range of variation. As Aristotle says in support of his methodological point, both "fine and just actions" exhibit a great deal of "variety and fluctuation," (1094b14-16) in the Ross translation of the *EN*. It is worth pausing over the precise wording of this notion of variability, for the two terms Aristotle deploys, *diaphora* and *planê*, each point to a slightly different aspect of

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[238] See, for example, David Sedley, "The Ideal of Godlikeness," in *Plato 2: Ethics, Politics, Religion, and the Soul*, ed. Gail Fine, 309-28 (Oxford: Oxford University Press, 1999).

variation. The former, which is by far the most common term, suggests a difference between two things. It is, for example, the term Aristotle uses in his biological writing to denote the principle that differentiates one species for another (i.e. the *differentia*). The latter, much less familiar term *planê,* on the other hand, suggests not the heterogeneity of "fine and just actions" (courage, generosity, etc.) but a more internal sort of variation, the way in which one sort of action can vary in its various manifestations: what it means to be courageous, for example, may be quite different depending on one's individual and social circumstances.

It is the second term, *planê*, that is particularly interesting here. In the translation I have quoted, Ross renders the term with "fluctuation." This choice is not in itself inaccurate, but it does obscure a striking etymological connection: *planê* is derived from precisely the same verb for wandering (*planaô*) as the term for planets (*planêtes*). If a planet is quite literally a "wanderer" then Ross's "fluctuation" might be replaced with the more literal translation of "wandering." The parallel position of human beings and planets that appears in the larger analogy in *DC* ii.12 between the hierarchical structure of the sub- and superlunary realms seems, then, to have an echo in the characterisation of human activity more generally. The multifarious ways in which humans can live, the multitude of characteristically human activities upon which an agent can embark in pursuit of a good life point to a commonality with the varying paths with which the planets pursue their good.

However, despite their somewhat more elaborate paths than the perfectly regular fixed stars, the planets do always end up successfully doing what they are meant to do (that is: rotate around the earth). *Their* wandering, at least, may take them down a notch on the scale of perfection, but it does not result in a risk of failure. Humans, on the other hand, also wander in another way,

which contrasts with planetary wandering. For in addition to taking a variety of paths to arrive at the human good, humans also wander away from this good in two ways.

First, even virtuous humans are subject to disaster in ways that other animals are not. Unlike Socrates, who held that the virtuous person cannot fail to live well, Aristotle opens up room for human lives to go awry through no fault of the agent's own. The paradigmatic example is that of Priam, whose long and flourishing life was cut off in old age with the Greek victory of the Trojan War (*EN* i.9, 1100a8). This is the first sense in which humans can wander.

Second, Aristotle recognises a human capacity for development in two directions: not just in the direction of perfection, but in precisely the opposite direction, a capacity for profound destructiveness. Unlike other species, in which individual specimens of course do vary widely in how closely they exemplify their particular form, humans, Aristotle contends, are able to both achieve a particularly high level of perfection (that is, their species-specific form is, of all sublunary beings, uniquely capable of divinity), but also a particular capacity to fall away from this good.

Aristotle's definition of human beings as political animals is well-known. It is not just that humans have a natural propensity to form distinctively political communities: rather, humans cannot live a properly human life in the absence of community; living among others is not only a human urge, but a necessary part of achieving a properly human life. In arguing for this thesis, Aristotle also considers the consequences of being cut off from human community as the indication of the centrality of community for human life. Since "each person is not self-sufficient when separated [from community]," (1253a25) therefore a person who does *not* need such a community to live is, to use Aristotle's memorable phrase, "like a beast or a god." (1253a29; cf. *EN* vii.1 1145a28-b7) This initially begins as the assertion that such separation is quite literally impossible

for human beings: an otherwise apparently human being who is capable of living completely alone would *ipso facto* not be a member of the human species. But in addition to these extremes, Aristotle makes a more concrete point. While someone who (hypothetically) stands in no *need* of a community, who is completely self-sufficient, is inhuman, the human functioning of one who is *in fact* alienated from a community will be severely compromised. Thus, Aristotle writes, "The initial founder of such a community is the cause of the greatest goods" (1053a30-1): In the absence of the kind of upbringing that is only accessible through belonging to a community, human beings not only fail to acquire fully developed capacities, but they will also become particularly vicious. Humans' perfectibility, which sets them apart from other animals in their capacity for virtue and *eudaimonia*, also means that they have a corresponding propensity to vice. Indeed, his claim that the founder of the community is the cause of the greatest goods rests not only on the claim that humans become particularly excellent within the context of social life, but that absent this context, they become particularly bad. This is the argument in full:

> The initial founder of such a community is the cause of the greatest goods. For just as humans, when perfected, are the best (*beltiston*) of the animals, when they are separated from law and justice, then they are the worst (*cheiriston*) of all. For justice that is armed (*hopla echousa*) is the most dangerous, and human beings naturally have weapons (*phuetai hopla echôn*) meant for practical wisdom and virtue (*phronêsei kai aretêi*), but which they can use for the opposite purpose. Thus, humans are the most unholy (*anosiôtaton*) and savage (*agriôtaton*) when they lack virtue, as well as the worst with respect to sexual lust and appetite.[239] (1253a30-7)

The passage contains several claims over which it is worth pausing.

First, the passage contains the (by now familiar claim) that human beings are the "best of the animals": a flourishing, fully virtuous human being, well-situated in the sort of community

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[239] ὥσπερ γὰρ καὶ τελεωθεὶς βέλτιστον τῶν ζῴων ἄνθρωπός ἐστιν, οὕτω καὶ χωρισθεὶς νόμου καὶ δίκης χείριστον πάντων. χαλεπωτάτη γὰρ ἀδικία ἔχουσα ὅπλα· ὁ δὲ ἄνθρωπος ὅπλα ἔχων φύεται φρονήσει καὶ ἀρετῇ, οἷς ἐπὶ τἀναντία ἔστι χρῆσθαι μάλιστα. διὸ ἀνοσιώτατον καὶ ἀγριώτατον ἄνευ ἀρετῆς, καὶ πρὸς ἀφροδίσια καὶ ἐδωδὴν χείριστον.

necessary for a good human life, will be unsurpassed by any other kind of (sublunary) being. Humans, taken as a species, then, are in a particularly privileged position here on earth. But Aristotle also says that a risk of failure is built into what it means to be human. There is an intrinsic fragility: someone raised in a bad, unjust, or vicious society will not simply fall short of virtue but also exhibit a particularly extreme sort of vice. The possibility of life going badly is hardly unique to human beings: other animals, and indeed plants, can fail to flourish. But unlike these cases, Aristotle is saying something stronger about human failure: because a full-fledged realisation of human form will involve the exercise of practical and theoretical reason and virtue, the stakes of failure are high, entailing a corresponding viciousness.[240]

This characteristic of human beings is not just a matter of their being more prone to vary from the species norm compared to other animals. It is rather a matter of the range of variation that individual humans represent as instances of human form. Like the planets, I want to suggest, whose wandering course across the sky is integral to what they are, human beings also wander. Like the planets, this is a matter of arriving at the good in many ways. But the other senses of wandering, in *deviating* from the good, set them apart from the planets, and suggest that even though they – we – may be the best kind of sublunary being, we are imperfect analogues for the planets, which cannot, despite their circuitous paths, fail to arrive at their good.

The final lines of the passage are equally important for their suggestion of what would constitute a properly Aristotelian view on human beings and their place in the natural world. Aristotle singles out two specific ways in which humans go astray: with respect to sexual matters (*ta aphrodisia*) and with respect to food (*edôdê*). It is the latter of these faults that will be of particular interest for thinking with Aristotle about the ethics of nature. While Aristotle speaks

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[240] It is worth asking whether this suggests that Aristotle has a theory of evil as something positive, rather than mere privation or absence of good.

very little directly about how humans ought to interact with the rest of the natural world, there are distinctive strains of thought implicit in his philosophy. The task of the subsequent chapter will be to make these explicit. We shall see that drawing on the resources of Aristotle's practical philosophy and combining them with his account of natural beings allows one to generate a powerful critique of human tendencies to dominate and exploit non-human animals and natural resources even as it shows the limits of Aristotle's own thinking.

Further, because they find in and outside of themselves not a few means which contribute more than a little toward increasing their utility – e.g. eyes for seeing, teeth for chewing, plants and animals for food, the sun for light, the sea for providing fish – it comes to pass that humans consider all natural things to be means for their use. And, because they know that these means were found by them, but not made by them, they hold this to be a cause for believing that there is someone else who made these means for their use. For when they consider things as means, they are unable to believe that these same things to have been self-generated and from the means which they are accustomed to make for themselves, they must conclude that there is some guide or guides of nature, gifted with human freedom, who have attended to all thing and has made all things for human use.[241]

Spinoza, *Ethics*, Part 1, Appendix

Ch. 5: An ethics of nature? On the limits of Aristotelianism

I. The prospects for an Aristotelian ethics of nature

I have argued that Aristotle holds certain natural beings to have greater or lesser degrees of value. That is, a rank-ordering of such beings is possible and, for a full understanding of the world, in fact necessary. This in turn raises the following question: what ethical entailments does such a hierarchy have? I shall argue that there is no sense in which an ethical approach to the natural world can be straightforwardly derived from the theoretical hierarchy, which itself does not entail viewing "lower" species instrumentally. Indeed, such a hierarchy is also fully compatible with strict limits on interspecies exploitation. And Aristotle himself – even if he is often unclear and at times self-contradictory – provides powerful materials for an ethics of nature.

Taken together, his remarks on the human exploitation of nature provide evidence of the compatibility of natural hierarchies and limitations on interspecies exploitation. We can think of this in two steps.

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[241] Porro cum in se, & extra se non pauca reperiant media, quæ, ad suum utile assequendum, non parum conducant, ut ex. gr. oculos ad videndum, dentes ad masticandum, herbas, & animantia ad alimentum, solem ad illuminandum, mare ad alendum pisces, hinc factum, ut omnia naturalia, tanquam ad suum utile media, considerent; & quia illa media ab ipsis inventa, non autem parata esse sciunt, hinc causam credendi habuerunt, aliquem alium esse, qui illa media in eorum usum paraverit. Nam postquam res, ut media, consideraverunt, credere non potuerunt, easdem se ipsas fecisse; sed ex mediis, quæ sibi ipsi parare solent, concludere debuerunt, dari aliquem, vel aliquos naturæ rectores, humana præditos libertate, qui ipsis omnia curaverint, & in eorum usum omnia fecerint.

First there is the negative thesis that a hierarchical theoretical view of the world does not entail or justify a practically hierarchical or instrumental view. That is, Aristotle's endorsement of the exploitation of non-human beings is clearly not rooted in his theoretical account of these natural substances. Rather, it reflects a belief in the best way to respond to human needs. This is not quite the same as saying that exploitation of nature is "merely" conventional; human needs are of course natural. But this does not mean that the things we use to satisfy them exist for that purpose. We can call this the principle of non-naturalism. Part I of the chapter focuses on these concerns and is largely negative: it opens up space for a critique of human patterns of behaviour but does not go as far as actually making one.

This is where the second step comes in. Regarding human consumption generally, Aristotle is of the view that to use resources in excess of what is necessary is fundamentally problematic. Call this the principle of moderation. What we will see is that Aristotle's theory puts serious restrictions on the consumption and exploitation of non-human animals and other natural resources. Aristotle's account of moderation, however, is not grounded in the need to respect or encourage the flourishing of other, non-human, beings. It is grounded, rather, in what it means to be a good *human*, on Aristotle's account of human virtue. The outlines of his notion of moderation, with a specific but not exclusive focus on the use of natural substances, will occupy Part II.

It is worth pausing here to say a few words about methodology. This chapter is not unique in moving between quite different texts. If it is more synthetic than the other chapters, which take one or two passages as their focus, this is a matter of degree. There is a difference, however, in the sort of reconstruction that I am doing here. My aim is not simply to articulate explicitly what Aristotle was saying implicitly in a group of passages, nor indeed to say what he *should,* by his own lights have thought. Rather, it is to draw out two strands in his thought which are themselves

not directly related to one but which, viewed in hindsight, provide powerful materials for thinking about human relations to the natural world.

Both the principles of non-naturalism and moderation are clearly present in Aristotle. However, we must also provide the following caveat. While Aristotle's discussion of the need to limit human consumption may generate restrictions on the use and exploitation of non-human nature, this is not grounded in the value of the objects of exploitation. If excessive consumption is to be avoided, for example, it is because this it is bad *for us*, not because of the particular value of the objects in question. The consequence is that one can accept Aristotle's argument for moderation with regard to the natural world without buying anything about his account of natural goodness – and vice versa. This degree of independence between these two areas of an ethics of nature may provoke some initial disappointment in those hoping for a clearer antecedent for contemporary concerns in Aristotle. However, this does not mean that we should not try to pick up where Aristotle leaves off: to construct an ethics of nature that, if not Aristotle's own, is at least in part genuinely Aristotelian in its flavour. I shall return to these questions of methodology in the conclusion to this chapter.

I§1

On one hand, Aristotle seemingly adopts wholesale whatever variant of supremacist thinking he encounters – that of men over women, masters over the enslaved, Greek over barbarian, and of humans over non-human animals and the natural world more broadly.[242] (If Aristotle cannot

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[242] When speaking of slavery generally, I follow the contemporary practice of using "enslaved person" rather than "slave." However, since Aristotle has a specific conception of *natural slavery* which claims precisely the *essential* status of a person as being a slave (which status "enslaved person" sets out precisely to problematise), I use "natural slave" in the relevant contexts.

be accused of racism – as opposed to ethnocentrism – that is because race as we know it did not exist as an analytical category for him or his contemporaries. [243])

But on the other hand, he also sees each natural being as a site of genuine, self-sufficient value (humans are not unique in this) and makes exploitation of natural resources a matter of convention. This tension in Aristotle's view of humans' relationship to the natural world is one that re-occurs in his views regarding women and enslaved people. However, the non-supremacist strand in Aristotle is arguably stronger in the former case than in the latter two. So, if it can be shown that Aristotle's human supremacist statements about the natural world do not need to be taken as his only or final word on the subject, perhaps the same can be done regarding his equally invidious convictions about sex and slavery.

Aristotle's views on slavery, on one hand, and what he says about how to treat animals, on the other, are in particularly closely related. In the first book of the *Politics*, before going on to discuss politics and political institutions as such (the city or *polis*), he returns to how "things grow from the beginning" (*ex arkhês ta pragmata phuomena*, *Pol*. i.2 1252a24). This seemingly innocuous biological metaphor marks something of a departure from Aristotle's normal procedure, which analyses things according to their function or purpose: what they *do,* rather than how they came into being.[244] Instead, he builds up the *polis* from its minimal parts and their combinations: first the male-female dyad, then a household, then a small village, then a small group of villages. Enslaved people, women, and animals all appear early on. The first object of study is the male-female couple, brought together with the aim of procreation. (*Pol*. i.1, 1252a27-30) It is not a

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[243] See Denise Eileen McCoskey, *Race: Antiquity and its Legacy* (Oxford: Oxford University Press, 2012).

[244] That is not to say he is not interested in functions, but that he attempts to derive the relevant ends from the account of generation; in other contexts, the description of how something came to be is usually worked out by referring to its ends. This discrepancy may also underly the tension between Aristotle's natural philosophy and his claim that the *polis* exists by nature. Space prohibits a fuller discussion, but there is a fruitful investigation to be undertaken of the differences between the standard Aristotelian conception of *phusis* and the way the term is used in the *Politics*.

relationship of equality, but one of rulership. Enslaved people appear next, with a role in the nascent household clearly distinct from that of women. Once the two pairings of husband-wife and master-slave have been established, the household emerges. It is here that animals are introduced, when Aristotle quotes Hesiod, for whom the original household is also a triad composed of two slightly different relationships: "A house first, and a wife and a plow-ox."[245] (1252b11-12) Despite the fact that Hesiod mentions an ox, and not another (enslaved) human, as the third member of the initial household, Aristotle takes him as portraying essentially the same scenario as his own, since an ox is simply that which a poor person uses in the same way as a richer person uses enslaved people. As opposed to women, who are not conceived of as an instrument and whose functional role is singular and well-defined (bearing and raising children), Aristotle views both enslaved humans and domestic beasts as multipurpose living instruments. (Pol. i.4 *passim*)

Aristotle believes that insofar as certain kinds of human beings are incapable of self-mastery, they are "natural slaves." A person who is "by nature not his own, but another person's human being, is by nature a slave." (1254a14-15) Unlike the most perfect human beings, in whom not only does the soul rule over the body despotically, but the intellect (*nous*) rules the appetites (1254b4-5), the natural slave is incapable of reasoning for themselves, though they can understand another person's reasoning enough to follow directions. (1254b22) Likewise the natural slave is unable to deliberate. (1260a12) The relationship between the master, who can reason and deliberate, and the natural slave, who cannot, is meant to be one of mutual benefit, which he also claims hold true of the way humans interact with animals.

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[245] οἶκον μὲν πρώτιστα γυναῖκά τε βοῦν τ᾽ ἀροτῆρα, (Works and Days 405) It is clear from the context that Aristotle reads Hesiod's *gunaika* as wife. In Hesiod, however, the word means woman and *not* wife. The next line reads: "a slave woman, not a wife, to follow the ox as well."

This justification of slavery takes the form of a conditional: insofar as people are capable of self-mastery, slavery is categorically *not* justified. It is only so justified on the assumption that there actually exist such a class of naturally inferior human beings. (1255a25-31; cf. 1255b15) Aristotle clearly believes that this is the case. However, one might part ways on him regarding the empirical question while retaining the underlying conditional. Indeed, a much stronger Aristotelian critique of slavery can be made by adding the claim that no such human being *can* exist – that part of what it means to be human is to be able to deliberate and reason about what kind of life one desires. To read Aristotle against himself, this line of thinking amounts to the claim that Aristotle draws the criteria for slavery so narrowly that it is in practice – and perhaps even in principle – unsatisfiable.[246]

Plausible as this way of reading Aristotle may be in the case of human slavery, it cannot amount to a critique of human rule over and exploitation of animals. The justification of this species of domination – as in the case of slavery – rests on a hypothesised difference both in kind and degree between the cognitive capacities between ruler and ruled. (1259b36-60a12) The strategy described above denies the existence of such difference. This may be defensible in the case of humans but seems to break down in the case of animals, where there are clearly significant differences in the capacities for abstract thought and rational planning. It is true that certain animals have complex cognitive capacities and that Aristotle himself recognised this in a diversity of cases. But the strategy can only go so far, since the sorts of capacities that render certain instances of

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[246] This is suggested in Martha C. Nussbaum, "Shame, Separateness and Political Unity: Aristotle's Critique of Plato," in *Essays on Aristotle's Ethics*, ed. Amélie Rorty (Berkeley: University of California Press, 1980), 418-20 and argued for explicitly by Mary P. Nichols, "The Good Life, Slavery and Acquisition: Aristotle's Introduction to Politics," *Interpretation* 11, no. 2 (1983): 171-183, which extends the line of thinking to the male-female relationship, as well as Wayne Ambler, "Aristotle on Nature and Politics: The Case of Slavery," *Political Theory* 15, no. 3 (August 1987): 390-410

slavery unjustifiable for Aristotle are connected above all with reasoning about the shape of a life as a whole.

So, what seems to be the most common strategy for defusing Aristotle's apparent defence of slavery and the subjection of women, thus seems inadvertently to reinforce his justification for human domination of non-human animals. To be dissatisfied with this state of affairs does not require denying significant differences in the (im)morality of slavery and patriarchy, on the one hand, and the domination of animals, on the other.

The denial of such differences tends to lead as much to a neglect of the moral status of subordinate human beings as it does to an attention to the value and moral worth of non-human animals. Nevertheless, the attention that has been paid to Aristotle's account of natural slavery and patriarchy – whether to debunk these or to find redeeming elements in them – has typically not extended to non-human animals, which is all the more puzzling, since Aristotle, as we have seen, invokes the three forms of domination alongside one another. Instead of focusing on the falsity of Aristotle's empirical claims about differential cognitive capacities – that is, instead of denying the antecedent of the hypothetical justification of domination – a search for a less invidious way of reading Aristotle's account of animals will require a rethinking of the hypothetical structure as such: that is, even if there are genuine cognitive differences between humans and non-human animals, we must press Aristotle on why this justifies the domination of the latter by the former. It may be that Aristotle is nevertheless right that certain uses of animals by human beings are justified: the main locus of his discussion of human-animal relations does not, prima facie at least, seem normatively fraught in the way that the slaughter of animals for consumption does.

Nevertheless, it is worth asking what it is, if anything, that justifies the domination of non-human animals. And, re-approaching the question in this manner is of interest not only for giving

an account of human-animal relations. A merely hypothetical justification of slavery will still seem, perhaps rightly, as shaky grounds for a theory of human liberty. If it is plausible to us that Aristotle's criteria for what makes someone a natural slave is sufficiently narrow to rule out slavery, that has hardly been the case historically: apologias for slavery from Sepúlveda to those of the antebellum American South have been written under the aegis of Aristotle's *Politics*.[247] And there is the even more vexatious issue of human beings with intellectual disabilities. So, if a case can be made that Aristotle's own principles would restrict the exploitation and domination of non-human animals without relying on their possession of complex rationality, then perhaps another approach can be made to the question of slavery. This will turn on the question of what makes something natural, as opposed to conventional.

I§2

There is one passage above all that must be confronted. As with Aristotle's account of slavery, it comes in the first book of the *Politics*. It is indisputable that he says that in addition to the fact that (some, many) non-human animals do indeed benefit humans – indisputably true – it is also the case that this is part of their nature, that they exist *for the benefit of* human beings. The question then, is what kind of reasoning Aristotle uses in order to arrive at this claim and whether it is good reasoning.

The vision of animals as existing for humans is part of Aristotle's naturalizing account of property (*ktêsis*). Aristotle's thesis in *Pol*. i.8 is that property quite generally exists, at least in certain cases, naturally, rather than by mere convention. This, of course, is a broader version of

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[247] Though it should also be noted Sepúlveda's anti-slavery opponent, Bartolomé de las Casas, also framed his arguments as faithful to Aristotelianism by asserting the rationality and self-governing capacities of Indigenous Americans.

the thesis that slavery – which is a particular instance of property in living beings held as "tools" (*organa*) – is itself natural, at least in certain cases. Here is the passage concerning animals in full:

> Such property appears given by nature itself to all, both immediately after they are first born, and when they are mature. And indeed in generation some of the animals provide so much food that it is enough until the offspring are able to provide for themselves, e.g. the vermiparous or oviparous ones. But the viviparous ones have food for their offspring in themselves until a certain point, called milk. Thus it is similarly clear that one ought to suppose that, once they are born, plants exist for the sake of animals and the other animals for the sake of (*charin*) humans: the tame ones to use and to eat, and most, if not all, of the wild ones for the sake of food and other benefits, so that clothes and other useful things come from them. If then nature never makes anything incomplete or in vain, it is necessary [to suppose] that nature has made all of them for the sake of humans.[248] (*Pol*. i.8 1256b10-b22)

David Sedley presents a simple challenge to anyone who would try to explain this passage away, for example, as a statement of popular opinion.[249] When he writes that "Aristotle does not merely assert the anthropocentric teleology, but argues for it,"[250] Sedley may well be right and, for dialectical purposes, I will assume that he is. So, if Aristotle is arguing for the thesis that human use of animals is part of the natural order, the question, then, is: how good is this argument? In order to determine an answer, let us look more closely at how Aristotle proceeds in the passage

First, Aristotle's focus is specifically on the sort of "property" required for sustenance. This includes not just the recognisable instances typically called property in human society, but also the

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[248] ἡ μὲν οὖν τοιαύτη κτῆσις ὑπ' αὐτῆς φαίνεται τῆς φύσεως διδομένη πᾶσιν, ὥσπερ κατὰ τὴν πρώτην γένεσιν εὐθύς, οὕτω καὶ τελειωθεῖσιν. καὶ γὰρ κατὰ τὴν ἐξ ἀρχῆς γένεσιν τὰ μὲν συνεκτίκτει τῶν ζῴων τοσαύτην τροφὴν ὥσθ' ἱκανὴν εἶναι μέχρις οὗ ἂν δύνηται αὐτὸ αὑτῷ πορίζειν τὸ γεννηθέν, οἷον ὅσα σκωληκοτοκεῖ ἢ ᾠοτοκεῖ· ὅσα δὲ ζῳοτοκεῖ, τοῖς γεννωμένοις ἔχει τροφὴν ἐν αὑτοῖς μέχρι τινός, τὴν τοῦ καλουμένου γάλακτος φύσιν. ὥστε ὁμοίως δῆλον ὅτι καὶ γενομένοις οἰητέον τά τε φυτὰ τῶν ζῴων ἕνεκεν εἶναι καὶ τὰ ἄλλα ζῷα τῶν ἀνθρώπων χάριν, τὰ μὲν ἥμερα καὶ διὰ τὴν χρῆσιν καὶ διὰ τὴν τροφήν, τῶν δ' ἀγρίων, εἰ μὴ πάντα, ἀλλὰ τά γε πλεῖστα τῆς τροφῆς καὶ ἄλλης βοηθείας ἕνεκεν, ἵνα καὶ ἐσθὴς καὶ ἄλλα ὄργανα γίνηται ἐξ αὐτῶν. εἰ οὖν ἡ φύσις μηθὲν μήτε ἀτελὲς ποιεῖ μήτε μάτην, ἀναγκαῖον τῶν ἀνθρώπων ἕνεκεν αὐτὰ πάντα πεποιηκέναι τὴν φύσιν.
[249] Sedley cites Martha C. Nussbaum, who calls this a "preliminary *phainomenon*" in "Aristotle on Teleological Explanation," in *Aristotle's* De motu animalium (Princeton: Princeton University Press, 1978), 96.
[250] "Is Aristotle's Teleology Anthropocentric?" *Phronesis* 36, no. 2 (1991), 181.

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various forms of sustenance taken in by all animals. The first step in the argument is to establish

that all living beings are born with a source of nutrition:

> (1)   All living things are born with a natural source of nutrition. In certain cases, this involves the parent animal bringing food to the young (e.g. in birds); in others, it involves milk from the mother animal (mammals).

He then moves straight away to a later stage in the life cycle of animals taken generally.

> (2)   The naturalness of the initial source of nutrition makes it clear that the various sources of nutrition which all animals use in later life are similarly natural.

Clearly there is at least one additional assumption needed here:

> (3)   Food is representative of property needed for one's basic needs; if the "property" used for food is natural, then the broader class of property is also natural.

I want to focus primarily on the connection between (1) and (2) and eventually on the status

of (1) itself. Why should the fact that all animals *initially* have a natural source of food extend to

the fact that later sources of food are similarly natural? Sedley argues that "given that the mother's

milk exists by nature for the sake of her offspring, there is no ground for denying the same natural

function to external food sources, which take over the job of milk exactly where it leaves off."[251]

While this is a fair paraphrase of Aristotle's argument, both Sedley and Aristotle stand open to

several objections.

First, there is the major difference between the initial source of food and the later ones,

namely that the later one is, in Sedley's terms, "external." This implies that the earlier are

"internal," a characterisation that seems especially apt in the case of milk. Milk is literally inside

the mother's body, but the important sense in which the initial source of nutrition is "internal" is

at the level of the species, not the individual, since the milk on which infant mammals rely for their

initial survival comes physically from "outside" their bodies. And internality at the level of the

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[251] Sedley, "Aristotle's Teleology," 181

species, is crucial to Aristotle's account of what it means for something to be natural. So milk does seem prima facie to be a good case of natural teleology in action.

In the second book of the *Physics*, the *locus classicus* for his account of nature and the natural, he defines things that exist by nature as possessing a "principle of motion and rest *in themselves*." (*en heautôi archê kinêseôs kai staseôs, Phys*. ii.1, 192b13-14) Similarly, the various features (both "parts" and behaviours) of animals are explained, throughout the biological works, with reference to the good of the species to which they belong. Finally, Aristotle's argument for the necessity (and indeed the primacy) of teleological explanations of natural phenomena includes the qualification that the goodness that governs the processes under discussion is "not simply [good], but with reference to the essence (*ousia*) of each thing." (*Phys*. ii.7, 198b9)[252]

An account of lactation satisfies all of these various Aristotelian principles of nature. Put simply, it is generated by and for the same species. But after milk runs out, the young animal must find sustenance elsewhere. Plants or the flesh of other animals comes to play the functional role that milk originally played. It is in this sense, insofar as they are tools for living, plants and other animals are the "property" of those who live off of them. If whatever a person uses for their own sake constitutes their "property," then plants and animals are indeed property. They are also undeniably natural things. But this does not mean that they are *natural property*; their status as property is extrinsic to their status as natural beings. In other words, *qua* property, they should not be classified as natural. To see this, we will need to connect the discussion of human uses of animals and plants in *Pol.* i.8 to Aristotle's more general discussion of the relationship between nature and human activities in the *Physics*.

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[252] This is why, as I have argued in Chapter 3, the teleological relationship that all natural substances have to the divine principle is not a natural one and why an account of the universe that spells out this relationship – as indeed it must – belongs not to natural science, but to metaphysics and more specifically to *theologikê*.

I§3

Sedley's reading of *Pol*. i.8 rests on the functional continuity between milk for infant mammals and plants and other animals for the adults they later become. Sedley proposes that the seamless continuity between milk and other, "external," sources of nutrition is indicative of the truth of the proposition that the nutritional benefit they provide is equally part of the nature of both. Recall his formulation that "external food sources […] take over the job of milk exactly where it leaves off."[253] This much is undeniable. What is less clear is the underlying principle that if the earlier source of food was naturally for the sake of the nutrition of the animal in question, so too is the latter.[254] It is precisely this point on which Aristotle's argument in *Pol*. i.8 turns and which his own account of natural functioning undermines.

In the central exposition of the notions of "nature" and "the natural" in the *Physics*, Aristotle repeatedly alludes to an analogy between the work of nature and that of *technê* as a way of explicating the end-directedness of natural substances.[255] Though both involve processes of development and generation directed toward a specific end or good, nature involves a principle of motion immanent to the matter that undergoes the change, while *technê* involves the imposition of form onto the matter from the "outside," by an agent. (192b12-15) A young animal develops on its own into a mature one. A bed, on the other hand, requires the imposition of form onto wood, the matter, to come into being. (192b16) The internality of the source of change, moreover, must be intrinsic to what the thing in question is: Aristotle's mentions the case of a doctor curing himself,

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[253] Sedley, "Aristotle's Teleology," 181
[254] David Keyt calls this principle the "transitivity of naturalness" and argues convincingly against its validity, albeit in a slightly different context in *Pol*. i, viz. Aristotle's claim that the *polis* is itself natural. David Keyt, "Three Fundamental Theorems in Aristotle's Politics," *Phronesis* 32, no. 1 (1987): 68.
[255] *Technê* is usually translated "art" or "craft," neither of which are entirely satisfactory, so I will leave it mostly untranslated except where this is awkward.

which he presents as the closest analogue of *technê* to *phusis*. While he is both the source of the change in question (healing) and the subject of the change, this is incidental to his status as a doctor. (192b23-27; Cf. 199b30-31)

Finally, the procedure in the *Physics* of using the familiar examples of *technê* and its products to illustrate Aristotle's innovative conception of nature relies not on mere similarity, but on the dependence of human craft on natural processes. As he puts it: "In general, *technê* either completes (*epitelei*) that which nature cannot bring to completion (*apergasasthai*) or imitates (*mimeitai*) nature." (ii.8 199a15-17) The ultimate ends pursued by Aristotelian *technai* are generally natural ones. Though he does not give examples of this division of *technai* into completive and imitative, Aristotle's examples in the rest of Book II easily fit into the schema. The repeated example of medicine is a clear example of completing a natural process: nature normally proceeds toward healthy adulthood, but obviously this is not the case. When sickness intervenes, it is up to human *technê* to step in and fill the gap.[256] The similarly repeated example of houses and housebuilding (192b30, 194a24, 195b7) falls into the second, imitative, sort of *technê*. Humans naturally need shelter, though nature does not provide for it. Housebuilding is imitative not in the sense that it replicates a natural process, but does what nature *would have* done if it were in the business of building houses, as Aristotle says. (199a13-14)

It is the first case – in which human activity picks up where nature leaves off – that is particularly germane for understanding the degree to which the *Politics* passage stands in tension with Aristotle's usual account of nature. As with so many of the examples of *technê* in the *Physics*, the function played by plants and animals is clearly grounded in the kind of natural beings that humans are: we need to get nutrition, and we get it from other living things of some kind or

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[256] It is characteristic of the difference between Aristotelian and modern conceptions of nature that Aristotle strictly speaking does not – and cannot – regard sickness as natural.

another.[257] The same holds of the other uses Aristotle mentions, clothing and animal labour. Of course, the claim in *Pol.* i.8 is stronger than that: that "plants and animals *are for the sake of* human beings."

Part of the reason, I think, that Aristotle is led to posit a continuity between breastmilk and later nutrition is precisely an underappreciation of the role of human ingenuity in securing food. Indeed, this initially does appear to be the sort of pervasive regularity – "always or for the most part" – that is crucial to Aristotle's theory of teleology. If, *ex hypothesi*, there were always abundant nutritional material simply and easily ready to hand as soon as the mother's milk gave out, Aristotle's claim would gain in at least initial plausibility. The fact that he was unaware of the transformation of natural kinds through evolutionary processes must be considered: where we might prefer an account in terms of (mutually beneficial) adaptation between species, Aristotle offers one in terms of teleological subordination.

However, even without an account of adaptation, or even a notion of ecosystem, the continuity between mammalian lactation and later forms of nutrition from "external" sources should be viewed as a clear case of human ingenuity stepping in when nature gives out: once milk is no longer available, we (along with other mammals) must turn to finding other ways to meet our needs. Even if one ignores the fact that such beings have been made the way they are over the course of thousands of years of mutual interaction, crops and domesticated animals do not, in the absence of strenuous and careful human intervention, simply present themselves for our consumption. A calf, for example, viewed as an animal, is a paradigmatic instance of a natural substance. But the same calf, the very same physical object, treated as the source of veal, is rather the material for human *technê*. This is a distinction fundamental to Aristotle's account of nature

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[257] The best account of the *technê-phusis* analogy is to be found in Sarah Broadie, "Nature and craft in Aristotelian teleology," in *Aristotle and Beyond* (Cambridge: Cambridge University Press, 2007).

and *technê*. Beds, coats, houses and – I am arguing – food *qua* food contain no innate impulse toward their respective purposes and are consequently not natural. But they are all made of natural materials and viewed solely from this perspective. (Aristotle is explicit on this point at *Phys*. ii.1, 192b12-23.) Animals and plants are, in short, the (natural) material which humans transform to satisfy their own needs. But independent of human intervention, they will end up benefitting us. While Aristotle explicitly claims in the *Politics* that "*it is necessary [to suppose] that nature has made all of them for the sake of humans*," it is a claim that sits in profound tension with his overall view of the relationship between nature and how humans go about satisfying their naturally occurring needs.

Despite Aristotle's own statements at *Pol*. i.8, his much more worked out thinking about the relationship between human activity and the natural world pushes against any view that sees non-human nature – plants and animals primarily but this can be extended to the natural world more broadly – as existing for the benefit of human beings. That is, the undeniable uses to which non-human organisms can be put for the benefit of human beings is not part of what they are in themselves, not a part of their natures. When Aristotle explains why an animal is the way that it is – why its body is arranged in the way that it is arranged and why it behaves in the way that it behaves – he does this almost exclusively with reference to its own way of life, not with the benefit it provides to other species.[258]

There is of course, the problematic case of domesticated animals. These seem to require interaction with human beings for their flourishing. Aristotle explicitly mentions "tame animals"

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[258] There is only one apparent exception among the multitude of explanations throughout the biological parts of the corpus: Aristotle says that sharks and dolphins appear to have their mouths on the bottoms of their bodies in order to slow down their ability to feed and thus to ensure that the fish they feed on are not depleted. This is clearly in the interest not just of the prey, but also of the predator, however. (*PA* iv.3 696b23-34)

(*ta hêmera*) in *Pol.* i.8 as being, by nature, for the sake of "use and food" (*khrêsin kai trophên*); earlier he writes that these tame animals are better off under the rule of human beings, just as natural slaves are supposed to be better off under the rule of masters and women under male authority. (1254b6-13) The fact that he was unaware of the fact that such creatures' evolution was largely determined by human beings and, more than this, was conceptually incapable of being aware of this, clearly plays a large role in these claims. Nevertheless, the two claims about domesticated (or "tame") animals are separable: to recognise that certain creatures benefit from interaction with human beings – even that some *need* this interaction for their flourishing – does not entail that all aspects of such interactions are beneficial to them. A pig, for example, would surely be better off in a relationship with humans that provided it with food and veterinary medicine without ending up itself being turned into food for humans.[259] Indeed, there is no reason to think that Aristotle wouldn't recognise this. In the *Physics*, Aristotle mocks Euripides for writing a line implying that because it marks the (temporal) end of life, death is also its end as final cause. Confusion between these two senses of end (*telos* and its etymologically associated terms have the same ambiguity) is "why the poet was foolishly led to say 'he has the end for the sake of which he was born' ['*ekhei teleutên hêsper hounek' egeneto*']." (194a30-32) That is, if every end-*point* is taken to be an end-*goal*, then death would be the goal of all life. Even in the case of domesticated animals, then, Aristotle's own considered position militates against seeing such beings as simply there for the benefit of humans.

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[259] There may be certain domesticated species whose flourishing does involve providing a benefit to humans. I am thinking primarily of draft animals who "need" and clearly enjoy pulling heavy objects (some horses, huskies, etc.).

II. Unnatural limits

II§1

Seeing how anomalous *Pol*. i.8 is – not just in its explicit emphasis on a naturalised system of benefit, but in its theoretical presuppositions – goes a long way toward defusing the received view of Aristotle as a bad object, the forefather of a vicious form of human supremacy.[260] Nevertheless, it does not have direct normative implications. It does not rule out the legitimacy of using non-human nature for our ends. What we can and should do as agents cannot be simply read off the order of nature; Aristotle is not an ethical naturalist in the sense sometimes attributed to him.[261] Yet at the same time, other, largely unrelated, Aristotelian insights suggest an approach to the ethics of consumption that would significantly restrict when and how we should approach non-human animals and even plants as simple tools for our own benefit.

Aristotle's most explicit critique of excessive consumption and the ways it deforms human desires comes – like his account of slavery, patriarchy and human-animal relations – in the first book of the *Politics*. However, it is developed in a very specific context, namely Aristotle's attempt to give an account of money and, by extension, mercantile activities. Like many of his contemporaries at Athens, including Plato and Xenophon, he has a deep-seated aversion to money-making (*khrêmatistikê*). Whatever Aristotle's personal motivations, his critique of money is not (merely) a reformulation of conservative idées reçues. It is rather based on the teleological concept of natural limit which, in contrast with natural resources (including, it should be noted, animals), Aristotle believes that money does not possess.[262]

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[260] The characterisation is ubiquitous in academic and popular writing alike. See references in Chapter 1 §1.

[261] E.g. by Bernard Williams, *Ethics and the Limits of Philosophy*, Cambridge, MA: Harvard University Press, 1987. But cf. Martha Nussbaum, "Aristotle on Human Nature and the Foundations of Ethics," in *World, Mind, and Ethics: Essays on the Ethical Philosophy of Bernard Williams*, edited by J.E.J. Altham and R. Harrison (Cambridge: Cambridge University Press)

[262] See Scott Meikle, "Aristotle on Money," *Phronesis* 39, no. 1 (1994): 26-44 and C. Tyler DesRoches, "On Aristotle's Natural Limit," *History of Political Economy* 46, no. 3 (2014): 387-407.

The limit (*peras*) is one of the fundamental concepts of Aristotelian teleology. That for the sake of which (*to hou heneka*) a change takes place that marks the limit of that change, the boundary which determines our ability to evaluate whether it has been achieved. The notion of limit, then, is integral to that of end or final cause (*telos*). In claiming that the accumulation of money (*khrêmatistikê*) is "limitless" (*apeiron*, 1257b23), Aristotle sharply distinguishes it from what he calls "natural wealth" (*ho ploutos ho kata phusin*, 1252b20). The acquisition of the latter, unlike the former, is properly considered a *technê*. While a true *technê*, like medicine, is "limitless" in that it aims at the maximisation of the end for which it is undertaken, the means it uses "are not limitless, since the end is the limit for every *technê*." (1257b27-8) Money-making, in contrast, inverts the usual hierarchy of means and ends. Money, developed as a means of exchange to facilitate the acquisition of useful resources, becomes an end of accumulation in itself. Rather than using money as a store of use value in order to purchase other useful things at a later date, the endless accumulation of money (capital) itself becomes the aim.[263] But unlike other goals – health, happiness, sufficient food – there is no upper bound to how much money can be accumulated.

So, Aristotle explicitly contrasts money-making (*krhêmatistikê*), of which he disapproves, with the gathering of "natural wealth," which he deems acceptable, since it is part of "household management" (*oikonomikê*). (1257b19-21) That is, money used properly is a tool used to secure the necessary resources for a human life. The same is true of the use and exploitation of non-human animals. Indeed, they are introduced for the first time in the *Politics* under the same heading as money: as elements of how best to arrange the household, out of which the *polis* will eventually develop. Since household management is a proper *technê* with a determinate end, the instruments it uses for bringing that end about will, as we have seen, be subject to limits. In this case, the end

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[263] Hence Marx's appreciation for Aristotle as an originator of the distinction between use-value and exchange value. Cf. *Capital* vol.1 1.2,97.

is quite general: providing the resources for a flourishing human life. The use of animals as "living tools" for human benefit, then, is bounded by this aim. Uses of animals that go beyond this are, consequently, unjustified. But this should not be mistaken for the stronger claim that such uses are forbidden.

There are two separate questions that immediately present themselves at this point. The first is to what extent the exploitation of non-human animals and other natural substances is required to sustain a flourishing human life. The second is what, if anything, might Aristotle have to say about consumption beyond this natural boundary.

II§2

Physical, temporal, and social factors will determine to what extent different groups of humans require making use of animals as instruments – whether for food or anything else. This sort of multiple realisability is something that Aristotle himself describes directly in the same first book of the *Politics* on which our attention has been focused. There he observes that there is a wide variety of practices different groups of humans use to get by. Nomadic shepherds follow a herd from place to place, other social groups hunt – which itself takes many forms, including fishing – while most humans live off farmed produce. (1256a29-40) The variation that Aristotle observes across different geographic areas has counterparts based on time and social factors. In the global north, it is possible for us to be far less dependent, for example, on the use of non-human animals to supply any number of necessities: food most obviously, but also fibres and other materials, and, perhaps most importantly, their physical strength for labour. The main way that we exploit animals – by raising them in massive numbers for food using industrial processes – is simultaneously the cruellest and the least essential to our own flourishing.

The ethical significance of this is first of all negative: someone not able to live a good life without using other creatures instrumentally cannot be reasonably expected to give this up. Of course, the fact that such a demand is unreasonable when placed on someone incapable of living a characteristically human life otherwise has nothing to do with whether it is reasonable when placed on someone who *is* capable of so doing. In short: the fact that I can live without harming non-human animals does not entail without further argument that I ought to do so, especially if it can be argued that my own well-being would be *improved* if I did not restrain myself. (That is, can does not imply ought generally and, more specifically, Aristotle's *ethical* focus on human flourishing not just on "living," or what we are able and need to do, but "living well," or what is good for us to do.) Other considerations, to which we shall turn shortly, are necessary to support such a contention. Nevertheless, the recognition of great variability in human ways of life and needs is significant for the present topic. An approach that articulates an ethics of nature solely based on human obligations and non-human rights can end up flattening the significant differences that exist between different groups of human beings and their relationship to the natural world.

Once this notion of variability is grasped more clearly, the main focus of so much of animal ethics – the question of eating meat – may turn out to be less urgent than it has seemed. Eating animals as a source of nutrition has, to be sure, been present in most human cultures. But in far fewer has eating animals been necessary in order to provide adequate nutrition. Clearly this is not to say that vegetarianism is universally feasible. Provided we are (rightly, I think) reluctant simply to demand a radical change in a people's way of life, for nomadic peoples, whose migrations do not allow for intensive farming, hunting and pasturage are essential. Similarly, people in circumpolar regions where the growing season is short or even non-existent rely on hunting and

fishing.[264] But for many groups, a diet centred on meat is simply one option amongst many. Nor is this solely a modern phenomenon, due to the increase in crop yields thanks to advances in farming methods and fertilisers. The debates around vegetarianism in the ancient Mediterranean world – in which Aristotle did not participate in, but which were active by his time (the Pythagoreans and his own student, Theophrastus, promoted a meat-free diet) – and especially in ancient South Asia are a witness to the longstanding viability of a diet low in meat.

II§3

      The question remains open of what happens ethically beyond the natural limit of treating non-human animals and non-human nature as instruments. That is, is there an Aristotelian argument against exploitation for ways of life for which such exploitation is not necessary – including ours in the global north, and, to some extent, Aristotle's own? The critique of money-making, and the attendant notion of a natural limit, directs us to consider Aristotle's critique of excess generally and how this applies to the case of consumption. From the *Politics*, this suggests a turn to the *Ethics*. The ethics of excessive consumption is, at its heart, a part of the ethics of bodily pleasure. While the initial uses of animals and plants for labour and nutrition are a matter of enabling a characteristically human life, we also use them for non-necessary purposes, above all as sources of pleasure – eating meat, for example, because it is particularly delectable rather than because it is healthy. Indeed, at one extreme, whose badness should be evident, the pleasures occasioned may actually undermine a more fundamental good, as when one gorges on unhealthy foods to the detriment of health.

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[264] To treat the question of whether such groups should consequently relocate or otherwise radically change their ways of life would require a serious engagement with the dynamics of colonisation and an acknowledgment of the cultural destruction that such demands entail. I am inclined on this basis to think that the question can be answered in the negative, although it is one that deserves fuller space.

In the seventh book of the *Nicomachean Ethics*, Aristotle speaks as pleasure as unimpeded natural activity itself (vii.13 1153b7ff.), while in the tenth he describes it rather as that which "completes" human life and activity, "supervening" on such activity. (1175a5) In both instances, however, he is careful to distinguish good pleasures, which he thinks are inseparable from a good life of human flourishing, from bad pleasures, above all those of the body. However, it is the earlier, Book VII account that is of most interest for the present, since there Aristotle grounds his critique of certain pleasures in a series of distinctions between kinds of pleasure. He arrives at pleasure after his famous account of *akrasia*, where a person acts contrary to their own better judgment by following appetite instead of reason. The bad course of action pursued by the akratic against their better judgment (and pursued by the self-indulgent person without any cognitive conflict) is fundamentally one of overindulging the wrong sorts of pleasures.

In order to demarcate between excessive and non-excessive pleasures, Aristotle draws at least four distinct divisions of pleasures and appetites into two or more classes. First, he distinguishes pleasures that are necessary, such as food and sex, versus those that are worthy of choice in themselves, but which can be taken to excess, such as wealth, victory, and honour. (vii.4 1147b24ff.) Slightly later he offers the tripartite division of pleasures and appetites that belong to the class (*genos*) of the noble and good (*kalos kai spoudaios*), those that are opposed to these, and those that are intermediate. He does not give examples for the first two classes but tells us that wealth and honour are intermediate. (vii.4 1148a23ff.) Next, he distinguishes between natural pleasures and non-natural ones. Natural pleasures are divided into those that are natural simply (*haplôs*), that is for all kinds of creatures, and those that are naturally pleasurable only for certain kinds of being. Non-natural pleasures are also sub-divided: into the products of (bad) habituation and those that result from a bad nature. (vii.5 1148b15ff.) A fourth and final division returns to the

distinction between necessary and non-necessary pleasures but refocuses our attention on the ambiguity of necessary pleasures: a pleasure that is necessary in moderation will become non-necessary when taken to excess.

These divisions are made in a somewhat haphazard way and Aristotle is not clear on how they relate conceptually to one another, but sorting through them allows for a principled critique of the excessive pursuit of various kinds of pleasures. This is not (simply) a matter of saying that those pleasures that are not necessary and not natural are suspect and to be avoided. (Epicurus and his followers, whose tripartite division of pleasures into natural and necessary, natural and non-necessary, and finally non-natural, or groundless/empty, has striking similarities with *EN* vii, do make the claim that one should avoid non-natural and non-necessary pleasures. This claim is one reason that their critique of the exploitation of non-human nature is more obvious than Aristotle's.)

Honour and wealth, for example, are neither natural nor necessary, but they are, in moderation, highly choiceworthy (vii.4, 1148a23ff.) Similarly, the "necessity" of the second kind of necessary pleasures and appetites is not a matter of them being inescapable and therefore justified. It is rather the necessity that comes from their being subordinate to certain ends: food and sex are pleasurable, but they are also instrumental, serving determinate purposes. In other words, the necessity in question is hypothetical. The boundary beyond which such pleasures become excessive is twofold. On the one hand, it is a matter of the goal being reached: hunger is satisfied, reproduction achieved. On the other, it is a matter of it becoming actively harmful, either to the original goal, as when overeating is unhealthy or – this is the case in which Aristotle is particularly interested – when it distracts from another, more fundamental aim. This is the case for overindulgence in food, drink and sex, which Aristotle explicitly speaks of as interfering with the development of the higher pleasures of virtuous action and theoretical reflection.

II§4

　　　　When Aristotle talks about excessive appetite, he mentions these three cases: food, sex,

and drink. Though we have been focussing on the first of these, given the focus on human-animal

relations and therefore on the ethics of diet, the same suspicion of excess – using up more than one

needs – is largely the same in each case. Nevertheless, the case of food also points to the cultural

context in which Aristotle was writing. When Aristotle talks about the excessive desire for food –

what we might call gluttony – he uses the specific term *opson* and its derivates (e.g. at *EN* 1154a18,

1153a26, 118a32, 1118a12, 1118a29). This word is sometimes translated "dainty food" or "relish,"

but neither of these quite capture what the Greek word denotes. As opposed to our simple category

of "food" standing opposed to its liquid counterpart "drink" (*potos*), in classical Greece the solid

component of human diet was itself divided in two parts. *Sitos*, literally "grain," was the nutritional

base, most often made from barley or corn, sometimes from wheat, and more rarely from legumes

and vegetables, that constituted the vast majority of one's caloric and nutritional intake. The *opson,*

on the other hand, comprised everything else. Oil, cheese, olives, pieces of onion or fennel and

any animal products: the gastronomic superstructure.[265] Or, James Davidson's terms: "the staple

and what you eat on the staple."[266] Meat, along with dairy, stood firmly on the non-staple side of

the divide. The question of consuming animals and animal products then was very much live before

it was one of ethical obligations *toward* animals. Aristotle's anxiety about excessive consumption

of *opson* is one with antecedents in Plato and Xenophon: in the *Republic*, Socrates's initial

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[265] See J. Kalitsunakis, "Ὄψον und ὀψάριον," in *Festschrift fur Paul W. Kretschmer: Beiträage zur griechischen und lateinischen Sprachforschung* (Vienna: Deutscher Verein für Jugend und Volk, 1926), 96-106 and James Davisdson, "Opsophagia: revolutionary eating at Athens," in *Food in Antiquity,* eds. John Wilkins, David Harvey, and Mike Dobson, 204-215 (Exeter: University of Exeter Press, 1995).

[266] *Fischakes and Courtesans: The Consuming Passions of Classical Athens*. (London: Fontana, 1995), 21. Davidson also describes *opson* as the "non-farinaceous component of diet" and, in a half-joking nod at Derrida, a "dangerous supplement."

description of a rustic way of life is met with incredulity from Glaucon because *opson* has been left out of the initial imagined city in favour of a diet of barley and wheat laid on top of fresh leaves. In response to the charge that "you are making these men feast without *opson*," Socrates feels compelled to correct the omission, but he gives them the bare minimum: salt, olives and olive oil, roots, and "whatever edible vegetables can be found in the fields." (*Rep.* 372c) It is not a long list, and meat is nowhere on it. That Plato has Socrates forget about *opson* at first speaks to the suspicion with which the category was regarded, and the fact that he leaves out meat when he *does*, after being prodded, readmit *opson*, testifies to the particularly luxurious status of meat. Another version of Socrates, Xenophon's, was said to "take as much *sitos* as he ate with pleasure and approached it having prepared himself so that the desire for *sitos* was its own *opson*" (*hôste tên epithumian tou sitiou opson autôi einai*, *Mem.* 1.3.5).[267]

But Aristotle is not so strict as to claim, explicitly or implicitly, that the ideal diet would contain no *opson*. Aristotle's man, unlike Socrates's, cannot live on bread alone. Even sensory pleasure is important, as long as it does not get out of bounds, as is sharing meals in the company of friends, which would surely be less enjoyable if one were limited to barley paste and water. What Aristotle is clearly suspicious of is *opsophagia*, the displacement of *sitos* by *opson,* the inversion of the correct gastronomical hierarchy of necessary and superfluous, base and superstructure, nutritious and delicious (cf. *EN* 1118a32) – in Xenophon's words again, though this time Aristotle would agree, the *opsophagos* "uses the *opson* as *sitos* and the *sitos* as *opson*." (*Mem.* 3.14.4)

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[267] The "Good Argument" in Aristophanes *Clouds* also casts aspersions on eating too much *opson* as a sign of the decline in Athenian morals – along with such concessions to comfort as teaching students to wrap themselves up in cloaks (982ff.)

But this is not all there is to say. For even if animal products were considered firmly on the "non-staple" side of the gastronomical divide, meat played another key social role as the by-product of blood sacrifice. While fish was consumed with regularity as pure *opson*, butchered meat was only eaten rarely and usually after an animal was killed in religious rites.[268] It was usually distributed by lot among a group of citizens, but even when it was sold on the market, its provenance was usually exclusively sacrificial. Though eating too much meat – eating too much *opson* generally – was excessive, to reject meat-eating entirely was also to reject traditional religion. Vegetarianism in the ancient world was as much a religious movement as it was an ethical one. Such was the centrality of meat to religious practice that even the famously vegetarian Pythagoreans would make an exception to participate in the culinary aftermath of animal sacrifice. (On the other hand, the Orphics' more categorical vegetarianism was bound up in a systematic rejection of religious practice.) This would last for many centuries after Aristotle's own time in the Hellenophone world. The arguments in *De abstinentia usu animalium* by the 4th-century AD neo-Platonist Porphyry – by far the longest sustained argument against the unnecessary killing of non-human animals in the ancient Mediterranean world – are primarily targeting more conservative religious interlocutors. Aristotle however, innovative thinker though he was, talks very little about religious practice or belief and, on the rare occasions when he does (e.g. *Meta*. Λ 8), does not critique them directly.

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[268] See Marcel Detienne and Jean-Pierre Vernant, eds., *La cuisine du sacrifice en pays grec* (Paris: Gallimard, 1979); Walter Burkert, *Homo Necans: The Anthropology of Ancient Greek sacrificial ritual and myth* (Berkeley: Univeristy of Calirfonia Press, 1983); Gunnel Ekroth, "Meat in ancient Greece: sacrificial, sacred or secular?" *Food and Society* 5, no. 1 (2007): 249-272; Stella Georgoudi, Renée Koch Piettre and Francis Schmidt, *La cuisine et l'autel: les sacrifices en questions dans les sociétés de la Méditerranée ancienne* (Turnhout: Brepols, 2005); Sarah Hitch and Ian Rutherford, eds. *Animal Sacrifice in the Ancient Greek World* (Cambridge: Cambrdige University Press, 2017).

What we have arrived at is the following: Aristotle provides pieces for a powerful ethics of nature, one that recognises the intrinsic value of living things and places limits on their unnecessary exploitation by human beings. But he never took the step of putting them together to articulate such an ethical stance. Why this is the case is a matter of speculation: perhaps it was simply an idiosyncrasy of character or sensibility, perhaps a lack of time, perhaps a hesitation to attack the religious and social norms to which I have alluded. Or, simply out of a genuine attachment to certain forms of social organisation that seem unjustifiable in retrospect.

However operative any, and perhaps all, of these factors may be, there is also a more philosophical explanation for Aristotle's seeming failure to ground limits on the exploitation of natural beings in their intrinsic value. This stems from his distinctive conception of practical rationality as centred on the specifically human good: how we, as humans, should behave, is to be understood in light of what it means for us, as humans, to live good lives. Part of the good life for human beings will involve moderating our consumption. Indeed, an appreciation for the beauty and intrinsic value of non-human life is itself a central part of a fully *human* life of *eudaimonia*. But insofar as any of this entails restrictions on how we should or should not treat non-human beings, this will not be based on their own intrinsic value. Indeed, intrinsic as this value may be, it does not on its own, for Aristotle, impose limits on our action. However: though Aristotle demurred from drawing practical conclusions from his theoretical picture of the world, he did not and does not have a monopoly on the uses to which his theoretical work would be put. Whatever the reason, a consequence of Aristotle's silence is that it has been the work of Aristotle's students, ancient and modern, to perform this act of philosophical construction.

Theophrastus, Aristotle's student and successor at the head of the Lyceum – at least if the *testimonia* in Porphyry are to be trusted (e.g. at *De Ab.* ii.12.4; Cf. iii.25.3) – took a much more

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critical attitude toward human-animal relations and, crucially, relied heavily on the contention inherited from his teacher that all living things have a soul, as well as some degree of rationality. Several centuries later, Aristotle would serve as a perhaps surprising ally in the Porphyry's own attack on the Stoic dismissal of any community between humans and other animals, finding in his writing the germs of an argument for the claim that all animals have a share in *logos*. (De Ab. iii.6-7)

In recent times, some neo-Aristotelian virtue ethicists have argued, very plausibly, that the notion of human flourishing as a basis for ethical thinking has clear analogues in the flourishing of non-human lives.[269] Similarly, the capabilities approach, an Aristotelian inspired, if not strictly Aristotelian approach to justice, is being fruitfully extended to recognise the need to secure not just the capabilities of humans, but also the distinct capabilities of non-human animals, each with their own way of life and mode of flourishing.[270]

We can and should continue to draw on Aristotle in creating such a link between the theoretical and the practical views of the natural world, even if this synthesis will not be, strictly speaking, Aristotelian. This is not a rebuke to Aristotle. Though there may be elements lacking in his thought, the immense richness of his thinking about the natural world, and the place of human beings in this world continues to provide us with useful inspiration and guidance in our efforts to think about these issues.

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[269] E.g. in Philippa Foot, Natural Goodness (Oxford: Oxford University Press, 2001), Michael Thompson, *Life and Action* (Cambridge, MA: Harvard University Press, 2008)

[270] e.g. Martha Nussbaum, *Frontiers of Justice: Disability, Nationality, Species Membership*. (Cambridge, MA: Belknap Press, 2006) and "Working with and for Animals: Getting the Theoretical Framework Right." *Journal of Human Development and Capabilities*, 19 no. 1 (January 2018): 2-18.

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