Aristotle on Action and Agency

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To my mother.

Ich folge dir gleichfalls mit freudigen Schritten

Und lasse dich nicht,

Mein Leben, mein Licht.

Befördre den Lauf

Und höre nicht auf,

Selbst an mir zu ziehen, zu schieben, zu bitten.

- J.S. Bach, *St John Passion* (BWV245)

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Abstract:

Many consider Aristotle the father of philosophy of action. This sentiment is shared by contemporary philosophers with opposing views on action. The guiding question of this thesis is to determine what philosophy of action might look like for Aristotle by considering the questions Aristotle investigates, his philosophical framework within which he develops his answers, and the basic assumptions he makes in answering his questions. This requires investigating Aristotle's views on capacities, nature, activities, affections, the relation between agents and patients, desire, and goodness. I argue that Aristotle's approach to action emerges as a unique approach of its own.

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Introduction: Contemporary Philosophy of Action and Aristotle

Many consider Aristotle to be the father of philosophy of action. For instance, David Charles claims that "in the philosophy of action, Aristotle occupies a central position analogous to that of Frege in the philosophy of language."[1] The central role Aristotle has is clear from the fact that philosophers with very different views on action either claim that Aristotle is a progenitor of their way of thinking about the subject, or they draw on Aristotle to support their arguments. For instance, one way that Aristotle exerts his influence is through the work of Elizabeth Anscombe. As Frederick Stoutland notes "many of the key ideas in [Anscombe's] *Intention* use Aristotelian terminology and assume Aristotle's discussion."[2] Donald Davidson in turn claims that "Aristotle pretty much invented the subject as we now think of it".[3] Michael Smith suggests that we have inherited the so-called 'standard story' of action from Aristotle and Hume.[4] At the same time, critics of Davidson and the standard story alike have turned to Aristotle in search for alternative approaches.[5] It is striking to see philosophers with such different views on action all appeal to Aristotle's philosophy.

Do any of these various appeals to Aristotle succeed in capturing his thoughts better than the others—or are some of them mistaken? If so, in what way? The only way to determine this is by answering the question: what are the key features of Aristotle's philosophy of action? In this dissertation I aim to make a start on clarifying this difficult

[1] Charles 1984, *ix*.

[2] Stoutland 2011, 6.

[3] Davidson 2005, 277.

[4] Smith makes this claim in his first lecture in his *A Standard of Judgement*, given as the 2017 John Locke Lectures at Oxford.

[5] See for instance Lavin 2013 and Ford 2014.

question. It is a difficult question because we cannot simply assume that Aristotle has a philosophy of action—where this means something like a coherent theory or one systematic view. Caution is warranted because philosophy of action is a relatively new discipline: it became a field in its own right in the 20th century.[6] Hence it is not clear that the questions, and aims of that field line up with Aristotle's.

If we want to understand what Aristotle thought about action—where this understanding relates to our interests or concerns—we must first clarify the philosophical framework within which Aristotle develops his views in order to contrast his assumptions with ours. To simply assume that his writing lines up with contemporary philosophy of action is to commit the *fallacy of anachronism*. But assuming that he has nothing to offer current philosophy of action, because the field emerges roughly 2300 years after him, is a kind of *defeatism*; to accept it would be the council of despair. However, nothing forces us to think that philosophy of action is irrevocably determined in such a way that would exclude Aristotle from contributing something of value. Instead, we should ask what philosophy of action might look like for Aristotle, and then think whether there is anything valuable to us in his approach or the way in which he raises questions about action and agency.

The guiding question of this thesis is to determine what philosophy of action might look like for Aristotle. This requires considering what are the questions and problems he discusses, the philosophical framework and historical context within which he develops his answers, and the basic assumptions he makes in answering his questions. Whether or not there is something like a coherent view, Aristotle's influence on

[6] For the development of philosophy of action as a field, see Stoutland 1989, 2011.

contemporary philosophy of action should become clearer. Indeed, Aristotle may have influenced contemporary philosophy of action without sharing its assumptions.

I begin by sketching two different (and opposed) positions in contemporary philosophy of action. Understanding these positions will help us contrast Aristotle's thinking with contemporary assumptions. I then focus on how Davidson understands the Philosophers views on action (§2). This will help bring alight the kinds of questions we will need to get clarity on to determine what Aristotle's philosophy of action might look like (and what would have to be true for Davidson's interpretation to be correct). I then give an overview of the thesis, and raise a caveat regarding the use of the term of 'action' in setting out Aristotle's philosophy (§3-4).

§1. Different Approaches to Philosophy of Action

One of the central disagreements in philosophy of action has to do with characterizing the nature of action. Disagreements over this issue are not merely disagreements over one definition of action over another but are rooted in deeper disagreements over the relationship between language and world, explanation, and causation. One way to understand the ongoing debate regarding the nature of action is to see it as part of a broader disagreement about what is observationally and ontologically basic.[7]

Some philosophers take the physical as *ontologically basic* and argue that actions are individuated and explained in physical terms (for example in terms of time, place, and motion).[8] Moreover, they take the physical to be *observationally basic*, meaning that we

[7] The following points are made with great clarity by Stoutland 1989, in particular at 79-84, which I draw on here.

[8] It is of course difficult to pin down exactly how "physical" is to be understood. For my purposes here it should be read as conveying a sense of "non-intentional", to the extent that physical vocabulary is supposed

can know the physical features of things (including actions) directly through observation. For them the explanation of actions begins from the observation of something physical, like some event or process of bodily movement (or non-movement). However, since not all bodily movements are actions, the central question in philosophy of action (for them) becomes "what distinguishes bodily movements which are actions, from those which are not?" However, by individuating an event in physical terms the distinction between a movement which is an action and one that is not has to be made through some factor over and above the movement itself, for instance by determining the cause. A consequence of this is that while "we can know the physical characteristics of behaviour directly through observation, judgements that behaviour is intentional [i.e., an action] must always be justified by inference."[9] This is because we cannot (ordinarily) observe the (mental, neural) causes of movement. Approaching philosophy of action from these assumptions gives a *causal theory of action* [CTA] whose project is to determine the causes of bodily movements which are actions.

By contrast, *intentionalist accounts of action* [IAA] deny both that we should think of the physical as ontologically and as observationally basic. Against the latter they argue that we observe each other's actions directly, and not via an inference.[10] As Stoutland argues:

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to be clear and free from vague terminology, and thus suitable for use in physics. I will briefly touch upon the use of "physical" in relation to Aristotle, below.

[9] Stoutland 1989, 79.

[10] This is not the same as denying that actions involve bodily movement. Intentionalist need only argue that intentional terms or descriptions are as basic as physical ones, so that descriptions of movements in intentional terms are at least as basic as physical descriptions.

> inferential conclusions about the intentionality of behavior must be based on observations expressible […] in intentional terms which characterize the behavior relative to the agent's reasons for action.[11]

For IAA the project of philosophy of action is not (primarily) to determine which bodily movements are intentional from those that are not. Rather, to explain action is to place the action in light of the agent's reasons for acting. Physical descriptions of movements are not (as) relevant for such an inquiry as one can neither determine an agent's reason based on descriptions of her bodily movements made in physical terms, nor do the agent's reasons necessarily shed any light on her bodily movements, even if reasons do explain the behaviour which is intentional.

A consequence of this way of thinking about action is that an action is not something that can be independently specified; how some putative action is described will matter because an agent can take themselves to be intentionally doing one thing, but if described in some other way they may refuse to acknowledge that action as their doing. By contrast, the CTA's picture allows one to hold that actions, understood as bodily movements, do have properties which are true of them independently of how they are described—for instance: their causes.

Intentionalist approaches also deny the assumption that the physical is ontologically basic. The CTA's guiding question—"what distinguishes bodily movements which are actions, from those which are not?"—assumes that physical terms ("bodily movements") are sufficient to pick out an individual entity about which we can

[11] *Ibid.*, 80.

ask if *it* is intentional under one description but not under another, or what the agent's reasons for doing *it* are. IAA questions the plausibility of this assumption.

> Physical individuation yields not *an* act but a diversity of bodily movements. Only intentional individuation, whereby the behavior is observed and understood in intentional terms, can yield *an* act about which the question of intentionality or of reasons for action may be raised. [...] This means that the question about the conditions for behavior to be intentional under a description must be formulated in intentional not physical terms.[12]

Philosophy of action, for IAA, has a very different aims from CTA. For CTA the aim is to give a reductive account of action in terms of its causes, whereas IAA takes action as basic and proceeds from there. It is "to specify in intentional terms the conditions for behavior—already identified in intentional terms—to be intentional under a description."[13]

These issues touch upon difficult issues in the philosophy of language. For instance, physical terms convey a simple, one-to-one, referential relation between a term—e.g., "movement"—and the thing it describes. It suggests that physical terms are not vague: a term either applies correctly or it does not, and whether or not it does can be established on grounds acceptable to anyone. This kind of picture of language is favourable to the CTA. By contrast, intentional terms are vague. We may not always be in a position where we can determine if someone is acting intentionally or not, moreover, there may be no universally acceptable premises according to which we could establish whether or not it is the case. But it is not clear that one should accept the simple one-to-

[12] *Ibid.*, 82.

[13] *Ibid.*, 83.

one referential picture of language; at least not universally. The relation of intentional terms and the world is not as straightforward as that suggested by physical terms.

These remarks are meant to illustrate that contemporary philosophy of action is not some unified project the aims and methods of which can directly be contrasted with Aristotle. This complicates any attempt to understand Aristotle's discussions on action: not only is the required Aristotle exegesis a difficult task in own right, but it is also clear that there is no single approach which we can contrast Aristotle with. However, having spelled out some of the basic assumptions different contemporary approaches to action-explanation make we can meaningfully contrast these assumptions with ones Aristotle himself makes. I believe this is the most fruitful approach to navigate the strait between the Scylla of defeatism and the Charybdis of anachronism. However, this approach comes with a cost. There is no way a single work can do full justice to all the issues arising from Aristotle's philosophy.

§2. Davidson on Action & Aristotle

Next, I consider in more detail Davidson's claim that Aristotle invented "the subject [of philosophy of action] as we now think of it"—not because I think it is a particularly good interpretation of Aristotle, but rather, because it brings to attention the kinds of questions one must consider in order to ascertain whether or not Davidson is right.[14] This will help bring alight the kinds and range of questions the thesis will deal with. However, to help understand how Davidson's claim is to be understood, we must first consider how he thought of philosophy of action.

In "Agency", Davidson begins by asking "What events in the life of a person

[14] I respond to Davidson's claim in more detail in Alanen 2018.

reveal agency; what are his deeds and his doings in contrast to mere happenings in his history; what is the mark that distinguishes his actions?"[15] The implicit thought here is that the concept of agency is contained within the concept of events, such that if we successfully distinguish actions from *other events* (the sc. "mere happenings"), we will also distinguish the episodes of the person's life where they are agents (and not patients, who only suffer or undergo what happens to them). This approach assumes that actions are events, or that we need a notion of events to fully understand what actions are.

Davidson's answer to his initial question is complex, and his anomalous monism, views on causation and explanation, and on the nature of events are relevant for understanding it. Simplifying matters a bit, on Davidson's approach to agency, event-causation plays an important role since it helps justify the attribution of agency by showing that a putative action of the agent (an event) has a further consequence (another event). Here, we use event-causation to explain the relation between an agent's primitive action and other actions or events the agent causes by moving her body. Moreover event-causation can be used in a partial analysis of the concept of agency. Although Davidson does not think a reductive account of agency (and thus, of action) is possible, he nonetheless thinks we refer to our reasons such as our beliefs and desires as the causes of bodily actions, and thus we make use of causal concepts ('belief' and 'desire'), which entail the existence of events. This allows Davidson to say that our reasons *cause* actions, since both the actions and the reasons that cause them either are, or entail, events.

Davidson thought ordinary language committed us to an ontology of events. He took events to be some kind of "concrete individuals" or "unrepeatable particulars", and which have their own identity conditions.[16] Crucially, it is to such events we supposedly

[15] Davidson 2001, 43.

[16] Cf. Davidson 2001, 179 & 309.

refer to when speaking of actions and happenings, and which make true sentences about such occurrences.[17] Moreover, although some action-descriptions are primitive, they nevertheless imply that there are two events: one is the primitive action, the other some mental event which causes the action in question.

That Davidson sees Aristotle's approach as congenial to his is clear from the following claims:

> Aristotle distinguished voluntary actions mainly in terms of the cause: the cause of voluntary actions is internal and mental, whereas involuntary actions are caused by external forces. In the *Categories* he gives as examples of actions cutting and burning; his examples of involuntary actions (also called affects, sufferings, and passions) are being cut and being burned. The cause of voluntary actions is the conjunction of appetite and thought (*De Anima* 433a). Appetite, which has as its object something valued or desired, initiates the causal chain; thought then determines the means by which the desired end can be achieved. At this point, action ensues.[18]

More significantly, Davidson faults Aristotle for lacking a conception of particular events which could be leveraged to resolve how language captures behaviour, and how different actions are related to one another: "[this] is an issue of a kind Aristotle was not in a position to discuss with the relative clarity with which it can be raised in the context of today's logic and semantics."[19]

Davidson makes several controversial claims here. The first is that Aristotle lacks a conception of particular events. It is of course controversial if we really need to introduce concrete events to make sense of how language functions. I cannot assess this claim here. In a sense it is true that Aristotle lacks a clear conception of *events*, but events

[17] Cf. Davidson 2001, 181.

[18] Davidson 2005, 278.

[19] *Ibid.* 284.

aren't necessarily the only *particulars* one might think are relevant. This question will be explored (partly), although exploring it at length lies outside the scope of this thesis.

Davidson also links the categories of "action" and "affection" to voluntary and involuntary actions, where the voluntary actions are caused by desire understood as internal and mental, in contrast to the external forces that cause the involuntary actions. I cannot here begin to assess whether voluntary (*hekousion*) action corresponds to our notion of intentional action.[20] However, Aristotle's views of causation and the relation between actions and affections will be explored in some detail.

Another issue I cannot explore directly is Davidson's claim that desire is a "mental" cause. Davidson praises Aristotle for having an irreducible monist position, akin to Davidson's own anomalous monism.[21] Here it will matter a great deal how one carves up the relation between the "mental" and the "physical". As I see it, given Aristotle's hylomorphism both mental and physical phenomena would count as "natural", and thus part of the natural world which is studied by natural science. Aristotle's natural science is a broader discipline than how natural science is standardly understood today—something that excludes much (if not all) of what would be taken to count as "mental". One aspect of Aristotle's natural philosophy that will be discussed is the importance teleology has for understanding Aristotle's views on action and agency.

These points aside, some of the things Davidson says above are less controversial (or mistaken). For instance, I think he is justified in thinking that desire is in some sense internal, that it has as its objects something desired or valued, and that it is what initiates some kind of "causal chain" which ends with bodily motion. These things are all claims suggested by Aristotle's remarks on animal locomotion. However, given that Aristotle's

[20] For some discussions of this see e.g. Preus 1981, Charles 1984, Coope 2010, Price 2016.

[21] Cf. Davidson 2005, 290-291. I address this claim in Alanen 2018.

views on causation predate the post-Humean conception Davidson himself relies on, how are we to understand Aristotle's claim that desire is a cause? Moreover, what is the relation between desire and its object? What is the relation between bodily movement and action? These are all questions the thesis will seek to shed some light on.

§3. A Caveat on the Word 'Action'

Before turning to an overview of the chapters and arguments of the thesis, I have to issue a *caveat* on the word 'action' and its use in Aristotle.

If we want to know something about Aristotle's philosophy of action and his views on the nature of actions, an initial question to ask is: which term(s)—if any—in Aristotle's Greek corresponds to the word 'action'? A natural candidate would be *praxis*, since 'action', 'act' and 'doing' are all viable translations for it. However, my present concern is not (directly) with nature of *praxeis*; nor is my thesis an attempt to set out Aristotle's use of the word '*praxis*'. Instead, I will begin (in Chapter 1) by considering Aristotle's views on activities, *energeiai*.[22]

There are two reasons for this.

First, *praxis* sometimes takes on a narrow, technical, meaning in Aristotle's ethical treatises, narrower than (many) contemporary conceptions of actions. For instance, Aristotle sometimes denies that animals share in *praxis*.[23] Indeed, not even all human actions count as *praxis* (in the narrow sense), since Aristotle distinguishes between *praxis* and *poiêsis* ('production', or 'making').[24] *Praxis*, in its narrowest use is reserved

[22] Broadly understood. Aristotle himself points out that changes or movements—*kinêseis* and *metabolê*—are a kind of *energeia* (cf. *Physics* III.1 201b5-15, III.2 201b29-202a2).

[23] Cf. *EN* VI.2/*EE* V.2 1139a20; *EE* II.1 1222b20, II.8 1224a29.

[24] Cf. *EN* VI.4/*EE* V.4 1140a1-6.

for fully rational and virtuous actions—actions only adult humans are capable of (when not sick, intoxicated, or otherwise prevented)—because it is the outcome of a decision or choice (*prohairesis*). Hence *praxis* not a helpful starting point for my purposes given that I want to contrast Aristotle's thinking about action with contemporary views which operate with a broader notion than Aristotle's narrow use of *praxis*. This is because contemporary action-theory is not only interested in ethical behaviour, but also in other kinds of behaviour and in determining, e.g., the boundaries between intentional and unintentional actions, or between actions which are under the control of the agent and behaviour or bodily movement which is not. [25] Indeed, contemporary action-theory is not exclusively concerned with actions, but is also interested in more general categories to which actions might belong, such as events or processes (or intentional descriptions that give an agent's reason for acting).

Secondly, Aristotle himself suggests that *praxis* is a (kind of) activity or *energeia*.[26] Moreover, Aristotle speaks of *praxis* as being a kind of movement (*kinêsis*), or as involving movement.[27] However, elsewhere he distinguishes between *energeia* and *kinêsis*.[28] Hence, a discussion of *praxis* would have to say something about *energeia*, and

[25] However, at *NE* III.1 1111a25-26 children and animals (*zôôn*) are said to act voluntarily (*hekousiôs praxei*). Aristotle also speaks of the *praxeis* of animals as one of three features (along with habits and physiological parts) which can be used to distinguish different kinds of animals from one another; cf. *HA* I.1 487a12ff. *Praxis* thus has both a narrow and a broader use. One might thus suggest that *praxis* is—like the contemporary "action"—used in sufficiently many ways to be a good candidate for discussion. However, Aristotle's discussions of *praxis* do not give us enough information to answer the kind of metaphysical questions I am interested in. Hence, it is not a good candidate as a starting place for a discussion of what Aristotle's philosophy of action might be like.

[26] Cf. *EN* X.6 1176b2-10.

[27] Cf. *EE* II.5 1222b29, *EN* VI.2/*EE* V.2 1139a31-33.

[28] In *Metaphysics* IX.6, and *EN* X.3-4.

its relation to *kinêsis*. It then seems more natural to begin by saying something about the nature of these more general categories—activity and change—before considering *praxis*.

Hence, when I speak of 'actions' I will mainly be speaking of different kinds of activities (understood broadly to include activities proper, changes, and affections): activities that have their origin in a capacity or nature.

§4. An Outline of this Thesis

Chapter 1 will seek to elucidate the nature of action. I suggest that the best place to begin thinking about action in Aristotle is to think of actions as an exercise or activity (an *energeia*) of a certain kind of capacity (*dunamis*) or nature (*phusis*) that a thing has. The chapter explores Aristotle's arguments regarding *energeia*, *entelecheia*, and *dunamis* in his *Metaphysics*, suggesting we think of capacities as a kind of property a thing or substance has. I also explore Aristotle's claim that capacities form co-relative pairs and consider the differences between capacities and natures. The chapter ends by considering Aristotle's views on what kind of existence particular properties in Aristotle's non-substance categories have, and to what extent Aristotle's particulars can be understood as Davidson's concrete individuals.

Chapter 2 will focus on Aristotle's views on causation by focusing on Aristotle's discussions of capacities in *Metaphysics* IX. Given that an action is a kind of exercise of a capacity to do something or to change in a certain way, we will want to know the conditions required for a capacity to be made active. The chapter will bring together Aristotle's remarks on one- and two-way capacities, in addition to considering Aristotle's views that for some capacities are "up to" the agents to exercise.

Chapter 3 further focuses on the relation between an agent's action and the change or affection the patient undergoes by considering Aristotle's arguments in *Physics* III.3. I develop and defend a reading of this chapter according to which the action and affection are numerically one and the same, but different in description. I comment on what it means for the puzzle Aristotle responds to to be called "*logikên*", and how the puzzle in III.3 arises from own Aristotle's definition of change.

Chapter 4 elucidates Aristotle's views on self-motion by considering his arguments in *Physics* VIII.5, *DA* III.9-10, and the *MA*. Bodily movement turns out to be a complex phenomenon consisting of different causally related features or parts, originating in the souls the cognition of something good: the object of desire.

Chapter 5 discusses the relevance teleology has for understanding Aristotle's views on action and agency. The kinds of cases of agency the thesis is interested in are examples of goal-directed efficient causes, and the chapter seeks to elucidate what this involves. Teleology also helps resolve two further questions Chapter 4 raises. The first has to do with desire: How is my claim that it is up to the agent to determine how they exercise their capacities consistent with the claim that what is desired is the cause of the movement? The second has to do with the unity of self-motion: given that Chapter 4 showed that self-motion consists in many different changes and activities of distinct parts, what if anything, unifies them?

I end with a summary of the findings of each chapter, and I highlight the areas that will require further work. I also make the case that Aristotle does have something one can call a philosophy of action and contrast its distinctive features and its basic assumptions against the ones briefly sketched out here. Further work will be required to

determine whether his philosophy of action has something positive to contribute to the contemporary debate.

Note on Translations

Greek passages are copied from the *Thesaurus Linguae Graecae* (which reproduces the Oxford Classical Texts editions of Aristotle's works), with punctuation at times modified. Any major divergences are noted.

Translations of Aristotle's works are based on the translations collected in Barnes 1984. Additionally, translations from the *Physics* are based on Charlton 1970, Coughlin 2005, Graham 1999, Hussey 1983. Translations from the *Metaphysics* are based on Reeve 2016, except for *Metaphysics* IX which follows Makin 2006 and Beere 2009. Translations from the *DA* follow Hicks 1907 and Shields 2016. Translations of the *EN* follow Broadie & Rowe 2002. These have, at times, been modified slightly.

I. Aristotle's Ontology of Action & Agency

A standard opening move in contemporary philosophy of action is to make the following distinction: there are actions and sc. 'mere happenings'.[1] Actions are the things we do in contrast to other things that happen around us (the sea freezes, viruses spread around the world, the earth orbits the sun) and things that happen to us (I trip and fall, contract a virus, fall in love). The question then becomes: what makes actions special among or distinct from other events or happenings?

Here are some examples that contemporary philosophy generally accepts as actions: walking to the shops, building a house, playing an instrument. Slightly less unproblematic examples include thinking, resting, not showing up at work, and habits like gesticulating with one's arm during a presentation, or smoking. Non-human, animal, behavior also presents difficulties. However, examples like fire's heating something, the upward motion of the flames, or the downward motion of rain and rocks are not considered actions. Moreover, neither are things like getting cut or burned, or being caught in the rain and becoming wet things we do. Rather when these things happen to us, we seem to be passive recipients, or patients. One of the tasks of the contemporary philosopher of action is to clarify the differences between these different cases.

In considering Aristotle's philosophy of action, we want to know how Aristotle carves up the difference between actions and other happenings. Here, we immediately run into the following issue: what does the term 'action' correspond to in Aristotle (assuming it corresponds to anything at all)? For while the topic of action is fairly clear to us, we cannot simply assume Aristotle has anything to tell us directly about 'it'. That is: although contemporary philosophers disagree over the correct way to define and understand action,

[1] The *locus classicus* of this view is Davidson's "Agency" (reprinted in Davidson 2001).

they are at least in agreement that there is a topic or concept that requires clarification, and it isn't clear where (or if) Aristotle fits into this debate. Thus, our first question becomes: does Aristotle have a unified way of approaching and classifying all the examples listed above? That is: does Aristotle have a clear way of distinguishing agency and patiency?

The aim of this chapter is to answer these questions in the affirmative. This requires taking a broad approach since, as it is, the examples listed above—walking, cutting, thinking, resting, heating, moving up, falling down, being cut, getting burned etc.—are all examples Aristotle discusses, but ones which he discusses and classifies in different ways and in different contexts. For instance, things like walking, building, cutting, heating are all standard examples of changes and movements (*metabolai* and *kinêseis*), whereas thinking is an activity (*energeia*)—which Aristotle at times distinguishes from change.[2] On the other hand, cutting and heating are also examples of things done (*poiein*) which he distinguishes from affections (*paschein*) like being cut or being burned.[3] Experiencing pleasure and pain (*hêdesthai*, *lupeîsthai*) are also examples of affections.[4] These distinctions cut across each other since heating is both a change and something done, being heated is an example of a change that is an affection, while experiencing pleasure or pain are not only affections but are also activities.[5] However,

[2] Note that change in its broad sense is meant to cover all kinds of cases of activity, and of being affected in different ways. When Aristotle needs to distinguish between change (*kinêsis*) in a narrower sense from e.g., activity proper (*energeia*) he makes a point of saying so (*Metaphysics* IX.6 1048b18-35 & *EN* X.4 1174a14-b14). In what follows, I take Aristotle arguments in *Metaphysics* V and IX to apply to changes broadly understood.

[3] Cf. *Categories* 4 2a3-4. Note that these two classes contain examples that contemporary philosophers do not usually recognize as actions. Heating is not merely something I can do while e.g., boiling water for cooking. Heating (*kaiein*) is something that can be attributed to fire or the sun.

[4] Cf. *Categories* 9 11b1-4.

[5] *DA* III.7 431a10-11; Cf. *EN* VII.11-14/*EE* VI.11-14, *EN* X.4-5.

this is not a complete picture since Aristotle also distinguishes virtuous actions (*praxeis*) from production (*poiêseis*).[6] Resting (*staseôs*, *êremein*), coming-to-be (*genesis*) and destruction (*phthora*) further complicate this picture; as do the different kinds of change and alteration (*alloiôsis*) Aristotle discusses throughout his philosophical corpus.

While attempting to chart out a full typology of change, rest, genesis, activity, etc., would be a worthwhile project of its own, it is not my aim here. Instead, I will take as my starting point the apparent fact that the examples discussed above turn out to be different kinds of exercises of a thing's capacity (*dunamis*) or nature (*phusis*).[7] While there are different kinds of capacities and thus different kinds of exercises, the common ground between these exercises is that they are all some kind of activity (*energeia*) or fulfilment (*enthelecheia*) of either a capacity or a nature.

I begin with a brief overview *of energeia* and *dunamis* as these are basic terms in Aristotle's philosophy and must be understood together (§1). I then turn (in §2) to consider Aristotle's claim that capacities form co-relative pairs. If the capacities come in pairs, then their exercises also seem to come in pairs. I go on to discuss the relation between capacities and natures, for while capacities relate its possessor to something other, natures do not. The final section (§3) discusses the relation activities have to substances, and what kind of existence activities have.

[6] Cf. *EN* VI.2/*EE* V.2 1139a35-b5, *EN* VI.4/*EE* V4.

[7] In what follows I will speak of *dunameis*, capacities, powers, potentials, and abilities interchangeably.

§1. Energeia and Dunamis

Stephen Menn suggests that *energeia* and *dunamis* "are primitive concepts that cannot be properly defined".[8] I agree. That *energeia* is intended as a basic notion is clear from Aristotle's initial attempt (in *Metaphysics* IX.6) to characterize *energeia* negatively: "Activity, then, is the existence of the thing *not* in the way in which we say that it exists potentially."[9] Moreover, we are explicitly told that we should not expect a definition of *energeia*:

> What we wish to say is clear from the particular cases by induction, and we must not look for a definition of everything, but be able to comprehend the analogy (*to analogon*), namely, that as what is building is in relation to (*pros*) what is capable of building, and what is awake is in relation to what is asleep, and what is seeing is in relation to what has its eyes closed but has sight, and what has been shaped out of the matter is in relation to the matter, and what has been finished off is in relation to the unfinished. Of the differences exemplified in this analogy let the activity (*hê energeia*) be marked off by the first part, the what is capable (*to dunaton*) by the second. But things are said to actively be, not all in the same way, but by analogy—as this in this or to this, so that is in that or to that. For some are as movement in relation to a capacity, and the others as substance to some sort of matter.[10]

Here Aristotle contrasts *energeia* and what is able (*to dunaton*). As Beere observes, one might expect Aristotle to contrast *energeia* with *dunamis* and what is active (*to energoun*) with what is able. According to Beere this "suggests that the underlying comparison is really in three terms: the item that is in capacity a certain way; the item that is that way in *energeia*; and the *energeia* of the item in virtue of which it has being-in-*energeia* rather than merely being-in-capacity."[11] This raises an important question regarding *energeia*

[8] Menn 1994, 92.

[9] *Metaphysics* IX.6 1048a30-32 (emphasis added).

[10] 1048a35-b9.

[11] Beere 2009, 190.

and its relation to the things that are said to be active. As we will see, a thing is able (it is *dunaton*) in virtue of possessing a *dunamis*. The *dunamis* is a property or feature of a thing in virtue of which that thing is, in some way, able or capable. As with *energeia*, we will want to know what relation there is between this property and its possessor. I will return to these questions in §3.[12]

The above analogous cases can be roughly grouped into two kinds: *energeia-dunamis* pairs connected with change, and pairs connected with substances.[13] Aristotle does not tell us anything further about what *energeiai* are. We can gain some further insight by consider Aristotle's use of the term *energeia*, his comments on *dunamis* in his sc. 'philosophical lexicon' (*Metaphysics* Book V), and the connection of *energeia* and *entelecheia*. However, before turning our attention to these topics, a brief comment on Aristotle's use of analogy is warranted.

Analogy is a kind of metaphor, and to comprehend why certain things are analogous is to see something that is common to the cases considered.[14] In doing so Aristotle makes use of two kinds of relations: a pair of first-order relations which are then compared to each other through a second-order relation.[15] This is what Aristotle has in mind when he says "as this in this or to (*pros*) this, so that is in that or to (*pros*) that".[16]

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[12] Note that Aristotle's notion of 'induction' (*epagôgê*) should not be confused with post-Humean discussions. It is a kind of cognitive process by which we come to see that particular entities have the properties they do. For an overview of different conceptions of induction in Aristotle, see Groarke 2009, 2021.

[13] In what follows I will mainly focus on the cases involving change. As we will shortly see, Aristotle himself thinks the change involving cases forms the basis for our understanding of what capacities and their activities are.

[14] Cf. *Poetics* 21, 1457b6-33.

[15] This point is made with clarity by Makin, see his helpful exposition in Makin 2006, 130.

[16] Aristotle's use of relations (*pros*) in the above text is thus licensed by his use of analogy. As we will see while *dunameis* are relatives, *energeiai* are prior to *dunameis*, which presumably excludes *energeiai* from

We are supposed to understand something about *energeia* and *dunamis* by considering how—say—change is related to the ability to change and how substance is related to matter. As Makin points out, how we understand the second-order relation will matter to how we understand the analogy: either both first order-relations are related to each other because they instantiate the same relation, or they are related in some other way.[17] Aristotle rules out the same relation being in play here in saying that things are said to be active "not in the same way". Beere suggests that Aristotle thinks of *energeia* and *dunamis* as a loosely analogous kind, where the kind is constituted by a privileged case, to which all the members of the kind are analogous.[18] Moreover, he suggests that housebuilding is used by Aristotle as this privileged case.[19] I cannot assess this claim here, but I agree that the cases connected with change give us a basis that helps understand what *energeia* and *dunamis* are. Indeed, Aristotle himself repeatedly stresses that capacities for causing or undergoing change form a—if not *the*—central case for our understanding of what capacities and their corresponding actualities or activities are.[20]

§1.1. Energeia and Entelecheia

We can gain further insight into *energeia* and its connection to change by considering its etymology and Aristotle's early uses of it. The abstract noun *energeia* is formed from the adjective *energos* ('at work', 'busy'). *Energos* "is itself derived from the preposition, *en*,

being relatives. I return to this issue below.

[17] The same relation can be found e.g., in mathematics: 4 is to 2, as 2 is to 1. Here the same relation—being double—is instantiated in both cases.

[18] Cf. Beere 2009, 186-189.

[19] Cf. *Ibid.*, 189-208.

[20] Cf. *Metaphysics* V.12 1019b34-1020a6, IX.1 1045b32-1046a4, IX.3 1047a30-b2.

meaning 'in', and the noun, *ergon*, meaning 'job, work, function, deed.'"[21] As Menn and Beere have shown, Aristotle introduced and uses *energeia* as a near synonym for 'use' (*khrêsis*).[22] Already in Aristotle's early work, *Protrepticus*, *energeia* is used in contrast with *dunamis* as two ways of living (*to zên*), with perception (*horônta, opsin, aisthanesthai*), knowledge (*epistasthai*), and contemplation (*gignôskein*) given as examples. The two ways are couched in terms of having or possessing an ability (or power) to see, or know, and using or exercising that ability.[23] As Menn notes "My *energeia* of something is my *khrêsis* of that thing, my putting-to-work of some power or instrument that I already possessed but had not been using, as I put my eyes to work when I open them."[24] Aristotle comments on the use and meaning of *energeia* in the following way: "The name 'activity' (*energeia*), which is connected to 'actuality' (*entelecheian*), has been extended to other things from applying most of all to movements (*kinêseôs*). For activity seems most of all to be movement [...]" (*Metaphysics* IX.3 1047a30-32). The primary connection of *energeia* is thus some kind of change (broadly understood), like a use or exercise of a capacity for change.

As Aristotle's remarks at 1047a30-32 make clear, activity is connected with another notion: *entelecheia* ('actuality', or 'fulfilment'). But how precisely are these two notions connected? Aristotle makes a further comment on the relation of *energeia* and *entelecheia* in *Metaphysics* IX.8: "the function [*ergon*] is the end [*telos*], and the activity is the function, and this is why the name 'activity' is said of things with reference to the

[21] Beere 2009, 161. Cf. Aristotle's remarks at *Metaphysics* IX.8 1050a21-23 on *energeia* and its connection to *ergon*. The etymology of *energeia* (and *entelecheia*) is controversial, see Makin 2006, *xxvii* for a discussion and references.

[22] Cf. Menn 1994, 78-81; Beere 2009, 161-167.

[23] Cf. *Protrepticus* 79-80, discussed in Beere 2009, 164.

[24] Menn 1994, 80-81; cf. Makin 2006, *xxvii*.

function [*ergon*], and extends to the actuality."[25] In the previous passage Aristotle simply noted that *energeia* and *entelecheia* are connected; here Aristotle elaborates on how they are connected. *Energeia* is connected with *ergon*—'function' or 'work'—and to be active, to be *energos*, is to be at work. Working, fulfilling one's function, is an end (a *telos*). Things that are at work have (to a certain extent) reached their goal. The aim of housebuilding is to build a house. Even if the house is not complete, a house-builder building is fulfilling their end or function. As Beere notes *entelecheia* is a teleological notion, suggesting "*the property or state of fulfilment or completion*",[26] and suggests that where "*energeia* implicitly invokes an *ergon*, *entelekheia* implicitly invokes a *telos*. [...] *Energeia* and *entelekheia* converge when the relevant function (*ergon*) is an end (*telos*)."[27]

Sometimes *energeia* and *entelecheia* are used synonymously.[28] This ought to be clear in cases where the function of some activity or process is the goal, since—as pointed out by Beere—where these are the same, *energeia* and *entelecheia* converge. However, the close connection to an end or goal gives *entelecheia* a connotation that something is complete (*teleion*), which isn't present in *energeia*. A state of completion can involve activity. Activities proper—like seeing and feeling pleasure—do not require anything further added to them in order for these activities to be complete or fulfilled. But not all

[25] 1050a21-23. As Menn points out *sunteinei* here should be taken to mean that *energeia* is said in the sense of *ergon* (cf. Menn 1994, 111).

[26] Beere 2009, 218. Note that the etymology of *entelecheia* is unclear. Menn claims that Aristotle forms the abstract noun *entelecheia* to describe the *teleion* ('complete', 'accomplished', 'perfect') thing that results "from the cooperation of the active and passive powers" (cf. Menn 1994, 101 with footnote 38).

[27] Beere 2009, 218.

[28] For instance, in his discussion on change in *Physics* III.1-3.

activities are complete. Changes are incomplete activities.[29] When something is active it is therefore not always clear one can infer that it is complete, fulfilled, or perfected.

David Charles makes the following suggestion:

> One might (with due circumspection) describe the actuality as the success condition for the realisation of that potentiality. In the case of teaching someone to play the flute, the *success condition* is playing the flute. This is what teachers aim to pass on and what is achieved when the pupils' potential to play the flute is realised (1050a21–23). When the potentiality is to see, this will be realised when there is seeing (1050a23–25). […] Success conditions need not be states. They are simply whatever has to be present for the relevant potentiality to be realised. In some cases, they will be activities such as seeing or thinking, in others states (such as being a house), in others a [change].[30]

A housebuilder who is building has, to a certain extent, succeeded. She has not yet succeeded in completing the house, but she is closer to her end than someone who has yet to start building; building is a successful exercise of her art. There is a further success to await of course: the completion of the house, but the activity itself is already a success, even if it is only 'half-way' to full completion. Substances that are active are thus more complete or perfect than substances that are merely in capacity.

These observations help us see that Aristotle's basic conception of *energeia* involves some form of activity or change. There is a difference between having capacity to do something, and putting that capacity to use. We can observe a difference between the housebuilder taking a lunchbreak and the housebuilder using her ability to build a house. Likewise, between something being awake and its being asleep. Our observations may be fallible, but Aristotle's basic conception is clear: there are active exercises of

[29] They are *ateles*; cf. *Physics* III.2 201b29-35.

[30] Charles 2015, 202-203.

capacities, and the possession of capacities. The latter does not imply that one is putting one's capacity to use, the former, however, does.

With this brief overview of *energeia* in place, let us turn to consider *dunameis* in some more detail.

§1.2. Dunameis

The entry for *dunamis* in *Metaphysics* Book V begins by making two chief distinctions. First, that a capacity is an origin or principle (an *archê*) of movement or change *in something else* (*en heterôi*). Second, something is said to be a capacity when it is an origin or principle of being moved or changed *by something else* (*huph' heterou*).[31] Common to both is that a capacity is a feature of, or something belonging to, an entity. It is because a thing has a capacity that it is called capable or able (*dunaton*).[32] The capacity is an explanatory principle or origin of some kind of change. Another feature these two kinds of capacities share is that the capacity makes the possessor of it related to something else: the capacity is either a capacity for a change occurring in something other than the possessor, or a capacity to be affected or to undergo change by something other.

The notion of 'otherness' (*heteron*) here must be understood broadly. Aristotle does not wish to rule out the existence of capacities that are or can be exercised on oneself. Building, to give Aristotle's example, is a capacity someone (a builder) has, but it is a capacity that is exercised in or on something else—timber, bricks, etc.—something that has the capacity to be changed by the builder's capacity to build. Similarly, a doctor's medical skill—his capacity as a doctor—is to heal someone, a patient. What it is to be a

[31] Cf. *Metaphysics* V.12 1019b14-20.

[32] Cf. 1019a32-b1.

patient is to have a capacity to be healed. Capacities form co-relative pairs, but this does not rule out that something can act on itself. However, it does require that in such cases the thing must possess both relevant capacities. A doctor who heals herself, is healed not insofar she is a doctor, but insofar as she is a patient.[33]

Beere provides a helpful summary over what capacities—what he calls "powers"—are:

> Things have powers, which they exercise at some times and not at others. In privileging the noun, 'power' (*dunamis*), over the adjective, 'able' (*dunaton*), and the verb, 'can' (*dunasthai*), Aristotle draws attention to the fact that powers are properties of objects: the powers are things they have. Objects can acquire and lose them. The powers are the properties in virtue of which objects bring about and undergo change, but they are also, in some cases, themselves the results of changes. Some powers are for the bringing about of change, other for the undergoing of change. While Aristotle has an elaborate typology of the ways in which power is said, the greatest emphasis falls on these two sorts of power, active power and passive power.[34]

By active powers Beere means capacities to act on something else, and by passive he has in mind the co-relative capacity to be acted upon by something else. This sets up the following basic picture of what Aristotelian agents and patient are, and what agency and patiency involves: agents are entities with active capacities—capacities for causing change in (or affecting) something other. Patients are entities with passive capacities—capacities for undergoing change (or being affected) by something other.[35]

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[33] This is what Aristotle means when he says that a capacity is for causing change in (or being changed by) something "different or in a thing insofar as it is other" (cf. 1019a16, and 20).

[34] Beere 2009, 60

[35] Aristotle explicitly links agency and patiency with capacities to act and be acted upon (and their exercises) in *Metaphysics* V.15, cited below.

It is important to note that terms or descriptions like 'doctor' and 'patient' do not merely pick out a subject or person. They are not names like 'Socrates', 'Harry', or 'Lilli'. Genuine names pick out or refer to distinct individuals without involving any implications or reference to the abilities of the subject spoken of.[36] By contrast, to describe or refer to someone as a 'doctor' does convey more than a mere name does. It *can* pick out an individual person, but *it also picks them out as someone with a certain capacity or power*—for instance: the power to heal a patient. Capacity terms convey more information about the subject it is predicated of than mere names.

Aristotle extends his discussion from capacities to change and being changed into a distinction regarding being. In the fourth major distinction in the entry on being (*to on*) in *Metaphysics* V.7 (1017a35-b9) Aristotle points out that being is also spoken in terms of being capable (*dunamei*) and being actually (*entelecheiai*). Being in capacity some F is a way of being F. As Beere puts it: "it is not merely that it could become F. It already is F—albeit merely in capacity."[37] Both things which are potentially seeing and those which are actually or actively seeing can be spoken of as a seeing thing; similarly for thinking and resting things.[38] So while describing someone in terms of a capacity they have does tell us something more than a mere name does, it does not tell us whether or

[36] Strictly speaking, Aristotle says that linguistic entities are tokens or signs (they are *sumbola*) of affections of the soul (*têi psuchêi pathêmatôn*) and these, in turns, are likenesses (*homoiômata*) of actual things (*pragmata*); cf. *DI* 1 16a3-8.

[37] Beere 2009, 217.

[38] Aristotle goes on to apply this distinction to substances: a bust or statue of Hermes is potentially in the stone, and unripe corn is potentially ripe corn. Aristotle himself point out that when something is potential and when actual will be spoken of elsewhere (cf. 1017b-9). Presumably this discussion is carried out in *Metaphysics* IX; IX.7 in particular (cf. 1048b37-1049a1). For a discussion of these see Makin 2012, 402-403, and Beere 2009.

not that capacity is actively in use. There is thus a further specification that has to be made in order to determine when a capacity is active and when not.[39]

In sum: I take it that *energeiai* and *dunameis* are properties of things.[40] A *dunamis* is the property in virtue of which one can truly describe it as being capable (*dunamei*) to do or undergo something. Being in capacity F is a way of being F. Similarly, an *energeia* is the property in virtue of which one can truly describe something as being actually or actively engaged in some activity. Being in *energeia* F is another way of being F—a way opposed to being in capacity F for nothing can be both in activity F and in capacity F at the same time. Moreover, being in activity F has a kind of primacy over being in capacity F.

§1.3. The Priority of Energeia over Dunamis

In *Metaphysics* IX.8 Aristotle argues for the priority (*proteros*) of *energeia* over *dunamis*. He distinguishes three main and related ways in which *energeia* is prior: (1) priority in account (*logos*) and knowledge (*gnôsis*), (2) priority in time (*khronos*) and generation (*genesis*), (3) priority in being (*ousia*) and form (*eidei*).[41]

(1) *Energeia* is prior to *dunamis* in account and in knowledge because *dunamis* is defined and understood in terms of an *energeia*, but not vice versa. A capacity is a capacity to cause or to undergo some change. We cannot fully understand what the

[39] This issue will be explored in more detail in Chapter 2.

[40] I remain open to the precise nature of properties. That said, I take it that non-substance categories pick out different properties that substances have.

[41] I will only make some brief remarks regarding these. For a detailed commentary on *Metaphysics* IX.8, see Beere 2009, 285-324. For a thorough discussion of priority in Aristotle, see Peramatzis 2011.

capacity is for unless we begin with an understanding of the activity in question.[42] Aristotle's activities or *energeiai* seem to be epistemologically basic. Different kinds of activities must be understood analogically, and although they can be given a negative definition as what is 'not *dunamei*', we only understand what capacities are by beginning with a grasp of the activity in question.

(2) *Energeia* is prior to *dunamis* in a causal sense too. Since a particular (or token) action originates from a capacity to act, the particular action cannot be temporally prior to the capacity. Indeed, the capacity to act is prior in time to any token exercise of said capacity. Aristotle does not deny this. He argues instead that *energeia* has a kind of qualified priority in time, which is why he emphasizes that *energeia* is prior in time *and generation*. Thus, Aristotle's focus is not merely on temporal priority, but rather the order in which certain things occur and come to be. Although something that is able is temporally prior to the particular activation of the capacity, something else makes that capacity active. This is what Aristotle has in mind when he says that "from what is potentially what is in activity comes to be, by means of what is in activity, for example, man from man, musician by means of musician, in each case something bringing about change first; and what brings about change already in activity."[43]

According to Beere, Aristotle argues for the priority of *energeia* to *dunamis* based on a "compelling theory of causation […]. The crucial assumptions of this argument are that there is an agent, which has priority in time and genesis, and that this agent is, as such, active. The agent's *energeia* is that in virtue of which the agent is the agent. And

[42] Cf. *Metaphysics* IX.8 1049b12-17. Note that Aristotle speaks here of the priority of *energeia* over what is able (*to dunaton*). But Aristotle holds generally that something is able by possessing the relevant ability or *dunamis*.

[43] 1049b24-27.

thus it is the *energeia*, not the capacity, that has priority in the change."[44] Priority in generation is also relevant for priority in being. This brings us to our third kind of priority.

(3) Aristotle turns his attention to the third and final kind of priority as follows:

> But indeed, [activity] is prior is being (*ousiai*) too, first because things posterior in coming to be are prior in form and in being (for example, adult to boy and man to seed; for the one already has the form, the other does not), and because everything that comes to be proceeds to an origin and an end (for that for the sake of which is an origin, and the coming to be is for the sake of the end), and the activity is an end, and the potentiality is acquired for the sake of this.[45]

Aristotle again appeals to the order of generation. As his examples make clear, his point isn't merely that causation requires there to be an active agent that is temporally prior to whatever the agent makes or causes. Rather, the agent in some sense has or exemplifies the end-state that a process of generation aims at. Aristotle makes use of a teleological argument here. Capacities and their activities are directed at certain end-results, whether internal to the activity in question, or external. For instance, both seeing and houses are examples of ends or goals. Seeing is an example of an internal goal: the activity itself is the goal, there is no further goal that seeing is for. Houses, in turn, are external goals. The goal of housebuilding is not that activity itself but a completed house. Thus, the goal the activity aims at is an origin or cause for that activity; moreover, the goal is also the success condition of that activity. Housebuilding is properly speaking successful only if the end result is a completed house. In this sense the goal is *posterior* in genesis—it is later in process of it coming to be—but because the goal determines what the process in question

[44] Beere 2009, 293.

[45] *Metaphysics* IX.8 1050a4-10.

is, it is prior in form and being.[46] There seems to be both an ontological and an epistemological dimension at play here.

What it is to be in capacity something is connected to what it is to be in activity that thing. This is the ontological dimension at play. Beere puts it as follows:

> the being in capacity has the *energeia* as part of its essence: what it is to be in capacity F is partly a matter of what it is to be in *energeia* F. The capacity is needed for the *energeia* to come about, but the capacity does not reciprocally determine what the *energeia* is. Thus the capacity depends on the *energeia* in a way that the *energeia* does not depend on the capacity.[47]

Furthermore, we understand what these activities are in relation to their goals: children are in the process of growing into adults; the adult human is the goal of growing up. Our understanding of what children are is in some sense dependant on our understanding what adults are. Similarly for seed (*sperma*): the seed in question is not some generic seed that produces some living entity, it is human seed with an in-built capacity to develop (in the right circumstances) into a human being.

> Aristotle […] thinks that the for-the-sake-of relations in a given process are intrinsic to its structure. If that is right, then in order to understand changes and the things that change, we need to explain how the earlier parts of a change are for the sake of the later parts, in such a way that everything is for the sake of the final end of the change. In that case, we would be explaining the processes backwards. We look first to the end, and we understand the process by considering how something that achieves that end comes into being.[48]

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[46] That changes and activities may fail to achieve their ends is no objection, because changes are intrinsically end-directed, but whether the ends are reached is a different matter; cf. Beere 2009, 301.

[47] Beere 2009, 303.

[48] *Ibid.*, 310. Goals and the teleological structure of processes will be further explored in Chapter 5.

What is at the heart of the Aristotelian methodology is that we begin by observing seemingly successful exercises of capacities: we can and do observe things engaging in activities and in reaching certain end-states. These positive and successful cases are taken as a standard of correctness that requires further scrutiny. The scrutiny is required because we may be in error as to what the actual goal or end is, or if there is even such a thing or not. Indeed, mistakes are possible at this initial stage. But even so, the starting point is our basic ability to observe activities and goals in the world around us.

§1.4. Interim Summary

So far I have suggested that *energeiai* and *dunameis* are properties of things, properties that dispose that entity to act or be affected in a certain way. There are active and passive capacities: active capacities are powers to bring about change in something else; passive capacities are powers to be affected in a certain way. The exercise of both active and passive capacity is some kind of activity or *energeia*. This gives us a basic distinction between agents and patients. Agents are entities with active capacities; patients are entities with passive capacities. So understood, Aristotle's conception of agency and patiency is much broader than it standardly is taken to be in contemporary philosophy.

§2. Capacities: Some Further Issues Considered

With the above preliminary points in place, I now want to explore some further issues relating to capacities and to natures. As we will see, Aristotle thinks natures are different from capacities. If the difference is too great then my suggestion that the difference between agency and patiency should generally be understood in terms of the exercise of active and passive capacities is in danger, for some of the examples I want to include as

actions on behalf of Aristotle include examples of natural agency, and if these are different from actions understood as exercises of capacities, then it does not seem as if I can claim there is a unified approach to distinguishing between agency and patiency in Aristotle. I also explore the significance of Aristotle's claim that capacities are 'other-directed'. Indeed, Aristotle claims that capacities for change form co-relative pairs. This helps bring to light the difference between natures and capacities: natures are not other-directed in the sense that capacities are. I end by considering what identity conditions one might give for activities and capacities.

§2.1. Capacities as Relatives

As we've seen Aristotle's basic conception of capacity is that of a capacity to cause change in something other, or by something other. The relevant sense of other seems to be something that has the related capacity to change or be changed. That capacities come in pairs of causally related capacities will be important for understanding Aristotle's views on causation. As we saw in the discussion on priority, capacities are made actual or active by means of something that is, itself, active: something that is potentially F, is made actually F, by means of something that already is actually F.

That capacities for change are co-relative becomes clear from Aristotle's entry on relations or relatives (*pros ti*).

> Things that can act or be acted on [are said to be relative] according to a capacity to act or be acted on and to the activations of the capacities. For example, what is capable of heating is relative to what is capable of being heated, because it *can*

> heat it, and in turn what is heating is relative to what is being heated, and what is cutting to what is being cut, as actively doing the things.[49]

Aristotle speaks here of agents' and patients' (*poiêtika*, *pathêtika*) capacities to act and to be acted upon (*poiêtikên*, *pathêtikên*). As is clear from the examples of heating and cutting these are capacities for movement and change. He goes on to contrast this type of relative with numerical relatives, pointing out that numerical relatives do not have activities (*energeiai*), at least not the kinds of activities found in movement (*kinêsin*) involving relatives.[50]

Aristotle specifies that agents and patients are said to be relative in two ways: they are relative according to the capacity (*kata dunamin*), and according to the activation of the capacity (*energeias tas tôn dunameôn*). As the context makes clear, his point is that an active agent is relative to an active patient; a potential agent to a potential patient.[51] However, he does not directly address the important question of how agents and patients (or their capacities) are related to the activities or exercises of their capacities. That is: what is the relation between a capacity and its activation? What happens when a capacity or agent goes from a state of potentially F into actually F? Elsewhere, e.g. in *On the Soul* II.5, he discusses in further detail what happens when a capacity goes from its potential state to its active exercise; this will be discussed in the next chapter.[52]

Aristotle begins illustrating the relations between an agent and a patient with an example. In the first case, what is able to heat (e.g. fire), something that has the capacity

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[49] *Metaphysics* V.15 1021a14-19.

[50] Cf. 1021a19-21.

[51] Aristotle makes a similar point in his discussion on the ways in which causes are spoken of in *Physics* II.3, cf. 195b3-21.

[52] There is a further question how the activities of these co-relative capacities are related to each other. Aristotle discusses this in detail in *Physics* III.3, which will be discussed in a Chapter 3.

to heat, is relative to something that can be heated, something that has the capacity to be heated. In addition to having co-relative capacities, agents and patients are said to be relative when their co-relative capacities are active: what is heating is relative to what is being heated.

Although Aristotle thinks numerical relations and co-relative capacities are disanalogous in some respects, they are also importantly similar in the way they are said to be relatives:

> Things that are said to be relative according to a number or a capacity, then, are all relative because of being said to be just what they are *of another thing*, not because of the other things' being relative to them.[53]

Aristotle's point here is that in specifying what, e.g., the agent's capacity to heat is, one must specify what other thing the capacity is said of; in this case the patient's co-relative capacity to be heated. Indeed, this seems required by Aristotle's earlier specification of a capacity as a capacity to cause change in something else (or by something else). For example, what the capacity to heat is, is a capacity to heat something other. This is why it is a relative. It is not merely that something else is related to it. In order to say what the capacity to heat is, one must specify another capacity. Presumably, non-relative entities can be specified or defined without appealing to another entity, but this does not hold for relatives. What a relative is—perhaps what it essentially is—is being relative to something else. Hence, when defining a relative one must specify what the relative entity is relative to.

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[53] 1021a26-29.

§2.2. The Definition of Relatives

In saying that capacities are relative because what it is to be a relative entity is to be relative to something else, Aristotle seems to be recalling his discussion of relatives from *Categories* 7.[54] There, Aristotle first defines relatives as "all such things as are said to be just what they are, *of* or *than* other things, or in some other way *in relation to* something else."[55] But this turns out to be too generous since it leads to a puzzle about substances (which I will not dwell on here).[56] He then seeks to sharpen his definition by emphasizing that

> things are relatives for which *being is the same as being somehow related to something* [...]. The previous definition does, indeed, apply to all relatives, yet this—their being called what they are, of other things—is not what their being relatives is.[57]

Paolo Fait argues that:

> According to the first definition, relatives have a content described by the 'just what it is' part. They can be named and defined by a description, although a description which is not entirely self-contained or absolute, but crucially points to something else. On the contrary, relatives licensed by the second definition lack this independence from their correlative. The essence of the relative is exhaustively captured by its being in relation to the correlative, and vice versa.[58]

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[54] There are issues with how the discussion in *Metaphysics* V.15 and *Categories* 7 discussions relate to each other, but I cannot explore those issues here. Some issues are raised by Kirwan 1993, 164-167.

[55] *Categories* 7 6a36-37 (tr. Ackrill, 1963).

[56] For a clarifying discussion of this issue and a solution to it see Paolo Fait's "Aristotle on Relatives and the Riddle of Substance Parts in the *Categories*" (referred to as "Fait (Forthcoming)" below).

[57] *Categories* 7 8a31-35.

[58] Fait (Forthcoming), 37.

Indeed, in *Topics* VI.4 Aristotle stresses that since the being (*to einai*) of a relative entity involves its being related to something else one cannot define a relative entity without mentioning the other, and consequently one cannot know (*gnôrizein*) one without knowing the other. [59]

Thus in order to correctly define a relative entity its defining account (*logos*) must include or refer to its correlative entity. So understood, *pairs of co-relative entities are co-defining, and must be understood together*. On the assumption that this general point about the definition of relatives applies to capacities, capacities for changing something else and for being changed by something else form co-relative pairs which are co-defining, and which cannot be understood apart from each other. One cannot understand what the capacity to heat is without understanding that is a capacity to heat something that has the capacity to be heated, and one cannot understand what the capacity to be heated is without understanding that it is a capacity to be heated by something that has the capacity to heat.[60] Note that this claim extends to agents and patients, for—as Aristotle points out in the *Metaphysics* V.15 passage cited above—agents and patients are relative to each other according to the capacities they have.[61] So understood, the agency conceptually entails patiency and active capacities conceptually entail passive ones (and *vice versa*).

[59] Cf. *Topics* VI.4 142a24-33.

[60] Aristotle makes a similar point in *Categories* 7 8a35-b3.

[61] See also *Physics* III.1 200b28-31.

§2.3. An Objection

However, one might question whether or not Aristotle's considered view truly is that *dunameis* are relatives and hence, co-defining.[62] One reason is Aristotle's claim in *Metaphysics* IX.1 that all capacities for change are origins of change and are spoken of and defined in relation to a primary (*prôtên*) capacity, which Aristotle identifies as the active capacity.[63] This suggests that active capacities have priority over passive ones, and the latter are defined in terms of the former, but not vice-versa.[64] This seems to invalidate my claim in §2.2 that capacities, thus agency and patiency, are co-relative notions that must be defined and understood together.

The first thing to note is that Aristotle's views on the notion of relatives is obscure. In the *Categories* Aristotle suggests that some relatives may be prior, and hence not all relatives are "simultaneous by nature" (*Categories* 13 14b24-29)—which suggests Aristotle might accept some kind of asymmetry between relative entities. Exploring this suggestion lies outside the scope of this thesis. However, I think there is a better and more direct response one can give to the objection just raised.

Aristotle's focus throughout 1046a9-29 seems to be on the way capacities of change are spoken of as origins (*archai*) of change. So understood, Aristotle need not be modifying his views in *Metaphysics* V.15 which straightforwardly suggests capacities to act and to be affected are co-relatives. Rather his point is that capacities for causing and undergoing change *qua being origins of change* are to be understood by reference to a

[62] I am indebted to Ursula Coope for urging me to consider this objection.

[63] See *Metaphysics* IX.1 1046a9-29.

[64] Beere cautiously advances this kind of view, see his 2009, 53-60 & 64-67. See also Makin 2006 *ad loc.*

primary case: the active capacity. *Qua* capacities, the capacities are co-relative and must be understood together.[65]

I think this makes sense: to understand how change comes about it will be easier to begin by considering active cases; cases of causing change in the world, rather than undergoing change. This suggestion aligns itself with Aristotle's claim that *energeia* most of all seems to be change. Even if it is true that a change entails that something is changed, or that an activity involves something being affected, we will get an easier grip on these phenomena if we begin by considering the active cases.

Another reason one might doubt that *dunameis* are relatives is Aristotle's discussion in *Metaphysics* IX.8 on the priority of *energeia* over *dunamis*. Again, the thought seems to be that we understand the capacity in relation to the activity, but not *vice versa*. I don't think this is a decisive objection. Aristotle's focus is on saying something about *energeia* and I do not think that *energeia* being prior to *dunamis* invalidates thinking of *dunameis* as co-relative entities.

Instead, I think Aristotle's discussion in IX.8 helps mitigate the previous worry: a capacity to be changed is defined and understood in terms of the activity, not the capacity for causing change (as the above objection suggests). I think this suggests that my reply to the objection is plausible: Aristotle's concern in *Metaphysics* IX.1 is to specify the sense in which capacities for change are *origins* of change. In *Metaphysics* IX.8 the

[65] Perhaps Aristotle has this in mind 1046a16-19 where he speaks of both capacities to act and capacities to be affected. One way to understand this passage would be to take Aristotle emphasizing the sense in which the capacities he has been speaking of—capacities for change—are spoken of *qua* capacities (and not *qua* origins). *Qua* capacities the definition of the capacity to act will include mention of the capacity to be affected and *vice versa*. This is a tentative suggestion, and my reply does not require it.

discussion is supposed to cover all origins of change, including natures, and not merely capacities for change.

I take it that Aristotle's claims in *Metaphysics* IX.1 is not on its own sufficient to invalidate the suggestion that capacities are relatives. Likewise, I do not think my responses here are sufficient to lay the issue entirely to rest. However, rather than trying to respond to objections that have yet to be put to my suggestion, let me try and sketch out how I think Aristotle's claims about the priority of activity are consistent with thinking of capacities as co-relative entities.

Consider the power to heat. Understood as entailing a co-relative pair of capacities, heating would be defined and understood along the following lines:

> Capacity to heat $=_{def}$ The capacity to heat something that has the capacity to be heated.
>
> Capacity to be heated $=_{def}$ The capacity to be heated by something that has the capacity to heat.

I take it that both of these definitions contain a reference to the relevant activity: 'to heat' and 'to be heated'. So understood, capacities are defined in terms of a co-relative capacity and in terms of activities. So understood the priority of *energeia* doesn't damage the status of capacities as co-relative entities. In similar fashion one can suggest that:

> Agency $=_{def}$ The capacity to act on something that has the capacity to be affected.

Patiency $=_{def}$ The capacity to be affected by something that has the capacity to act.

Here 'to act' and 'to be affected' stand for the activities of the agent and patient. It is a further question to ask what the relation of these two activities are (this question will be explored in Chapter 3).

§2.4. Natures: A Difficulty

Natures are not (strictly speaking) themselves capacities. This makes sense given Aristotle's distinction between natures as internal principles or origins of change of the thing itself, and capacities as principles of change (or being changed) in something else. It is because capacities are directed at changing or being changed by something other that they are relative entities. Natures are not in any particular relation to some other thing. Rather, the nature of something is that thing's essence or being.[66]

This is what Aristotle has in mind when he contrasts the way in which natures are origins of change to crafts (a kind of *dunamis*) claiming that "nature is a certain origin and cause of moving and of resting in that in which it is, primarily, in virtue of itself, and not accidentally."[67] As I noted above capacity-terms do not function as names, but rather describe their possessors in terms of certain causal powers: powers to bring about or undergo some kind of change. However, a nature is a thing's essence or being. It is not merely a description of something in terms of its causal properties.

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[66] For an overview of Aristotle different uses of nature, see Irwin & Fine 1995, 599; on nature and its connection to sou (*psuchê*) see Shields 2016, 83.

[67] *Physics* II.1 192b20-23.

Ursula Coope provides a helpful account of this distinction:

> a craft differs from a nature in being accidental to whatever possesses it. When we consider the *shipbuilder qua shipbuilder*, we are engaging in a kind of fiction: we are considering the shipbuilder *as if* he were essentially a shipbuilder. In fact, any shipbuilder is only accidentally a shipbuilder; what he is essentially is a human being. By contrast, when we consider a natural thing, *qua* the natural thing it is, no fiction is involved. How a thing is by nature is how it essentially is.[68]

What a thing is essentially, and how it is described matter. For example, in the case of human and shipbuilder, humans are essentially human; but being human or a rational animal is *accidental* to being a shipbuilder. It may be that nothing else except a human being is capable of being a shipbuilder, but what it means to be a shipbuilder—what the definition of ship building involves—does not require saying anything about the person who is a shipbuilder.[69] The point is that there is some entity which is described as both a human and as a shipbuilder. *Qua* 'human' we are describing them as they essentially are; *qua* 'shipbuilder' we are engaging in a kind of fiction. This fiction need not involve a falsehood. Capacities can be true but non-essential properties of things. It is as true to say of a human who is skilled in the art of shipbuilding that she is a human or that she is a shipbuilder. In either case we are picking out one entity in different ways, and the way we are referring to them will imply certain things about them. E.g. that they are skilled in building ships insofar as we refer to them as a shipbuilder; or that they are rational animal insofar as we refer to them as human.

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[68] Coope 2021, 173.

[69] One might propose that one could define shipbuilding as the activity of a person with the skill or capacity to build a ship. Aristotle would reject such a suggestion as he holds we define capacities in terms of the activities; hence activities are prior in definition and knowledge. Moreover, activities are themselves understood in terms of their goals—in this case, the completed ship.

Some activities—e.g. thinking for humans, the web-weaving of spiders, nest-building of sparrows—thus turn out to be exercises of a thing's nature and not of an other-directed capacity. Given that I want to include such essential activities as part of Aristotle's philosophy of action, natural activity seems to threaten my suggestion that Aristotle does have a unified way of approaching the difference between agency and patiency since it now seems that we must consider examples of natural agency somewhat differently from non-natural agency.

One could of course abandon the search for a unified approach. However, as we've seen, Aristotle thinks *energeia* and *dunamis* are to be understood in virtue of understanding change in general. Thus, even if natural agency turns out to be different from the agency stemming from other-directed capacities, one can suggest that the understanding of natural agency is dependent on a prior understanding of change in general.[70] If so, understanding human actions like house-building and doctoring are an important first step that must first be taken to understanding other examples of human agency such as thinking.

That said, it isn't entirely clear how Aristotle's claim that nature is a cause of a change in a thing itself *qua* itself ought to be understood. Plant growth and thinking might be examples of natural activity not exercised at anything other, but it isn't clear that the same is true of the ant's natural ability to build anthills, or the swallows' ability to build nests. Aristotle clearly thinks all these are examples of goal-directed activities that are to be explained by a thing's nature working for the sake of its good. But the ants' and swallows' natural abilities must be directed at something other, namely suitable building

[70] Similarly, one can suggest that we understand divine agency and the activities of stellar objects which Aristotle claims lack *dunameis* only through a prior understanding of sub-lunar changes.

materials. So, it seems that some natural activities are not merely exercised in a thing itself, but, like capacities, are directed at something other.

Moreover, natures and capacities are strikingly similar in other respects. First, nature is in the same kind or genus (*genos*) as capacities *qua* being an origin of change.[71] Moreover, the nature of fire could also be invoked to explain changes that happen in something else. When a fire heats water to its boiling point, the nature of fire is what explains the heating of water.[72] In this case the nature is invoked as an origin of change in something else; in this case nature seem to be similar to a capacity.

More importantly, the actuality-potentiality distinction is also central for characterizing natures.[73] One reason is because things can have but not use or exhibit their natures actively. For instance, fire and warm air travels up; the upward motion of these is natural and (in a sense) the upward motion is caused by the nature of the warm air or of fire. However, substances that are by their nature simple bodies—like the elements—are such that they cannot make their own natures active or actual: they are not self-movers.[74] Nor are self-movers always in motion. Aristotle makes use of his distinction between being potentially and being actually to account for why elements are not self-movers. Thus, even if natures are not *dunameis*, Aristotle's remarks on actuality and activity in contrast to potentiality (*dunamis*) is central even when discussing natures.[75]

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[71] Cf. *Metaphysics* IX.8 1049b8-10.

[72] Assuming for the sake of argument that the nature of fire of 'heat' or 'hotness'. Assuming it is something like 'rising' or 'being up', then we can think of examples like a hot-air balloon the upward motion of which could be explained by reference to the nature of fire so understood.

[73] Makin 2006, *xxxiv*, makes a similar point.

[74] Cf. *Physics* VIII.4.

[75] Indeed, his claims in *Metaphysics* IX.8 1049b4-12 suggest that natures, *qua* origins of change, are subject

Self-movers, in contrast to the elements, consist (minimally) of two parts, a part that causes motion and a part that is moved.[76] Self-movers have a more complex nature than the simple bodies or elements. They are such that they can, in some sense, self-actualize. For instance, it is up to rational creatures to exercise their rational capacities for thinking. While other things might prompt us to think about something, we are not merely passive when it comes to thought; we can also start thinking without some outside influence.

When the natures of simple bodies like fire or warm air are active, they move up and that upward motion is caused and explained by the nature of the thing. However, the natures of simple bodies are never the causes of their natures becoming active. An external agent or happening is needed; otherwise, Aristotle could not make the claim he makes in *Physics* VIII that only animals (and not simple bodies) are self-movers. The elements, so understood, have *passive natures*—natures that can only be acted upon—while self-moving entities have *active natures*—complex natures that contain two parts where one can act on the other so as to move it.[77]

Analysing self-movers into a moving and a moved part has the consequence of blurring the distinction between other-directed capacities and natures: the natures of self-movers are minimally composed of two 'parts'—an unmoved mover and a moved part—and the unmoved mover acts on the moved part so as to move it.[78] The consequence of analysing self-motion in this way is that it seems to be similar to how other-directed capacities function: the unmoved mover acts on something "other", namely, a moved part

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to the same claims about the priority of *energeia* over *dunamis*.

[76] Self-motion will be more properly explored in Chapter 4.

[77] On these points see also Beere 2009, 58-60.

[78] It is because these are parts of a single entity the unmoved part is accidentally carried along with the whole self-moving entity.

so as to move it. And the moved part is acted on by something "other"—the moved part—so as to be moved by it.

Perhaps Aristotle thinks the difference between natures and capacities for change is not so important. He could, if he so chose, advance a view according to which natures explain what capacities for change a thing has, and keep the notion of capacities as origins of change as functioning in something other, and include the moved part of self-movers among these. So understood, natures are prior to capacities and presumably explain what capacities a thing has, but the capacities, properly speaking, are the causal origins of all changes and affections.[79]

I will not dwell at length on the difficulties between the distinction between natures and capacities here. In the remainder of the thesis I will speak indiscriminately of capacities, potentials, or *dunameis* and take these to include natures as well. When I need to mark out a difference between natures and capacities, I will speak explicitly do so.

§2.5. Identity Conditions for Capacities and Activities

If I am right to suggest that we should think of exercises of capacities or activities as fundamental to our understanding of Aristotle's views on action and agency, then we would like to know if Aristotle can offer us any insight as to how capacities and their

[79] Aristotle suggests something along these lines in *EN* II.1 1103a23-31 when he notes that virtues do not arise in us by nature, but "we are naturally able to acquire them" (*pehukosi hemin dexasthai*). Aristotle goes on to speak of capacities (*dunameis*), like perception, that "accrue to us by nature" (*pefukotôn*). Michail Peramatzis suggests Aristotle separates material and formal natures from internal sources of changes of a thing (in itself) and that we should think of such sources of change as capacities grounded in the explanatorily basic formal and material natures (cf. Peramatzis 2011, 155-156 with n4). Lindsay Judson has separately proposed that Aristotle's considered view on natures is to treat nature as strictly the form and matter of a natural substance, not as the efficient cause (Judson made this suggestion at his talk "Aristotle conception of nature in Physics II.1" at the Workshop in Ancient Philosophy at Oxford, February 2021).

activities are determined. What are their identity conditions?[80] Answering this question turns out to be difficult. Aristotle discusses and identifies many different kinds of capacities (not to mention their exercises), which raises questions about what is common to them.[81]

Given this wide conception of capacities an important question to raise is this: what are the identity conditions of capacities? Is a capacity to be heated and a capacity to be burned the same? Is the ability to run and to walk the same capacity? Are some capacities more basic than others, such that certain capacities—e.g., for housebuilding and ship-building—can be reduced to a basic capacity—e.g., carpentry. Or is the capacity for bodily health in fact a certain material constitution of hot and cold elements? Aristotle does not give any clear answers to these questions.[82] However, given the many different kinds of capacities he identifies and the different ways we speak about capacities, it is not clear that we should expect an answer to these questions. Aristotle may have thought it is a substantial question whether or not two capacities are the same, or whether certain capacities are more basic than others. It is not clear that such substantial questions can be resolved through general philosophical thought alone. Indeed, they may be questions that

[80] I take it that the identity conditions of capacities and activities are related.

[81] In addition to distinguishing between active and passive capacities, *Metaphysics* V.12 introduces a wide range of different ways in which capacities are spoken of. I take it that capacities connected with change are supposed to form the basis against which other uses of capacity are to be understood; see also *Metaphysics* IX.1 1046a5-18. *Metaphysics* IX.5 opens with a distinction between how capacities are acquired—between innate (*sungenôn*) ones we presumably have by nature, and one's we acquire through some process of learning. Another axis along which Aristotle distinguishes between capacities is in terms on one-way and two-ways powers; this distinction will be discussed in more detail in Chapter 2.

[82] In *Metaphysics* IX.7 he discusses the question when is something potentially F, but his discussion does not address the question under what conditions two capacities are identical. In general, Aristotle's views on identity are elusive. In *Topics* I.7 he discusses different kinds of sameness (*to auto*), but it is by no means clear that his views on sameness line up with contemporary notions of identity.

should be put to experts and scientists to determine in their respective fields or areas of knowledge.[83]

According to Aristotle, the correct way to study the world around us is to begin from what is more knowable to us and what is perceptible and to proceed to make further determinations about this to arrive at the truth.[84] On this approach, our starting point is our own human knowledge and experience—replete with our insights, flaws, and biases. In observing the world around us we see different exercises of different capacities and natures, but it is a further task to determine if some capacity is truly a distinct capacity or not. Just like it is a further task of the biologist to determine whether or not two pine trees are the same species of pine tree or not, it is a further task to determine if some human capacity is distinct from another one, or not.

Indeed, as Aristotle's discussion on two-way capacities in *Metaphysics* IX.2 suggests, he privileges a capacities positive exercise, F, as the standard case against which non-standard exercises of that capacity can be contrasted and understood.[85] Whether or not some case is truly a case of F:ing, or whether F:ing is distinct from G:ing, are questions that must be resolved on a case-by-case basis, not through abstract reasoning alone. But Aristotle's point—as I understand it—is that we begin with an observation that something is F:ing, which requires that we can observe that something is F:ing. We can then simply assume it is a case of F:ing and move on, or we subject the case to further

[83] For a similar line of thought, see Charles 1984, 22-26.

[84] Cf. *Physics* I.1.

[85] Cf. *Metaphysics* IX.2 1046b7-24. For a discussion of this passage, see Beere 2009, 82-85. That the successful exercise of a capacity forms a standard against which exceedingly good (*beltion*, *kalon*) exercises (or failures) are judged against seems implied by some of Aristotle's remarks at *Metaphysics* V.12, and IX.1 1046a16-19.

scrutiny—whether by scientific experimentation or by asking our fellow human their reasons for F:ing.

§3. Particulars, Properties, and Predication

In §1 I suggested that *energeiai* and *dunameis* are properties of things. They are the properties in virtue of which it is true to say of something that it is in activity or in capacity that thing. What I now want to consider is what kind of existence these properties have. This is a difficult question because it raises general questions about substances, the relation the properties in non-substance categories have to substances, Aristotle's views on essence, and views on definition.

Before attempting to address the above issue, let me try and bring out the significance of the question in relation to understanding Aristotle's philosophy of action. In the Introduction we met Davidson's suggestion that we need to take events seriously in order to make sense of sentences like 'John broke the window'. Such sentences are true in virtue of referring to or describing one (or more) events. Davidson thinks of events as "concrete individuals", and these events are ontologically on par with substances (like John and the window). What I want to consider here is whether something similar to this is true for Aristotle. Does he think that sentences about actions and other happenings are true in virtue of referring (or requiring an implicit reference) to an entity that exists just like substances exist?

The first thing to note is that I think it is undeniable that Aristotle thinks of actions and changes as particulars (*kat' hekasta*).[86] Indeed, I argued that *energeiai* (and *dunameis*) are properties of things, properties in virtue of which it is true to say that

[86] For an overview of different uses of 'particular' with references, see e.g., Irwin & Fine 1995, 602.

something is in activity (*energoun*). This suggests that activities are the particular entities in virtue of which it is true to say of someone or something that it is active (or that it has the capacity to act in a certain way).[87] However, even if one accepts that Aristotle's actions are particulars, and that they are properties in virtue of which it is true to predicate something being an agent or patient, this on its own does not force one to accept that the particulars in question are *concrete individuals* like Davidson took his events to be. What is needed is clarity over what kind of existence Aristotle thought properties have. In the remainder of this chapter, I will spell out two different ways of answering this question.[88] Depending on one's take on this issue, one's interpretation of Aristotle on action will differ.

With this overview in place, I now turn the question regarding what sort of existence *energeiai* (and *dunameis*) have. Aristotle himself raises a question regarding what kind of existence or being things like walking and being healthy are in *Metaphysics* VII.1:

> someone might indeed be puzzled about whether walking and being healthy and sitting are each of them being (*on*) or not a being, and similarly too in the case of any other thing of this sort. For none of these is either by its nature intrinsically a being or capable of being separated from substance (*ousias*) but, if anything, it is the walking thing that is a being, and the sitting thing, and the one being healthy. These things are evidently beings to a higher degree, because there is some definite underlying subject (*hupokeimenon*) for them (and this is the substance (*hê ousia*) and the particular (*to kath' hekaston*)), which is just what is made apparent in this sort of predication (*katêgoriai*). For good and sitting are not so said without this. It is clear, then, that it is because of this that each of these other things *is*

[87] Charles 2018 seems to make this kind of move in suggesting that Davidson's events are Aristotle's particular processes (and activities).

[88] The issues raised here are complex and their resolution goes well beyond the scope of this thesis. I hope to explore these issues in more detail in the future.

> (*estin*) as well, so that what primarily is—not is something [else] but is unconditionally—will be substance.[89]

On an initial reading of the above passage, it seems clear that Aristotle thinks that activities are a kind of dependent entity. Only substances are independent entities; they are in some sense primary to other categories of being. As Beere notes:

> [...] substances are ontologically basic. Substances are what things are. For instance, a human being is what Socrates is. In specifying a substance, one specifies the answer to a what-is-it question about something. In specifying the answers to other questions, such as how-much, one specifies not substances, but properties that substances have. According to Aristotle, these other properties, such as qualities and quantities, depend on the substances that they are the properties of. Since they depend on substances, they are not ontologically basic, and hence are not themselves substances.[90]

Assuming this applies to *energeiai* generally,[91] then activities only exist when a substance is engaged in doing something. On such a view being actively engaged and merely having but not using a capacity to do something *are two ways of being*, or *two ways of predicating being*.[92] Both potential and active existence are ways of existing. While we can speak of actions independently of any claims about agents and patients, such talk is some kind of *abstraction*. Our understanding of actions is derived from agents and patients who are actively engaged in doing things. When we speak of actions, we are implicitly speaking of someone engaged in doing something or undergoing something. If some person, P, is doing A and we say 'P is A:ing' we are describing P as an agent, as doing A. Even if we

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[89] *Metaphysics* VII.1 1028a20-31 (tr. Reeve)

[90] Beere 2009, 267.

[91] As I think is plausible given that Aristotle introduces 'walking' as one of his examples.

[92] Being in activity and being in capacity are thus modal notions, predicated of substances. On *energeia* and *dunamis* as modal notions, see Makin 2012.

can ask questions about A—did it go quickly? Was it successful?—this does not make A an independent entity. We can speak of actions in abstraction, but any particular action always involves an agent because activity-descriptions are descriptions of substances of doing or undergoing something. Saying 'P is A:ing' does not contain two individuals—A and P—that could come apart because A isn't really a being in its own right; it is merely a way of describing P. I will call this interpretation 'Interpretation A'. It accepts that there are particulars and particular properties and suggests that while language makes use of such particulars in different ways, we should not think of them as concrete individuals, but rather as dependent entities. Moreover, the truth of sentences about agents and patients does not rest on language having a one-to-one referential relation to the world, where actions and affections are distinct individual entities referred to in addition to the agents and patient that act and are affected.[93]

However, there is a different way of understanding the claim about substances being ontologically basic and how non-basic entities—activities like sitting and walking—are kinds of being and how they are predicated of substances. In the above *Metaphysics* VII.1 quote Aristotle does not explicitly deny that non-substance entities have being. He simply says that substances have being "to a higher degree". In line with this one can suggest that substances have a primary form of being or existence, and non-substance entities a secondary or lesser kind. The question then becomes if this secondary kind of existence is sufficiently similar to make Aristotelian particulars like Davidson's concrete individuals.

[93] Here more work into Aristotle's views on language, its relation to the world, and truth is obviously required.

According to this other view—call it 'Interpretation B'—while activities are not the same kind of entities substances are, they should be counted as distinctly existing things—entities in their own right—even if they happen to only exist when some substance is engaged in doing them. On this latter view, dependence on substance is nothing remarkable. In a sense everything depends on substances. But since this is common to all non-substance entities, there will be other features that set each kind of non-substance entity apart from each other. Indeed, perhaps they have distinct essences of some kind, essences which explain the features that they have and in terms of which they can defined and understood, independently of one another. On this view sentences like 'P is A:ing' can be understood as referring to two distinct things: P and their A:ing—rather than as a way of describing P.

I assume that being an essence-possessor would give grounds for thinking that entities in non-substance categories are something like Davidson's "concrete individuals". This is because of the connections between essence, identity, and definition. An essence makes its possessor into the thing it is, or a member of the kind that shares the essence. Moreover, things or kinds can be defined in terms of the essences, and two things with different essences must be distinct entities or kinds.

This raises a major question about how non-substance entities are dependent on substances. I cannot hope to resolve this issue here, but let me present two different ways of thinking about this issue. Aristotle goes on, in *Metaphysics* VII, to investigate being in terms of the essence (*to ti en einai*) and asks if essence belongs only to substances, or if entities in non-substance categories can also be essence-possessors.[94]

[94] Cf. *Metaphysics* VII.4 1029b22-25.

Aristotle's answer proves to be elusive. On one reading—call it the "restricted thesis" (to borrow Peramatzis' labels) his answer is that only primary entities, i.e. substances, have essences, and thus only primary entities have definitions made in terms of essences.[95] So understood, non-substance categories may have some kind of definitions or accounts, but their definitions will be somehow of a lesser kind or weaker than essence-citing definitions. If the "restricted thesis" is correct, then only substances have essences, and non-substance particulars like actions will not be like Davidson's "concrete individuals".

However, as Peramatzis notes, Aristotle does not clearly endorse the restricted thesis, and also advances a more "liberal thesis" according to which substances have essences (and essential definitions) in a primary or unqualified way, while non-substance categories have essences (and essential definitions) in some secondary or qualified way.[96]

I take it that in order for one to advance a reading according to which Aristotle's particulars are like Davidson's individual events one has to adopt something like the "liberal thesis". It allows one to suggest that entities in non-substance categories can be essence-possessors, and that their identity is given by their essences. On this view, it is in virtue of being an essence-possessor that these entities are individuals (to which language refers). This would do some work toward developing a reading of Aristotle that sees him as adopting the same kind of referential picture of language that Davidson promoted, and which he took forced us to accept events into our ontology.

There is, however, one issue worth raising regarding the "liberal thesis". As Peramatzis notes *Metaphysics* VII.4 "seems inconclusive or even indifferent" as to which

[95] Cf. Peramatzis 2010, 171.

[96] Cf. *Ibid*.

of the two thesis is correct.[97] Moreover, it seems as if there is an alternative to the "restricted" and "liberal thesis", one that does not lend itself to Interpretation B (but is consistent with Interpretation A).

Call this option "restricted liberalism". According to this view non-substance categories have essences only in virtue of the non-substance category being predicated of substances. This view accepts—with the "restricted thesis"—that only primary entities like substances have essences. However, it rejects the "restricted thesis" strict requirement that only primaries have essence-involving definitions. Those non-substance properties that are predicated of substances will (presumably) have a reference to a substance as a part of their definition. Hence the essence will be 'imported' into the definition of the non-substance category.[98] This view would commit Aristotle to thinking there are two different kinds of essence-involving definitions, corresponding to two different senses of being an essence-possessor: definitions of substances made in terms of the substance's own essence (the primary kind), and definitions of non-substance entities that only imports the essence of substance into the definitions (a secondary way of 'having' an essence).

If "restricted liberalism" is true, then although non-substance categories have essence involving definitions, these will not be sufficiently independent from substances that would lend itself to Interpretation B. This is because the essences are not the essences of the non-substance categories themselves, which I think would be required in order for one to think of properties like *energeiai* as Davidson's "concrete individuals".

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[97] Cf. *ibid*., 172.

[98] It is imported because one can swap a name and its definition without altering the meaning. For instance, 'All humans are mortal' is equivalent to 'All rational animals are mortal' (on the assumption that 'human' is defined as 'rational animal').

I think Interpretation A is a preferrable reading of Aristotle's metaphysics. That said, 'Interpretation B' (understood along the lines of the "liberal thesis") remains a (faint) possibility.[99] It requires thinking of actions and changes as things that possess essences, a view Aristotle never clearly endorses.

A further complication is that Aristotle thinks activities are prior in being and form. In fact, Aristotle thinks that "it is evident that the substance and the form are activity."[100] If this is right then it suggests that activities are not themselves essence-possessors but, rather, are essences. As the context makes clear, what activities are the being and form of, are things like 'man', 'animal', 'what can see', 'what can be built'—different kinds of subjects some of which are substances, others which are picked out by descriptions in terms of their powers.[101]

Thinking of activities as essences of such entities is in line with Interpretation A. It will of course matter what one thinks Aristotelian essences are. I think one of the most promising ways of thinking about essence in Aristotle in terms of a kind of *per se* predication.[102] The relevant kind of *per se* predication here is one where some property that is predicated of a subject is not different from it.[103] So understood, essences are those properties that belong *per se* to the subject, and which are non-different from the subject.

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[99] Note that I take it that the liberal thesis could support either Interpretation A or B. However, B—as I've set it up—requires something like the liberal thesis to hold, for otherwise it will lose the grounds for holding that actions are distinct individuals with their own essences that are referred to or which make true sentences that describe agency, patiency, and change.

[100] *Metaphysics* IX.8 1050b2-3.

[101] Cf. 1050a24-b4.

[102] For a convincing argument for this interpretation, see Peramatzis 2010. I agree with him on thinking about essence in terms of predication, but am less convinced that the "restrictive" and "liberal" theses are the only two options for understanding Aristotle's claims in *Metaphysics* VII.4.

[103] See *APo* I.4 73b5-10.

Some examples may be instructive. In *Metaphysics* IX.8 Aristotle uses as his examples seeing and housebuilding in his argument that builds up to the conclusion that *energeia* is being (*ousia*) and form (*eidei*). *Seeing* is an activity that is a non-different and a *per se* property of *a seer*; *being built* is an activity that is non-different and a *per se* property of *building materials*; *building* is an activity that is non-different and a per se property of *a builder*. Indeed, the activities can be understood as the essential properties of their subjects.

Note that it is relevant how a subject of predication is described. Take the builder. We can describe and refer to the builder in all kinds of way: via proper names like 'Fred', titles or descriptions like 'Uppsala's Permanent Visiting Professor', and so on. There is no intrinsic connection between subject and predicate in sentences like 'Fred built himself a bookshelf' or 'the Visiting Professor is building'. Here the connection is accidental. Being accidental doesn't, however, imply falsity in any sense.

I think this shows that Aristotle is sensitive to how we describe and pick out subjects of predication, and the predicates we apply to them. If it is right to think of Aristotle's essences along these lines, then it is in-line with Interpretation A for in ascribing essential properties to their subjects, how we describe the subject will matter a great deal. Essential predication will not be a matter of predicating some distinct entity to the subject, but rather a way of describing something; something that can be described in different yet true ways.

I hope this section has highlighted some aspects that suggest Aristotle's views on language might be quite different from Davidson's. The latter begins with an assumption about the connection between language and the world; where Aristotle focuses on differences between accidental and *per se* connections between subjects and the

properties that are predicated of them. Proponents of Interpretation B must offer a reading of Aristotle's essentialism and philosophy of language which makes clear why one would need to accept that Aristotle's particular actions are like the concrete individuals of Davidson's events-based ontology. While Interpretation B is a possible line of development, I see no reason to prefer it over Interpretation A, and I will try and show in the following chapters that Interpretation A is preferrable.

§4. Interim Conclusions

Aristotle does have a unified way of marking out a difference between agency and patiency: as involving the exercises of active and passive capacities (or natures). Activities and capacities are properties of things. They dispose their possessor to act or to change something in a certain respect, or to be affected or changed by something, in a certain respect. Agents are entities with what we might call active capacities—capacities that cause change—while patients are entities with might called passive capacities—capacities to be changed or affected.

Capacities—but not natures—are co-relative. They are defined in terms of another capacity. Active capacities are defined in terms of a corelative passive capacity, and passive capacities, in turn, are defined in terms of a corelative active capacity. However, this is not merely a point about definition. In cases of non-natural agency (and patiency), if something is an agent, then there is a co-relative patient upon which the agent is acting, has acted, or could act upon. This is a conceptual point. For Aristotle, the *concept* of agency and active capacities *entails* there being co-relative patients with passive capacities.

In contrast to these, natures are the essences of their possessor. As an internal source of change in the thing itself, nature does not act on something "other". Some natures are passive in that they require an external agent to bring the nature from a state of potential existence into actual or active existence. Other natures—like the natures of self-movers—are able to go from a state of potential being to active being itself. Natural agency, so understood, implies that an entity is able to act on its own, or to be acted on.

Although exercises of capacities are some kinds of particular properties, this on its own does not force us to think of them as similar to Davidson's events. Depending on our understanding of Aristotle's philosophy of language and essentialism, our understanding on Aristotle's philosophy of action and views on causation will differ.

II. Aristotle's Causal Model

Aristotle's causal model takes agents affecting patients as its starting point: causal transactions are to be understood in terms of an agent acting on a patient. In order to understand this model we will want to know what conditions are generally required for an agent to act on a patient. Chapter 1 sought to lay out *dunamis* and *energeia* as basic concepts required for understanding Aristotle's philosophy of action. Given the distinction between potentially doing something and being actively engaged in doing it, we will want to know what conditions must obtain in order for something—whether an agent or patient—to actually engage in their activity. Hence, we will want to know how a capacity passes or transitions into activity. The aim of this chapter is to shed some light on the issues surrounding this question. Specifically, we will want to know what conditions are required for an agent to exercise its capacity to cause a change in or to affect the patient, and what conditions are required for a patient's capacity to be acted upon by an agent.[1]

This question is complicated by the different kinds of capacities Aristotle distinguishes. Corresponding to different kinds of capacities there are different kinds of agency (and patiency). One axis along which Aristotle differentiates between them is this: some are one-way capacities, others are two-way capacities. I begin (in §1) with a brief overview of their differences, and then proceed (in §2) to discuss how each is exercised. As will become clear, Aristotle thinks that in the case of two-way capacities there must be something beyond the agent and patient that determines how two-way powers are exercised—this something turns out to be desire (*orexis*). What is unclear, however, is

[1] The relation between the agent's *acting* and the *affection* or *change* the patient undergoes will be explored in Chapter 3.

why desire is singled out since Aristotle requires that the agent and patient are in the right relation to each other in order for the agent to act on the patient. That is: why doesn't Aristotle simply claim that desire is a part of the specification of the 'right relation' that must obtain? Following this I discuss the conditions required for an agent to act on a patient and for a patient to be acted upon by a patient (§3).

I then turn to a further complication (in §4): in addition to distinguishing between the agent's and patient's capacities, and between one- and two-way capacities, Aristotle also marks out two different ways of passing from potentiality into activity. In one case an external agent acts on what is potentially F so as to make it actually F, as, for example, in perception. The other kind of transition is like knowing: in such cases it is simply "up to" (*ep' hemin*) the agent to exercise their *dunamis*.[2] This sets up two basic kinds of causal transitions relevant to Aristotle's philosophy of action: certain kinds of entities are able to pass from inactivity into activity *on their own*, while other entities require the presence of an outside agent that acts upon a patient so as to affect it. Common to both kinds of causal transition is that the cause of the transition is some kind of substance which acts in virtue of possessing a form or property which the patient lacks. So understood, Aristotle's causal model is a substance- or agent-causal model. In §5 I defend this conception against a possible line of interpretation that seeks to understand Aristotle's causal model in terms of a "mental cause".

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[2] Aristotle makes use of this distinction in his discussion on perception in *DA* II.5, where his main aim is to make a further distinction, namely, that certain transitions are a change, whereas others are not. Water becoming hot because it is acted upon by the sun or fire is an example of a transition that is a change and is caused by an external agent. Perception is an example of a non-change transition that is caused by an external agent and thus not up to us, while thinking an example of a non-change transition that is up to us. Understanding the difference between non-change and change involving transitions, and between sc. "first and second potentiality" and "first and second actuality", has received a lot of scholarly attention. However, since these discussions are not central for my present purposes, I will not comment on them here.

§1. One- and Two-way Capacities

In *Metaphysics* IX.2 Aristotle distinguishes between rational and non-rational capacities.[3] Rational capacities include crafts (*technê*), like the doctor's medical skill. Non-rational ones are capacities like the fire's ability to heat. Their difference is that non-rational capacities are one-way powers: they are productive of only one (*mia*) thing or effect. By contrast, rational powers are two-way powers. They are, in Aristotle's words, capacities for "opposites" (*tôn enantiôn*). Fire's ability to heat something is just that: a capacity to heat something that can be heated, and either this ability is active or not. Two-way capacities like the medical craft are directed at two opposite results: health (*hugieias*) and disease (*nosou*).[4]

Note that Aristotle does not seem to provide any justification for the claim that there are one- and two-way capacities to begin with. Why does Aristotle not think that a doctor has two different skills: one an ability to heal the other an ability to produce disease? Presumably, he thinks it is necessary to allow for the apparent fact that certain skills can be exercised in different ways, or toward different goals, in a way that abilities like the fire's ability to heat cannot be.

Initially Aristotle's example of the doctor's medical skill suggests the notion of opposites should be understood in terms of the capacity being for the sake of two determinate end results—disease and health. However, I believe it would be a mistake to take this to be his considered view.

[3] Cf. *Metaphysics* IX.2 1046a36-b2.

[4] Cf. *Metaphysics* 1046b4-7.

§1.1. In What Way are Two-way Capacities for "Opposites"?

Having introduced the difference between one- and two-way capacities, Aristotle introduces some remarks as to how this claim is to be understood:

> The explanation of this is that knowledge is an account, and the same account clarifies both the thing and the privation, though not in the same way, and in one way it concerns both, while in another way it concerns rather the positive. So it is also necessary that such sciences should be of opposites, but concerning the one *per se* while concerning the other not *per se*. For indeed the account concerns one opposite *per se*, but concerns the other opposite in a way incidentally: for it is through denial and negation that it clarifies the opposite—for the primary privation is the opposite, and this is the negation of the other.[5]

As I understand it, Aristotle thinks two-way capacities should be understood in terms of one primary, positive, case and its negation or privation (*steresis*). What the doctor's skill primarily *is*, is a skill to heal. In order to be able to heal the doctor must understand diseases and various kinds of infirmity, but the doctor's skill does not properly concern diseases, but rather the curing of them. Understanding the features of a disease may be a vital feature of being able to cure it, but that need not mean the doctor's skill is primarily of the disease. By contrast, a microbiologist's skill might involve an understanding of diseases in a way the doctor's skill is only *incidentally* of them.

For two-way capacities, one case is taken as the privileged standard against which non-standard exercises of it can be understood. It would not be correct to think of the positive case—e.g., healing—as a privation of the negative—e.g. harming. That is to say: healing is not the doctors failing to harm.[6]

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[5] *Metaphysics* IX.2 1046b7-15.

[6] Cf. Beere 2009, 82-85.

An attractive suggestion is to think Aristotle is drawing a contrast here between a determinate positive case and an indeterminate negative.[7] For instance: medical professionals understand what it is to be healthy and by taking this understanding as the standard against which deviations can be contrasted illuminates the many different ways in which someone might lack health. Some caution is warranted though: Aristotle does not mean to claim that the account which constitutes medical knowledge covers being healthy and every privation of health, since there are many things that lack health. As Aristotle goes on to note in IX.7 not everything is capable of being healed.[8] It may be a matter of debate what counts as things that can be healed, but this give us some indication of what those entities are. For instance, if being healthy involves some kind of psychosomatic constitution then this rules out things like numbers or corpses from the domain of medical knowledge in so far as they lack a body entirely or the body of a right kind (one that could be healthy).[9]

Since there are (at least) two kinds of capacities we should expect there to be differences in how they are exercised. Crucially we will want to know how a two-way capacity is exercised: what determines which end the power is directed at?

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[7] For this kind of proposal, see Makin 2006, 55-56. I agree with his observations that Aristotle generally privileges success-cases over failures.

[8] Cf. IX.7 1048b37-1049a5. In general, the privation of F is not the same as not being F, but rather, privation is to be understood as being the kind of thing that ordinarily is or has F, but which for the moment or for some reason lacks F; cf. *Metaphysics* V.22.

[9] In *GC* I.7 323b31-33 Aristotle notes that agent and patient must be alike in kind or genus (*genos*). Presumably, even if numbers lack health, they are not the same in kind ('entities that have or lack health') in the relevant way that a living body has or lacks health.

§1.2. A Lacuna

Before proceeding to discuss the differences between how different kinds of capacities are exercised it is worth pointing out a lacuna with Aristotle's treatment of capacities in *Metaphysics* IX, which makes it difficult to know what general points can safely be extracted of his treatment of capacities there.

First, in discussing one- and two-way capacities Aristotle focuses on the active powers of agents: on the fire's ability to heat and the doctor's ability to be healed. As I argued in Chapter 1, these are co-relative capacities: capacities that have a related passive capacity in the patient. But does Aristotle think the patients' capacities also fall into one-way and two-way kinds? Aristotle does not us give a clear answer, but I will assume that this is the case.

Moreover, Aristotle proceeds in IX.2 and IX.5 as if all capacities are either inanimate and non-rational (like the power of fire to heat) or belonging to living beings and rational (like the doctor's medical ability or the housebuilder's ability to build houses).[10] However, there are clearly many capacities which lie outside this simple division. Importantly: all the non-rational capacities of living beings, like the ability to perceive, to eat, to move, and so on. Indeed, some animals exhibit craft-like skills like the ant's ability to build anthills, spiders to weave webs, and birds to build nests. Aristotle does not think these are rational abilities but are, rather, due to the (non-rational) nature of the animal.[11]

Indeed, it isn't clear if all (and only) rational capacities are two-way capacities, or if there are non-rational two-way abilities, and one-way rational abilities. That is: does

[10] Cf. Beere 2009, 146-7.

[11] Cf. *Physics* II.8 199a20-30. Of course, Aristotle might want to exclude these abilities from *Metaphysics* IX since they are presumably exercises of a thing's nature, and natures are not capacities.

Aristotle offer a twofold classification where all inanimate capacities are one-way, non-rational, capacities, distinct from the capacities of living beings that are rational and two-way, or does he offer a fourfold classification where the inanimate/animate distinction cuts across the one-way/two-way distinction? I prefer this latter option.[12] So understood, Aristotle is not ruling out the existence of one-way rational capacities or two-way non-rational ones. Rather, he is focusing on the case of fire as his preferred example of a one-way power and skills as a two-way power for his purposes in *Metaphysics* IX, leaving open the option of making further determinations about capacities elsewhere. For instance, a plausible candidate for a two-way, non-rational, capacity is an animal's ability to move itself, since Aristotle thinks it is vital that for any genuine self-moving entity that it be capable of moving itself and of stopping itself.[13]

This issue is significant when we turn to discuss how capacities are exercised. As we will see, Aristotle makes a distinction between how one- and two-way capacities are exercised in that the latter requires the presence of desire to determine the way in which the capacity gets exercised, but he does not tell us how he understands the functioning of the capacity for desire.

§2. The Exercise of Capacities

Aristotle discusses how both one-way and two-way capacities are exercised in *Metaphysics* IX.5. His focus seems to be on active capacities: the agent's ability to cause change in the patient. Here he tries to (roughly) determine the conditions under which an

[12] One reason is that the two-fold classification leaves out all cognitive abilities which Aristotle clearly treats as capacities of the soul in *DA*.

[13] Cf. *Physics* VIII.4 255a6-9.

agent is capable of acting on a patient. In developing his answers, he sheds some further light on the differences between one- and two-way capacities.

> [A] Since what is capable is capable of something and at some time and in some way and with however many other factors it is necessary to add to the specification, and some things can produce changes in accordance with reason and their capacities are rational ones, while other things are non-rational and their capacities are non-rational ones, and the former must be in what has a soul while the latter are in both, [B] with the latter it is necessary, whenever agent and patient approach each other so as to be capable, that the one act and the other be affected; but with the former this is not necessary. [C] For all these latter are productive of one thing, and those former are productive of opposites, so that they would produce opposites at the same time; but this is impossible. [D] Then there must be something else which is decisive: I mean by this desire or choice. For whichever it desires decisively, in this way it will act when it is in the condition to be capable, and approaches the patient. [E] And so it is necessary that everything which is capable in accordance with reason, whenever it desires that for which it has the capacity, and in the manner wherein it has the capacity, should act in this way. [F] And it [i.e. the agent] has [the capacity] when the patient is present and has [its capacity] in this way; and if not, it will not be capable of acting. [G] For it is not necessary to specify in addition that nothing external prevent it; for it has the capacity in so far as it is a capacity for acting, and that is not in any and every condition, but just in some circumstances, in which external things preventing will be ruled out as well; for these are set aside by some of the things present in the specification of the capacity.[14]

The structure of the argument is as follows:

> [A] Since there are one-way and two-way capacities to act in appropriately specified (*diorismô*) ways,

[14] *Metaphysics* IX.5 1047b35-1048a21, lettering added. Following Ross, Beere, and Reeve I omit the bracketed *poiein* at 1048a16 (in [F]). Reeve notes that if retained the sentence can be read "it has the capacity to act [in that way] when the thing affected is present and in the relevant condition" which does not alter the meaning for my purposes (cf. Reeve 2016, 463n976).

[B] for one-way capacities it is necessary (*anangkê*) that whenever an agent (with a one-way capacity) is in the right relation to a patient (with the co-relative capacity) that the agent acts and the patient is affected; but this is not necessary for two-way capacities.

[C] [B] holds because one-way capacities are productive of one result, whereas two-way capacities are productive of opposite results. If all that was required for two-way capacities was the presence of agent and patient in the right relation, then the agent and patient would produce the opposite results at the same time, which is impossible.

[D] Hence, necessarily, something else is decisive (*to kurion*). This is desire (*orexis*).[15] When an agent with a two-way power is able and in the right relation to the patient it will act (*poiêsei*) in the way that it desires decisively (*oregêtai kuriôs*).

[E] Therefore (*hôste*), for everything that has a two-way capacity it is necessary that it acts in the way it desires to use the capacity.[16]

[F] An agent with a two-way capacity will only be able to act if the patient is present and has its co-relative capacity in the appropriate way.[17]

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[15] In what follows I will only focus on desire, but take my claims to apply to both desire and choice or decision (*prohairesis*). In EN III. 1113a9-12 Aristotle notes that *prohairesis* is a kind of "deliberative desire" (*bouleutikê orexis*; cf. VI.2 1139a23).

[16] I take it that by the "manner in which agent has the capacity" (*hôs echei*) mentioned in [E] Aristotle is referring to his discussion at the end of IX.2 1046b 24-28 (and elsewhere) that one can have a capacity to F well and a bare capacity to F. Indeed, as Aristotle remarks at the start of IX.5 some capacities require training to master. A trainee doctor will exercise their skill in the way and to the extent that they have learned it, whereas the experienced doctor will do so differently.

[17] I defend this reading in section §3.1 below.

> [G] It is not necessary to add that nothing prevent the agent from acting, since the appropriate specification of the capacity will rule out external preventing conditions (cf. [A]).

This argument raises several questions, some of which Aristotle elucidates further in *Metaphysics* IX, and some which he discusses elsewhere. I will focus on the following:

> [Question 1] What are the right conditions that need to obtain between the agent and patient such that, necessarily, the agent acts on the patient?
>
> [Question 2] Why is desire singled out from other conditions which must obtain (in order for an agent with a two-way capacity act on a patient)?
>
> [Question 3] What conditions must obtain for an agent to have a capacity to act?
>
> [Question 4] What conditions must obtain for a patient to have a capacity to be acted upon?

These questions are interrelated. For instance, part of the right conditions required for the agent to act on a patient is that both the agent and patient have their capacities in the appropriate way—hence [Question 1] cannot be answered without considering [Question 3] and [Question 4]. However, as we will see, Aristotle's answers to these questions prove elusive.

§2.1. Question 1: The "Right Relation"?

In the above argument Aristotle seems to be providing us with the sufficient conditions for causation to occur. However, he does not spell out what those conditions are. Indeed, how are we to understand the claim in [B] that the agent and patient of one-way powers must "approach each other so as to be capable" (*hôs dunantai plēsiazōsi*)? That is: what is the right relation that must obtain between the two in order for one to act and the other to be affected?

First, I think we should not read the above argument as a strong claim about the necessitating nature of causation.[18] Rather it is a conceptual point: what it is to act or to be an agent is defined and understood as affecting a patient (and *vice versa*). Indeed, as Aristotle's remark makes clear, merely the *presence* of an agent and patient is *not* sufficient for causal transaction to occur since both need to be appropriately related to each other for one to act and the other to be affected.

Aristotle does not provide full answers to what the right relation between agent and patient must be, at least not in *Metaphysics* IX. He does provide some further relevant remarks in *GC* I.6 (and in *Physics* III.2): the agent and patient must be in contact (*haphê*) or touch (*thixei*) each other.[19] However, this hardly resolves the matter, as Aristotle notes that the relevant kind of contact between agent and patient need not be physical (and hence reciprocal). Physical contact—like the contact between two bodies—provides an *initial* case for understanding the contact between agent and patient, but Aristotle expands on this basic case to include non-reciprocal kinds of touching. The contact between agent

[18] Here I agree with Beere 2009, 150.

[19] Cf. *CG* I.6 322b21ff., *Physics* III.2 202a5-9.

and patient involved simply turns out to mean that the agent and patient must be so related that the one can act upon the other, and hence this does not resolve the issue.[20]

Aristotle cautiously develops his views in *GC* I.7. He notes that in order for the agent to act on the patient, the agent and patient are in a certain way alike, while unlike in another respect. I will not dwell on this at length. Makin convincingly argues that this "causal resemblance principle" is "a general account of causal interactings" according to which "if A stands in a causal relation to B then there is some φ such that it is A's being φ that causes B to be φ."[21] The resemblance principle tells us something about what goes on in causation: the patient comes to be like the agent (in some respect).

In order for the agent and patient to enter into a causal relation they must be the same in genus or kind (*genos*).[22] In this sense the causal resemblance principle is a principle about the limits of what entities can enter into a causal relation with one another. Only those entities that are in some sense similar or resemble each other are such that they can interact. This requires specifying what conditions must obtain for an agent and patient to have the co-relative capacities according to which they resemble each other (cf. [Question 3] and [Question 4] above).

Neither the resemblance principle nor the contact requirement give us sufficient independent material to spell out the necessary and sufficient conditions required for a causal transaction to occur. My own suggestion is that Aristotle does *not* seek to give detailed necessary and sufficient conditions for the kind of contact or relation that is needed for causation to occur. Perhaps Aristotle thought the causal transaction between

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[20] Cf. *GC* I.6 323a20-34. Aristotle illustrates this non-reciprocal form of contact with an example of how someone's grief may "touch" us (*haptesthai*) without us touching the griever.

[21] Makin 1991, 140.

[22] Cf. *GC* I.7 323b30-324a8.

agent and patient is basic and cannot be fully reductively treated in further basic terms, or that he could not say anything about it on the general level he is operating on. In either case he was content to specify some general conditions e.g., that there must be some kind of contact, and likeness between the agent and patient. Indeed, given the broad range of capacities there are, and thus the broad range of kinds of agents and patients and causal transactions, maybe there is not much in common that can be said about these cases, beyond highly general remarks that the right relation has to obtain. If so, it will be up to the specialists to tell us what kind of contact is required between the kinds of agent-patient pairs that fall within their domain of study, and the conditions under which something has its relevant power to act or to be affected.

So understood, our answer to [Question 1] is that Aristotle is content with spelling out some general requirements for causation to occur. He does not seek to spell out these conditions in detail, as his arguments remain at a general level. Part of the answer to when an agent and patient are able in their respective way requires specifying the conditions under which they have their capacities; i.e., answering [Question 3] and [Question 4] above. However, the necessity of the agent's acting and the patient's being affected when these are in the right relation is conceptual. What it is to be an agent is to cause a change in a patient, and conversely, what it is to be a patient is to be causally affected by an agent.

§2.2. The Relevance of Desire

I now turn to [Question 2] and the relevance of desire for the exercise of two-way capacities. There are two ways one can understand the relevance of desire in the above argument. One way is to read the above passage as excluding desire from the general conditions required in the specification of a capacity (mentioned at the start of [A]).

Alternatively, one might think that Aristotle is not excluding desire from the conditions required but is rather emphasizing that desire is one of the conditions that will have to be included in the specification of the capacity (mentioned in [A]) when dealing with rational two-way capacities.

For reasons raised by Jonathan Beere I do not think this latter alternative is plausible. As he points out, Aristotle's aim here is to say something about circumstances in which one can exercise a two-way capacity. Desire is external to these circumstances. Thus, one might say—borrowing Beere's examples—"I cannot navigate the straits *in this weather*", but when the relevant desire is absent we do not say "I cannot navigate the straits, so long as I don't want to" but rather "I can navigate the straits, but I don't want to." Moreover, desire seems to play the same controlling or determining role for all two-way rational capacities, whereas the circumstances are not independent of the specification of the capacity.[23]

One- and two-way capacities are different from each other in the following way. When we say that fire has the ability to heat something, we are ascribing a one-way power to fire: that capacity is the ability to heat, and nothing else. The attribution of that capacity conceptually entails that there is something which gets heated by the fire. But this does not hold directly for two-way powers since they are productive of different results, and not merely one result. Even if in the case of medical knowledge one result—healing—is the standard or ordinary end-result towards which the skill is applied, the nature of a two-way capacity is such that it is reasonable to expect a further factor which explains the way in which that skill is exercised: toward healing, or palliative care, or perhaps even toward harming. Desire seems like a natural candidate to fulfill this kind of role because it is

[23] For these points see Beere 2009, 150.

external to the factors determining what the capacity in question is, and because the function of desire is arguably precisely to determine what ends someone desires and pursues.[24]

That said, the difference between the exercise of one- and two-way capacities is not great. In both cases it will be true that the appropriate conditions obtaining, necessarily the agent acts in a certain way. When it comes to two-way, rational, capacities the way in which the capacity is exercised is determined by how the agent desires to use it.[25] In both cases the conditions are that the agent must have the appropriate capacity, and moreover, be in the right relation to the patient, which also must have the co-relative capacity to be acted upon by the agent.

§3. When is Something Potentially F?

The above discussions assume that when an agent and patient are in the right relation, one will act upon the other. This involves predicating a capacity of a subject, and—if correctly attributed—one implies that in certain circumstances that capacity gets exercised. But when does an agent or patient have their capacities? In the previous chapter I noted the difficulties with individuating capacities and specifying their identity conditions, and suggested that these issues are substantive questions which cannot be solved through prior philosophical thought alone.[26] I begin by considering [Question 3] and the conditions that

[24] Aristotle does not here spell out how desire determines the way in which a two-way capacity is exercised. I will examine desire further in Chapter 4 and 5.

[25] This does not deny that desiring in a determinate way is an exercise of the capacity to desire, it simply leaves open the question how desire operates. This relies on my earlier suggestion that Aristotle's treatment of powers in *Metaphysics* IX is not complete, but is open for further refinement elsewhere.

[26] Rather it is an issue that needs to be solved on a case-by-case basis, by a specialist.

must obtain for an agent to have their capacity, and then turn to the patient's capacity ([Question 4]).

§3.1. When is Something an Agent?

Under what conditions is something an agent, i.e., when does something have a capacity to act on a patient? Aristotle, surprisingly, does not give us a clear answer to this question. All he seems to tell us—in [A] and [G]—is that when the capacity has been appropriately specified, then the agent has that capacity.

This might tempt us to read [F] as a claim that an agent with a two-way rational power has said capacity only when in the presence of a patient. However, as Makin points out, this is would be a strange remark.[27] It is false to think that someone is a builder—i.e., has the capacity to build—only when they are in the presence of building materials. The claim is thus better read as saying something about the conditions under which an agent can exercise their capacity, rather than the conditions under which an agent has the capacity in question.[28]

To say that something has the active capacity to cause a change in something—turning something into F—implies that given the right circumstances the agent acts in a certain respect—it makes something F. It is of course a substantial question what those conditions are under which an agent will be able to act, but to say that something has a capacity to act tells us that the thing in question is an agent. To require that it only has its

[27] For a discussion, see Makin 2006, 112-115.

[28] So understood [F] and [G] provide some further remarks for clarifying Question 1, but are less helpful for clarifying Question 3.

capacity if the patient is present does not make sense as it robs the entity of its status as an agent.

By contrast, to take the claim as a requirement on what must be true for something to be able to exercise their potential makes more sense. It gives us a minimal requirement: a putative agent can only act if the co-relative patient is present and has its co-relative capacity in the appropriate way. This is the point made in [F]. I take it that Aristotle is focusing on the patient's capacity and take the *hôdi* as specifying the way in which the patient must have its co-relative capacity. It is a minimal requirement for the agent being able to act: not only must the patient be present but the patient must also be in the right condition such that the agent can act on it. So understood, this would be a forward-looking reference to the discussion in IX.7 which discusses the conditions under which patient has a capacity to be affected in a certain respect.[29]

Aristotle goes on in [G] to suggest that specifying external preventing conditions are unnecessary when it comes to specifying agency. As Makin remarks, it is unclear what Aristotle means by this, and why he should think it plausible.[30] However, we can at least see one reason why it should seem a plausible claim to make: to specify an active capacity to an entity is not to specify an unrestrained capacity for acting, but rather, is a determinate capacity to do something, in certain conditions or way. As Beere points out, "Aristotle has already indicated […] that the conditions under which a power operates are

[29] Alternatively, one could take the *hôdi* as picking up the point made in [D] and [E], that the way in which the agent desires, that way will it act, when in the right relation to the patient. But this makes [F] seem redundant as Aristotle has already said in [D] and [E] that the agent of a two-way rational capacity must be in the right relation to the patient, must have the capacity to act, and must desire to bring about one of the opposite ends of the two-way capacity. On my favored reading [F] makes a substantive and new point.

[30] Cf. Makin 2012, 408.

part of the specification of the power."[31] Predicating an active capacity of an agent implies that the agent can exercise that ability under certain, ordinary or optimal, conditions. Being able to teach requires, e.g., having the attention of students, and without their attention one cannot teach. By contrast, having the ability to teach a rowdy class or special needs students is a different ability (or a specialized form of the capacity to teach).

If the above is correct, then generally for agents with one- and two-way capacities there will be no need to specify external preventing conditions, since the attribution of the capacity to the agent (or patient) presupposes that the capacity is a capacity for acting in a certain way, and certain conditions obtaining. [F] and [G] thus provide us some further remarks for answering [Question 1], but are less helpful for clarifying [Question 3]. Still, the observation that we need not add mention to external preventing conditions is helpful in the sense that it brings out Aristotle's thought that attributing an ability to something already indicates that the thing in question has some kind of a power to cause or do something.

How then are we to answer [Question 3]? Given the broad range of different capacities for causing change there are, Aristotle may sagely wish to avoid tackling this question on a general level, preferring to leave it for later discussion, and perhaps leaving it up to specialists within their respective domains to determine. Indeed, As Aristotle remarks at the start of IX.5 capacities can be innate (*sungenôn*), acquired through habituation (*ethei*) or learning (*mathêsei*). [32] Prior to this he refutes the Megarian view that something only has a capacity to act when that capacity is in use.[33] Aristotle also notes in *DA* II.5 that speaking of capacities can be somewhat ambiguous. For instance, in

[31] Beere 2009, 148; cf. *Metaphysics* IX.5 1048a1-2.

[32] Cf. 1048b31-35.

[33] Cf. *Metaphysics* IX.2.

saying that someone is potentially wise (*epistêmon*) can be understood in two different ways: that the person belongs to the kind human who are of their nature such that they can acquire wisdom, or that the person has acquired some wisdom which they can put to use if they chose to do so (and nothing prevent them).[34]

I think given Aristotle's admission that capacities can be spoken of in many ways, and the wide range of some capacities he speaks of where some are innate while others must be acquired either through developing one's character or through a process of rational learning it is sage of him to try and specify through abstract philosophical discussion alone general conditions for possessing a capacity. Whatever those conditions are, the agent will not be able to exercise their capacity unless the patient is present and has its co-relative capacity to be acted upon in the right way. Hence, we will want to know under what conditions does the patient have its capacity—that is [Question 4]—to which I now turn.

§3.2. When is a Patient Potentially F?

In *Metaphysics* IX.7 Aristotle raises the question "when" (*pote*) something is potentially F.[35] His focus there seems to be on patients—substances and artifacts—that can undergo or change into something.

The discussion brings out Aristotle's view that certain conditions need to be met in order for a patient to count as potentially F. Even if there is some sequence where *x* first becomes F and then becomes G, it is *not*—at least not always—the case that it would

[34] Cf. *DA* II.5 417a21-28.

[35] See 1048b37-1049a5. For a discussion on how to understand the sense of the question "when?" see Beere 2009, 232-234. I remain neutral on the precise understanding of this question.

be correct to say that *x* is potentially G, before it has become F. Rather, something is potentially F only if it is in the right conditions or if it has undergone some kind of change whereby it becomes potentially that thing. He illustrates this point with a few examples. For instance, some earthy material (*gê*) is not potentially a human or potentially a statue. Rather, this material needs to undergo some kind of transformation. For instance, if the earth is transformed into bronze, then we can say that the earth has become something—(a piece of) bronze—which is potentially a statue (or some other artefact).[36]

However, as Aristotle's discussion of earth, seed (*sperma*), and human beings implies, merely undergoing some transformation may not be sufficient for considering if something is potentially, say, a human being. This is because even if earth is transformed into seed, it is not clear if the seed is—properly speaking—potentially a human. As Aristotle notes, the seed needs the appropriate conditions—presumably menstrual blood and a womb—to truly be potentially a human.[37] Thus, even if it is true that we can follow some piece of matter's journey from earth to food, to seed, and ultimately into a fetus, it would not be correct to speak of the earth (or the food) as 'potentially human'. Rather, there seems to be an order or sequence: the earth is potentially food, the food is potentially seed, and the seed is potentially a fetus, and the fetus is potentially a human. At each stage the description by which the subject is picked out is a different term—'earth', 'food', 'seed', 'fetus'—and each stage may require different conditions and processes which make it true to predicate the thing 'being potentially food', or 'potentially seed', etc.[38]

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[36] Cf. 1049b8-18.

[37] Cf. *Metaphysics* IX.7 1049b13-18.

[38] Presumably, it isn't any earth whatsoever that is correctly said to be potentially a seed. Some earthy matter—such as copper—is potentially bronze, whereas another kind of earthy, biological, matter is potentially a seed.

All Aristotle tells us is that something internal or external may prevent (*kôluontos*) the patient being potentially F. For patients whose coming to be F is external—e.g. artefacts or conditions such as health to use Aristotle's examples—some *internal* defect or lack may prevent it from being potentially F. For instance, rotten timber or defective concrete are not potentially a house if they cannot be used in construction. By contrast, Aristotle suggests that for entities whose coming to be is internal—presumably natural things—the conditions preventing their being potentially F are *external*.

Recall that specifying the potential or capacity is to attribute a subject with some kind of ability to change or to be affected in some way. To say that *x* is potentially F is to say that given some appropriate circumstances *x* will actually be F. But here it makes a difference if the conditions required for *x* to actually be F include an external or internal origin of this transition from potentially F to actually F. To say of something whose coming to be F is internal—e.g., a human being from a fetus—that it has an internal defect that prevents it from having its potential actualized is to rob the entity—e.g. the fetus—of its ability to become F. What it is to be a fetus is to be a potential human being. To say that the fetus is potentially a human being but cannot become a human being seems either confused or contradictory. Of course, a fetus might fail to develop into a human being. However, if we have correctly specified something as a fetus—i.e., as a potential human—then the failure of the birth of the human *must* be external: otherwise we have misidentified something—e.g. an unfertilized ovum—as a fetus.[39]

[39] The same holds for e.g., house-building materials. The (inexperienced) housebuilder who uses unsuitable wood for structural sections of the house seems to have misidentified that material as suitable material to be used for that purpose in the house. It seems equally contradictory to say 'these structural materials are potentially loadbearing features of the house but cannot be loadbearing features' as it is in the fetus-case above. But the present issue is when does some entity *x* have the potential to become F. If *x*'s F:ness depends on an internal process of becoming F then *x* is potentially F assuming we have correctly identified *x*. But if

Things seem to be different when the patients coming to be F is external. It is obvious that if *x*'s actually being F depends on an external origin, then *x* cannot become F without the agent. But this is not a fault, defect, or lack in *x*. The absence of the agent does not affect *x*'s status as potentially F in the same way that a defect in a fetus threatens the status of the fetus as potentially a human. This suggests that the conditions for specifying if *x* is potentially F are internal (where the origin of the change is external). [40]

§3.3. Summary

The concept of agency and patiency involves an active capacity to cause change in something, a patient, which has the corelative capacity to be affected in the relevant way.

The conditions required for the agent to be capable include the conditions of the patient being capable. The patient must have undergone some change or be in the right circumstances such that it has the potential to be affected by the appropriate agent. Aristotle does not seek to specify what those conditions are, leaving it open for determination on a case-by-case basis. All he tells us is that where the origin of change is external agency, the patient's capacity may be prevented from becoming actual by certain internal defects. Whereas if the origin is internal certain external factors may prevent the exercise of the capacity.

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x's F:ness depends on an external agent—as in the case of building materials being potentially a house—the situation is somewhat different. Thin strips of wood are not by themselves loadbearing or structural elements, *but they could be*, if suitable prepared e.g., by gluing them together to form a larger beam. The difference in the answers to the question 'when is *x* potentially F?' depends on Aristotle's point about there being nothing that needs to be changed or modified in order for some *x* to count as potentially F.

[40] Beere 2009, 150.

Thus, patients with internal origins and which are "through themselves" (*di' autoû*)[41] seem to have something in common with agents for causing change in something else: for both it is true that certain external preventing conditions need not be specified, if these rob the entity of its status as an origin of change.[42]

Given the lacuna noted above it is not clear if these general remarks on the conditions under which agents and patients have and exercise their capacities apply to all capacities—i.e. one-way abilities of living entities, and non-rational two-way capacities—or if Aristotle is content to focus on certain cases—like the fire's ability to heat in contrast to the doctor's ability to heal or harm—for his purposes in *Metaphysics* IX, leaving open how the other capacities (like the animals' abilities to move themselves) are exercised and the conditions under which something has them.

Assuming these remarks *are* meant to apply for all one- and two-way capacities, then we can extract the following general conditions that must apply for the possession and exercise of capacities.

[41] Cf. *Metaphysics* IX.7 1049a13-14.

[42] Since in such conditions the entity does not have the relevant capacity to act or be acted upon, and hence is not an agent or patient.

	External origin of change	Internal origin of change
One-way passive capacity	No internal defect in patient & right relation to agent, necessarily agent acts on the patient. *Example 1*: Water's capacity to be heated when in the right relation to the sun, (necessarily) the sun's ability to heat acts on the water's capacity to be heated.	No external preventing condition & right relation to agent, necessarily agent acts on the patient. *Example 2*: The capacity of hot air to rise upwards when external obstacles are removed, (necessarily) the hot air rises upwards.
Two-way passive capacity	No internal defect in patient & right relation to agent, necessarily agent will act on the patient in the way determined by agent's desire. *Example 3*: Housebuilding materials when used by the housebuilder, (necessarily) the house-builder acts on the materials in the way determined by the builder's desire.	No external preventing condition & right relation to agent, necessarily agent acts on the patient in the way determined by agent's desire. *Example 4*: The animal's capacity to move itself when not prevented by external factors, (necessarily) the animal moves itself in the way and to the extent that it desires.

Table over conditions for and examples of the exercise of capacities.

For each example given in the above table we can also ask what the right relation must be in each case between the agent and patient in order for the agent to act and the patient to be affected; that is, we can raise [Question 1] for each of them.

Example 1: Water's capacity to be heated when in the right relation to the sun, (necessarily) the sun's ability to heat acts on the water's capacity to be heated. This presumably requires that:

- The sun is actually hot.
- The water is potentially hot (i.e., no internal defects).
- The sun must touch the water (e.g., no clouds or coverings are interfering).

Example 2: The capacity of hot air to rise upwards when external obstacles are removed, (necessarily) the hot air rises upwards. This in turn requires that:

- The air is actually hot.
- Nothing prevents the air from moving up (i.e., no external condition preventing motion like the lid of a pot, the roof of a house, or layer of greenhouse gases).

Example 3: Housebuilding materials when used by the housebuilder, (necessarily) the house-builder acts on the materials in the way determined by the builder's desire. Conditions required:

- The builder is present and not prevented from acting.
- The materials are in an appropriate condition (i.e., no internal defects).
- The builder desires to use her skill for building.

Example 4: The animal's capacity to move itself when not prevented by external factors, (necessarily) the animal moves itself in the way and to the extent that it desires. Conditions required:

- The animal is not prevented from moving.
- The animal must desire to move.

These kinds of conditions are required for agents to exercise their capacities on patient's and the patient's capacity to be made actual by an agent. Next, I want to explore a further complexity of how a capacity transitions from potential to actual. As will become clear,

Aristotle marks a difference between transition from potential to actual that involve external agency, and cases that are somehow simply "up to" the agent in question to do.

§4. Two Kinds of Transitions From Potential to Actual

As we saw in the previous section, passive capacities where the origin is internal are potentially F "through themselves" (unless something external prevents). Aristotle makes use of a similar thought—that some transitions are not due to an external agent but to the thing itself—elsewhere. Understanding the difference between transitions that are due to an external agent and those that are up to the thing itself is important for a fuller understanding of Aristotle's views on action and agency.

In *DA* II.5 Aristotle makes an important distinction between how the key terms potentiality and actuality (*entelecheia*) are to be understood.[43] For instance, calling someone potentially wise (*epistêmon*) is indiscriminate between saying that a person has a potential for acquiring some wisdom they do not yet have, and between saying that a person has said wisdom, but is not currently using or exhibiting it in any way. The same point applies to actuality. Even if, properly speaking, the description of someone as actually wise is to be applied to one who is exercising wisdom which they already possess, it also applies to anyone who is potentially wise in the sense of having but not using their knowledge.[44]

[43] This chapter is one of the most controversial and debated in Aristotle scholarship. My interest here has to do with the transitions between being potentially and being actually, and not primarily with how this affects Aristotle's views on perception and thought.

[44] Cf. *DA* II.5 417a21-b2.

In making his distinctions Aristotle highlights two different kinds of *transitions* from a potentiality to actuality or activity.[45] In some cases—cases like having but not using one's wisdom or knowledge—the transition from potentiality to actuality *depends on the person to exercise that potential*. It is simply "up to" them to do so; it is *eph' hemin*.[46] In other cases—like perception—something more is required in order for the potential to become actual: an external agent is required to make the patient transition from potential to actual.[47]

In one kind of transition something goes from potentially F to actually F through a process of change involving a different or contrary state which is replaced by F.[48] For instance, one acquires wisdom through a process of learning whereby ignorance is replaced with wisdom. Here what is potentially wise is something that is presumably changed by an external agent—e.g., a teacher. This kind of transition is to be contrasted with another whereby something goes from the 'mere possession' of a potential to the exercise or use of it. As Aristotle remarks: "The other [is potentially wise] because he is capable, if he chose, of applying the wisdom he has acquired, provided there is nothing external to hinder."[49] So understood, some transitions from potential to actual comes about through an external agent affecting the patient, while other transitions simply

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[45] Heinaman 2007 notes one should not confuse talk of actuality with talk of transitions to actuality. Aristotle's concern in II.5 is with the kind of actuality involved in perception—not with the transition to actuality in perception. But Heinaman agrees that at 417a31-b2 Aristotle is talking about transitions from potential to actual (cf. Heinaman 2007, 161).

[46] Cf. *DA* II.5 417b24-25, III.3 427b17-21.

[47] There are two things to keep in mind here. Aristotle is trying to make a distinction between cases that involve change, and cases that do not, and he also discusses a difference where being affected involves an external agent and cases where the exercise of a potential does not require an external agent, but rather, is up to the agent herself. My focus is on this latter distinction.

[48] Cf. *DA* II.5 417a31-b2.

[49] *DA* II.5 417a27-28: ὁ δ' ὅτι βουληθεὶς δυνατὸς θεωρεῖν, ἂν μή τι κωλύσῃ τῶν ἔξωθεν.

depend on the possessor to decide to go from the possession of their ability or capacity to the exercise of it.

Moreover, some of these transitions are a kind of change whereas others are not—properly speaking—changes. The distinction between change involving and non-change transition from potential to actual is a further distinction from the transitions involving external agency and being up to the agent themselves. Perceiving is an example of a non-change involving transition that depends on an external agent: the object of perception. Knowing or thinking is an example of a non-change transition that is up to us.[50] Perception is not up to us—we cannot choose to see or not see something—the transition from having but not using our capacity to perceive requires the presence of an object of perception. However, it is simply up to us to use our abilities to think.[51]

Having made his initial distinction between different kinds of actuality and potentiality, Aristotle goes on to make a further distinction in how one might understand being affected or being acted upon (*paschein*). Not all cases of being affected are instances of change (*kinêsis* or *metabolê*).

> Sometimes [to be acted on] means a sort of destruction by the contrary, sometimes it is rather a preservation of what is potentially existent by what is actually existent and like it, so far as likeness holds of potentiality when compared to actuality. For it is by exercise of knowledge that the possessor of knowledge becomes such in actuality: and this either is no qualitative change (for the thing develops into its own nature and actuality), or else it is a qualitative change of a different sort. Hence it is not right to say that that which thinks undergoes change when it thinks, any more than that the builder undergoes change when he builds.[52]

[50] Cf. *DA* II.5 417b16-28.

[51] Aristotle presumably extends this distinction to the use of skills like housebuilding, see passage quoted below.

[52] *DA* II.5 417b2-9.

This passage clarifies that Aristotle thinks the different kinds of transitions to actual involve (at least) two different ways of being acted upon (*paschein*). Someone who makes use of their knowledge or wisdom passes from a state of not using it to using it, and this passage is not a qualitative change (*alloioûsthai*) because it is a development into one's own "nature and actuality". Change, or qualitative change, involves some kind of destruction (*phthora tis*). When a housebuilder builds and when a knower uses their knowledge they are a more perfect version of themselves.[53]

§4.1. Aristotle's Agent-Causal Account

Aristotle's discussion suggests some transitions from potentially to actually F are simply up to the entity to do, and not dependent on an external thing affecting it. Indeed, Aristotle suggests that thinking is "up to us". Likewise, as we saw in Aristotle's discussion on when a patient is potentially F, Aristotle notes that some things are origins of change "through themselves" (*di' autoû*).

These locutions suggest Aristotle has some kind of substance-causal account where an entity described in terms of active causal properties—active capacities or natures—is some kind of agent. Some caution is warranted though, because it isn't entirely clear if only substances are the possessors of causal properties according to Aristotle, or how exactly to delineate the class of substances. Perhaps for these reasons it would be better to call it an agent-causal account, but since Aristotelian agency entails patiency, calling it an agent-causal account is simplified, since without the presence of a

[53] *Qua* housebuilder or knower. This makes sense given the priority of activity over capacities. We understand what capacities and natures are through their exercises; when we observe things engaged in their salient or essential activities we are observing things in their most complete form.

patient with its own co-relative powers, the agent cannot exercise their active capacity. It should also be noted that causal powers are not limited to individuals. Some powers or capacities are such that they belong to a species or kind, such that any member of that species or kind will (at least in ordinary circumstances) have said capacity. Some powers may be such that only a group or multitude may have them: for instance, a school of fish or herd of antelopes have an ability to survive from a predator only as a group. Only nations or large factions of people can go to war. Perhaps some causal powers of larger entities break down into the individual exercises of its individual members.[54]

At the heart of this model lies the thought that there are subjects who possess properties, and in predicating properties of said subjects we are describing them in different ways.[55] Causal properties—powers to act and to be affected—are among these. In Chapter 1 I suggested that activities are particulars and properties in virtue of which its subject is said to be active (or actually F), or in capacity (or potentially F). On my favoured interpretation—A—these properties (despite being some kind of particular) should not be thought of as independent entities, but ways of describing the subject that has them. The subjects are substances, since substances are ontologically basic. While we can speak of the activities (and properties) themselves as subjects—we can ask if *the walk* is going well, if *it* is enjoyable, or how long *it* took etc.—this kind of talk is an abstraction. In so doing we are not really referring to some individual entity—as we do in Davidson's philosophy—but rather we've abstracted the activity from the substance engaged in it.

[54] For instance, democratic elections which might reasonably be construed as the action of an entire people dependant on individual acts of voting, but which nonetheless require sufficient participation for it to count as a valid election.

[55] Some intrinsic or *per se*, others accidental.

So understood, substances (or subjects) are causes in virtue of possessing a causal power to act or to be acted upon. In some cases, the transition from potential to actual exercise of one's power may require the presence of an external agent—something that is actually F in a way that it can make the patient go from potentially F to actually F—in other cases it is simply up to the agent itself to make use of its abilities.

This reading gains support from Aristotle's remarks elsewhere, in particular, with how he uses phrases like "up to us" or "through oneself".[56] For instance, in the *Nicomachean Ethics* Aristotle gives a list of causes (*aitiai*) as "nature, and necessity, and chance, and then, in addition to these, intelligence and everything that occurs through a human being."[57] And in a similar passage in the *Eudemian Ethics*, Aristotle contrasts what obtains because of necessity, chance and nature with "all the things we ourselves are a cause of".[58]

§5. An Objection Considered

I have suggested that Aristotle identifies two kinds of transitions from potential to actual, one which depends on an external agent acting on a patient—like the object of perception acting on the perceptual capacity—the other being "up to us"—exemplified by activities like thinking and imagining. There are two related issues I wish to explore in connection to this. The first is whether or not the transitions that are "up to us" are dependent on a prior and distinct transition that is not "up to us". If not, then being "up to us" is not, ultimately, a distinct form of transition where the substance or agent is itself the cause of the transition. As we saw in the case of two-way powers above, something else, desire or

[56] For an excellent discussion of these locutions in the *Ethics*, see Meyer 2014.

[57] *EN* III.3 1112a30-31.

[58] *EE* II.6 1223a11-12 (tr. Woods).

choice, determines the way in which the power in question is exercised. This suggests something which in contemporary philosophy might be called a "mental cause" account of agency, where the cause is some activity (or event) of the soul (or mind), and not the substance itself. For instance, the object of desire acts on the desiderative capacity so as to make it active in the relevant way. This brings me to the second issue. In general, Aristotle seeks to explain activities of the soul in terms of psychic capacities being acted upon by their co-relative objects: perception involves objects of perception acting on the perceptual capacity; imagination, objects of imagination acting on the imaginative capacity; and thinking, objects of thought act on the capacity for thinking. But it is not entirely clear how analogous these cases are. The issue of whether some activities are "up to us" is thus part of a larger dilemma relating to how we are to understand the object-activity relation of the capacities for the soul. In what follows I will first develop and support the "mental cause"-account of agency. I will then argue against this alternative and suggest there is no reason to favor it over the substance-causal account sketched in §4.1.

§5.1. A Mental-cause Account of Agency?

Some may find the agent-causal reading proposed above philosophically problematic. Indeed, one may reasonably ask if there isn't an alternative reading available that doesn't commit Aristotle to an unnecessarily complicated view that involves two different kinds or modes of causation: one where certain transitions are caused by some external entity, and others which (mysteriously) depend on the substance (or possessor of the capacity) itself. What is needed—according to the objector—is a way to bring the cases that Aristotle remarks as being "up to us" in line with the other cases such that Aristotle's views on causal transactions is tidier, and hence, more easily understood.

One such reading immediately presents itself in *DA* II.5. When Aristotle introduces the idea that the sense of potential attributed to those to whom it is simply up to them to transition from having wisdom to using it, he notes that they are able to do so if they "wish" (*boulêtheis*) to do it.[59] On this suggestion cases which are simply "up to" the agent are, in fact, dependent on another potential-to-actual transition: desire.[60] So understood, Aristotle is not making an agent-causal suggestion according to which (certain) actions depend solely on the agent, but is in fact suggesting that such transitions require the presence or prior occurrence of another potential-to-actual transition where the object of desire or wish acts upon the desiderative capacity to make it actual.

This alternative reading can further point to other passages for support. For instance, we have already met Aristotle's claim in *Metaphysics* IX.5 that two-way powers require the presence of desire to determine the way in which a two-way power is exercised. Moreover, in IX.7 Aristotle offers as a definition "of what comes to be in fulfilment by thought (*apo dianoias*) from what is potentially, is that *when it is wished* (*boulêthentos*) *it comes about*, if nothing external prevents it".[61] In his discussion of the voluntary (*hekousion*) in EN III.1 Aristotle notes that if the origin of acting is in (*en*) the agent, then acting so depends (*ep' autoi*) on the agent (and, hence, is voluntary).[62] He reiterates this point at the end of chapter, going on to speak of desires in relation to what

[59] Cf. *DA* II.5 417a27-28.

[60] *Boulêsis* is a kind of rational desire (*orexis*); cf. *DA* III.10 433a22-23.

[61] *Metaphysics* IX.7 1049a5-7 (my emphasis). It is not immediately clear what Aristotle has in mind when he speaks of things that come to be actual by thought. Presumably, Aristotle has in mind rational, two-way, powers which he has discussed in IX.2 and IX.5—but it is not clear if has only two-way powers in mind, or a broader range of cases.

[62] Cf. *EN* III.1 1110a15-18.

is voluntary, which can be taken to suggest that desires are the origins that are in the agent and thus determine if an action is voluntary.[63]

These passages suggest that whenever Aristotle says something is "up to" the agent to do, there is, in fact, an activity of the soul—desire—which determines how the agent acts. Since Aristotle seems generally committed to a view according to which desiring involves a capacity of the soul being acted upon by a co-relative object of desire, the kind of transitions that depend on the agent turn out to require the basic kind of transition where an external object of desire makes the capacity for desire active. Understood this way, even if there are two different kinds of transitions from potential to activity, those that are up to us depend on a prior transition that is not up to us. Thus, the transitions that depend on an external agent are more fundamental, basic, or prior. On this interpretation, Aristotle seems to be advocating for what has later been termed a mental-cause account of agency, where the agent's action is caused by a desire (or a belief-desire pair)—*not* an agent-causal account where the action is caused by the agent.

Aristotle clearly thinks that desiring stems from the soul's capacity to desire. A capacity for desire presumably has its own conditions that must obtain for an animal to be desiring. But what kind of a capacity is it? Is it a one- or two-way capacity? If the latter, what determines the way in which the desiderative capacity is exercised? Here we run into the lacuna I mentioned above. Aristotle does not give us a complete picture of capacities such that one can safely determine the way in which desire operates. If desire

[63] Cf. *EN* III.1 1111a22-b3. However, this isn't explicitly said in the text which is perfectly in line with the agent-causal reading since the origin being "in" the agent can be understood as either depending on the agent or as something inside the agent.

is a two-way capacity, then we are left in the dark as to how it is exercised such that it can determine in which another two-way power is exercised.[64]

There are two ways for the objector to go here. One way is to suggest that the desiderative capacity is, in fact, a one-way power that functions like the fire's ability to heat. On the assumption that the arguments in [B] apply to all one-way powers and that desire is a one-way power then whenever an object of desire (the agent) and desiderative capacity (the patient) are in the right relation there is desiring. And depending on this desire, it then determines the way in which a two-way skill is exercised. An issue for this suggestion, however, is Aristotle's remark at the end of *Metaphysics* IX.5 that suggests that someone might be able to desire two or opposite things at the same time.[65] This calls into question the suggestion that desire is a one-way power.[66]

Alternatively, the objector might suggest that even if desire is a two-way power, what matters is what kind of object of desire acts on the capacity so as to make it active. So understood, the desiderative capacity is determined by the object of desire that acts on it so as to make it actual or active.

This latter suggestion can attempt to point out that it is preferable because it derives its strength from a general model of causation found in Aristotle: that of agents—like external objects of perception—acting on and affecting patients—like the capacity to

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[64] Indeed, one might be worried that the threat of an infinite regress looms: if the doctor's ability to heal or harm requires a desire that determines if the ability is exercised toward healing or harming, but the capacity to desire is itself a two-way power, what determines how the desiderative capacity is exercised? Does it require a further desire? But then, what determines that desire?

[65] Cf. 1048a21-24.

[66] In *DA* III.7 Aristotle suggests that the capacity to desire and the capacity to be averse are "not different" (*ouk heteron*) from one another nor from the capacity for perception, even if they are "different in being" (*einai*); cf. *DA* III.7 431a12-14.

perceive. Since Aristotle applies this model in the *DA* to explain activities of the soul, one can take it as giving a general causal theory which can be used to flesh out lacunas in Aristotle's treatments of e.g. cognition and desire; or so the objector might counter.[67] However, it is not clear how general or applicable Aristotle's causal model is such that we can safely rely on it, to fill in the blanks we may find in the Philosophers corpus. [68]

Another issue with the applicability of this model has to do with how analogous different kinds of cognition are. For instance, in the case of perception the object of perception is—arguably—prior and distinct to whatever perceives it. Indeed, it is because the object of perception is actually F that it can make the capacity actively perceive F. But does this hold for thinking and imagination? That is: does some object of thought F pre-exist the ability to think F? In general, how are episodes of thought initiated according to Aristotle, if the causal model is general and applies to thinking like it does to perception?[69] If these are not entirely analogous to one another, it remains a possibility that some cognitive activities are "up to us" and cannot be reduced to cases where the object of cognition acts as an external agent that makes the cognitive capacity active.

Finally, understanding the causal relation of the agent, the agent's action, the patient and the affection the patient undergoes is tricky. As we will see in the next chapter, the agent's action and the affection the patient undergoes are "one" and "the same" (in

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[67] At *DA* II.4 Aristotle notes that those who investigate the soul's capacities will need to first consider the activities and actions (*hai energeiai*, *hai praxeis*) of the capacities and prior to these, the co-relative objects; cf. *DA* II.4 415a14-22. He invokes the agent-patient relation applying it to the explanation of perception at e.g., *DA* III.2 425b26-426a20. Note that here (and elsewhere) I use "cognition" as a general term for different kinds of activities of soul like perception and thought.

[68] For an illuminating discussion on the priority of objects to their capacities, see Johansen 2012 who argues that one cannot ground the definitional priority of objects over activities on a causal priority, at least not in a general way that would apply to all cognitive activities; cf. Johansen 2012, 96.

[69] For a discussion, see e.g. Wedin 1994 and Shields 1994.

some sense of sameness that nevertheless allows for a difference in *logos*). A straightforward version of the "mental cause" account could attempt to argue that the cause of an action, or a thing's transition from potential to actual, is caused by the action or activity of the object of desire acting on the desiderative capacity. But this requires thinking of the activity as an entity that functions like a cause—which requires thinking of activities along the lines of Interpretation B sketched out in Chapter 1 such that they can be thought of as the entities that enter into the causal relation, as opposed to the substances described in terms of appropriate causal properties. This in turn requires thinking of the agent's action as the cause of the patient's affection, but as I try and show in Chapter 3, that is not the most natural way of understanding Aristotle's view.[70]

§5.2. The "Mental-cause"-Account Rejected

I find the "mental cause" account implausible. In addition to the above difficulties, it faces the following difficultly: desiring seems to be explained in terms of thinking and imagining, and not the other way around as the mental cause account (as sketched above) would have it.

It isn't entirely clear how we are to understand Aristotle's views on desire, and how the object of desire—a practical good—acts on the desiderative capacity so as to move it. The most detailed account we get is found in *DA* III.10. There Aristotle gives a brief account of how an object of desire acts (or moves) on the desiderative capacity:

Now the mover is one in form, the desiderative capacity as desiderative, but first

[70] A modified mental cause account could of course advance a reading that accepts the objects of cognition (as opposed to their activities) as the causes, but since I do not think the mental cause account is a very attractive suggestion to begin with, I will not explore this issue further.

> of all the object of desire. For this moves without being moved (by being thought or imagined [*tô noêthênai e phantastênai*]), but in number the movers are many.[71]

For our present concern what is important is that Aristotle claims that the object of desire acts on the capacity "by being thought or imagined".[72] However, both thinking and imagining are the kinds of transitions which Aristotle claims are "up to us". We've already met Aristotle's claim in *DA* II.5 417b24-5 that thinking is up to us. Moreover, in *DA* III.3 427b17-21 it is suggested that *phantasia* is also up to us.[73]

Furthermore, the object of desire acts upon the desiderative capacity through some kind of cognition like thinking or imagination, while the "mental cause"-reading makes these activities depend on desire understood as a prior and distinct activity. But that seems to get the order backwards. Desiring is explained in terms of certain kinds of cognition, not the other way around. The object of desire moves the capacity through cognition; the passages point is not that through cognition something becomes an object of desire that then moves us. [74]

For these reasons the "mental cause"-reading strikes me as implausible. Based on the *DA* all we can safely conclude is that the kind of desire which causes bodily motion involves a kind of cognition that is "up to us", and Aristotle does not there seek to

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[71] *DA* III.10 433b10-13. This passage will be discussed in more detail in the Chapter 4.

[72] I take the dative *toi* to be an instrumental dative noting the means by which or the way in which the object of desire moves the capacity.

[73] The manuscripts are divided on the precise reading, however as noted by e.g. Polansky and Shields, however one construes the text, Aristotle's point is that *phantasia* (or the kind of *noêsis* that is *phantasia*) is up to us; cf. Polansky 2007, 410-1, Shields 2016, 77n44. See also Meyer 2014, 1. At *DA* III.10 433a9-10 Aristotle explicitly suggests we can regard *phantasia* as a kind of thinking (*noêsin tina*).

[74] It is a further question how desiring is to be understood. I am in broad agreement with Moss 2012 and Charles 2006 who take desire as a rich cognitive activity. I sketch my views on desire and its connection to cognition in Chapter 4.

elucidate the notion of being "up to us" in terms of some more basic or prior activity.[75] Note that it is not an issue for my reading that Aristotle includes perception in his discussions of animal locomotion in MA.[76] All my reading requires is that *some* bodily motions are such that they are up to the agent. By contrast, the "mental cause"-reading requires that *all* bodily motions are to be reduced to an object of desire acting on the faculty in a way that is not up to us. My reading is neutral in that it allows Aristotle to be open to the view that some cases of animal locomotion are determined by an external object of desire that one desires in perceiving it and is moved to obtain it, while other cases of motion are up to us to pursue. Common to both cases is that an object of desire acts upon us, the difference being that one case involves external agency, while the other case is up to the agent.

Indeed, if desiring is "up to us" (as *DA* III.10 suggests) then we have a clearer understanding of the role of desire in *Metaphysics* IX.5. Any two-way power requires the agent to determine the way in which they exercise that power whether it be the doctor's medical skill or an animal's power to move and to stop itself. And it seems reasonable to think that determining one's desire is something possessors of two-way powers are able to do of their own, and not because of some prior and distinct activity. On my reading desire has an important causal role in that it determines the way in which a two-way power is exercised. Indeed, desire is something that is caused by the agent, and it is qua *desiring* that an agent moves.

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[75] Indeed, it isn't clear that Aristotle seeks to give a definition of this locution or if he takes it as a phrase his audience will reasonably be expected to understand. Both Bobzien and Meyer take the term to be non-technical; see Bobzien 2014, 11 and Meyer 2014, 5n9.

[76] Cf. *MA* 6 700b15-23, 701a4-6, *MA* 7 701a26-b1, b16-32, *MA* 8 702a17-19.

Let me make one further remark. My favoured, agent-causal, reading suggests a view according to which the object-capacity-activity approach in *DA* and (more generally) the agent-patient causal model is something of a simplification. It is a handy model of causation that helps us understand causal transactions in terms of an agent and patient and their co-related activities, but Aristotle need not be committed to every case of causation being exactly the same. Even if in all cases we have an agent and patient, some cases may be like perception where the agent is prior to the patient, whereas thinking or imagination may be cases where the object of thought is not prior to the act of thinking. So understood, Aristotle's causal model may apply in slightly different ways in different cases, and cannot be invoked as a univocal and general model to solve what the objector might find to be lacunas in Aristotle's arguments.

§6. Summary: Aristotle's Substance-causal Model

Aristotle's views on causation may strike us as unhelpful or outdated. However, reflecting over the nature of our puzzlement with it may be instructive. As Makin points out, Aristotle is committed to a very different picture of what sorts of causal properties are observable and explanatory. For Aristotle "agency is ultimately to be thought about in terms of basic properties, *qualitatively* described".[77] Moreover, "Aristotle's commitment to the appeal to these qualitative properties in explanation rests on deeper views he has concerning the sort of access that organisms like us, whose nature it is to understand, must have to the world: the view that the sorts of properties to which we appeal must be the sorts of properties to which our senses usually give us access."[78]

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[77] Makin 1991, 147.

[78] *Ibid.*, 149; cf. his closing remarks at 151-152.

For Aristotle causation is to be understood in terms of substance or entities that possess causal properties: properties to act and properties to be acted upon. These properties are co-relative capacities, and understanding the agent's power to act requires one to understand that it is related to a patient's power to be affected. In order for an agent to act on a patient the agent and patient must be in some form of contact with one another such that the agent acts, and the patient is affected. For this to happen both agent and patient must truly have their co-relative capacities, and as long as no outside conditions prevent the agent from acting on the patient, then the agent will act upon the patient. This is a kind of conceptual necessity, since what it is to call something an agent is to say that given certain conditions that thing will act in the relevant way.

Finally, when the power in question is a two-way power that is directed toward opposites, the agent must desire to act, and depending on how the agent desires to use their ability, in that way the agent will act. While some exercises of powers require the presence of an external entity acting as agent on the patient's capacity, others like thinking, imagining, housebuilding and desiring are up to the possessors of these capacities to make use of.

III. The *Aporia* of *Physics* III.3:

Aristotle on the Sameness of Action and Affection

In *Physics* III.3 Aristotle responds to a problem or puzzle (*aporia*) his definition of change faces. Commentators, in turn, are puzzled about Aristotle's supposed solution to it. Briefly put, his solution rests upon claiming that an agent's action or activity is "one" (*mia, hen*) and "the same" (*to auto*) change or affection the patient undergoes. However, spelling out precisely what this form of sameness amounts to turns out to be quite puzzling. Although Aristotle claims that the action and the affection are numerically one, he also holds that they are different in "account" or "definition" (*logos*); and spelling out what this involves is difficult. Some have suggested that action and affection are essentially two distinct activities while being one and the same change (in some sense of sameness).[1] Others have suggested that action and affection are only two different ways of describing one and the same change.[2] An obstacle for this latter reading is to show how Aristotle can avoid the conclusion that (e.g.) a teacher learns the lesson she teaches her student. If teaching and learning are merely different ways of describing the same change, then why would it be wrong to say that a teacher is learning when she is teaching? This is significant because Aristotle himself targets this as an objection to his view. This chapter will defend this latter suggestion by developing a new reading of Aristotle's arguments in III.3 which are intended to show that agents (like teachers) do not undergo the action they cause (i.e., the teacher does not learn). More generally, understanding the correct relation between the agent's action and the affection the patient undergoes is significant because it is central for understanding Aristotle's views on causation. If the

[1] E.g. Marmodoro 2007, Charles 2015, and Anagnostopoulos 2017.

[2] E.g. Ross 1936, Gill 1980, Broadie [Waterlow] 1982, and Hussey 1983.

agent's action is one and the same as the change or affection the patient undergoes then the agent's action cannot be an efficient cause of the patient's change since these two are one and the same thing.

Understanding Aristotle's arguments in *Physics* III.3 is made more difficult because Aristotle develops his views in a response to a puzzle, and how one should understand this puzzle is difficult in itself. As I see it, the main aim of III.3 is to clarify how Aristotle's definition of change should be understood. The puzzle results from Aristotle's own discussion on change, and by clarifying what might be problematic Aristotle aims to clarify the key concepts employed in his definition. This leaves open a number of different questions regarding the nature of change and activity, and their relation to one another. While these are no doubt important questions to consider, Aristotle's main aim is to defend his definition of change from a possible *aporia*, and as I will argue, resolving this *aporia* does not require Aristotle to take a stand on further, complex, issues regarding the metaphysics of change and activity.

I begin by briefly outlining the structure of the argument in III.3, and how this discussion fits with Aristotle's preceding discussion on change in §1. §2 discusses how we should understand the puzzle Aristotle responds to in the remainder of III.3. I then discuss the objection to there being only one change or activity (§3), and Aristotle's solution to this objection (in §4), which allows Aristotle to conclude his discussion of change (§5). I end (§6) by considering the alternative reading according to which Aristotle argues for the view that the action and affection are essentially distinct. This alternative would allow Aristotle to hold that the agent's action is the efficient cause of the change the patient undergoes. However, this reading makes a number of controversial assumptions, and it does not strike me as the most natural reading of *Physics* III.3.

§1. The Structure and Context of Physics III.3

Physics III.3 can be broken down into the following sections:

[A] 202a13-a17: Aristotle notes that there is something puzzling (*to aporoumenon*) regarding his discussion of change so far: if change is in the patient (*en toi kinêtôi*), what precisely is the relation of the patient's change to the agent's activity (*energeia*)?

[B] 202a17-a21: A (preliminary) solution to the problem in [A] is suggested—the agent's activity is one and the same (*mia*, *tauta*) as the patient's change, even if not the same in *logos*. [3]

[C] 202a21-a28: A more problematic objection is raised as an *aporian logikên*, according to which there may be two (distinct) changes: one the agent's, the other the patient's. If this is the case, then, where is each change located? Two options are considered: either both are in the patient, or one is in the agent and the other in the patient.

[D] 202a28-a31: The second option is rejected—an agent cannot have a change and fail to be affected by it. Aristotle thinks this is problematic for two reasons: first, he thinks that what it means for a change to be "in" something is for it to undergo change. Hence there can be no agent that has change but is not changed by it. Secondly, he thinks there are sc. "unmoved movers"—agents that cause motion in something else without themselves moving or changing. Since he takes the

[3] I will leave *logos* (and derived forms) untranslated for now and discuss how to understand it below.

existence of unmoved movers seriously, he cannot accept that all agents are themselves changing or moving.

[E] 202a31-a36: The first option is rejected on two grounds. First, we lose the intuitive reason to introduce two distinct changes (one of the agent, the other of the patient), and further, Aristotle claims it is absurd or strange (*atopon*) and impossible (*adunaton*) that the patient would undergo two distinct changes to one form (*hen eidos*). Aristotle illustrates this with an example: if teaching and learning (*hê didaxis*, *he mathêsis*) are both in the student (*tôi manthanonti*), then the student would be changed by two different changes toward the same form, presumably, the acquiring of some knowledge.

[F] 202a26-b5: Since both [D] and [E] lead to impossible consequences, we seem to be left with the option that there is only change or activity. However, two objections are raised against this possibility. For instance, if there is only one change then it seems as if the agent would be affected in the same way it affects the patient. For example, a teacher would be learning the lesson she is teaching her student.

[G] 202b5-b16: Aristotle's first reply to the objections raised in [F].

[H] 202b16-b19: A further reply to the second objection in [F] is developed.

[I] 202b19-b22: Conclusion to the *aporia* raised at [C].

[J] 202b22-b29: General conclusion of the discussion on change in *Physics* III.1-3. Aristotle notes that "what change is, then, has been said both generally and particularly", going to on note that it is no longer unclear (*adêlon*) how to define (*horisthêsetai*) different kinds of change.

In what follows I will make use of [A]-[J] when referring to sections of III.3.[4] My focus here will be on sections [F]-[I], but I begin with a discussion of how Aristotle arrives at the puzzle in [A]-[C].

The first thing to note about III.3 is that a puzzle is mentioned *twice*—first in [A] where *to aporoumenon* occurs at 202a13, and then as the *aporian logikên* in [C]. Commentators rarely discuss the first puzzle, nor what it means for a puzzle to be termed *logikên*. For example, Ross notes that no puzzle has been mentioned in the preceding discussion and that it may be one familiar to Aristotle's reader.[5] However, as I understand it, the puzzle arises from Aristotle's own treatment of change, and the aim in [A] is to spell out what might be puzzling about it. In order to see what is puzzling we must consider the context in which the difficulty is introduced.

§1.1. The Context and Puzzle of III.3

In *Physics* III.1, Aristotle has defined change in terms of a capacity for undergoing change or being changed.[6] Change is an actuality or activity (*entelecheia*, *energeia*) of a certain

[4] For a discussion of how to understand the different options of the puzzle raised in [C] and their subsequent treatment, see Coope 2004 and 2007. Different ways of understanding the structure of the argument have been discussed by Charles 2015, and Marmodoro 2007.

[5] Ross 1936, 540. Other translators insert "the solution of" here, taking what follows to be the solution; cf. Wicksteed & Cornford 1957, Hardie & Gaye in Barnes 1984, Coughlin 2005.

[6] For instance, *Physics* III.1 201b4-5, III.2 202a7-8. Different ways of understanding his definition have recently been discussed by Coope 2007, Coope 2009, Anagnostopoulos 2010, and Charles 2015. I will remain neutral on how the definition should be understood, since resolving the issue in III.3 does not require taking a stand on this. Whether change is defined in terms of a patient's potential to be in some new end-state or in terms of the potential to be changing, there is still an open question regarding the role of the agent's activity in relation to the change of the patient. The aim of III.3 is to clarify this relation. This is warranted by Aristotle's own claim that change involves the category of relatives (*pros ti*) at *Physics* III.1 200b28-32, and thus a discussion on the relation of the mover (or agent) to the moved patient is to be expected.

capacity or potential (*dunamis*) the patient has.[7] In *Physics* III.2 Aristotle affirms that this definition is "well put" (*kalôs eirêtai*, 201b16), but specifies that change is an "incomplete" (*ateles*) activity (cf. 201b27-202a2).[8]

Aristotle then considers a possible problem for his definition of change: the possibility of reciprocal change between two things. Aristotle's solution is to claim that such cases involve two different changes, where the roles of agent and patient are reversed.[9] For example, when one pours hot coffee into a cold mug, the hot coffee heats up the mug, but the mug also cools the coffee. According to Aristotle this should be treated as involving two changes with two pairs of agent-patient relations: in one the coffee is the agent and heats up the mug; in the other the mug acts as agent in cooling down the coffee (the patient in this second relation).[10]

From this Aristotle concludes that changes (reciprocal or not) always (*aiei*) involve an agent (*to kinoûn*) that possesses a form (*eidos*) which is the origin and cause (*aition kai archê*) of the change.[11] He illustrates this with an example: "for example, what is actually a human makes, from what is potentially human, a human" (*Physics* III.2 202a11-12: οἷον ὁ ἐντελεχείᾳ ἄνθρωπος ποιεῖ ἐκ τοῦ δυνάμει ὄντος ἀνθρώπου

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[7] In his discussion on change Aristotle switches freely between *energeia* and *entelecheia*, hence I do not think anything rests on which term is used. For a similar view, see Coope 2009, 290n2. See also Anagnostopoulos 2010 for a discussion.

[8] Aristotle goes on to specify that change is incomplete because the potential or capacity for change is incomplete. This is somewhat puzzling since in a sense all potentials or *dunameis* are incomplete. For discussions of the incompleteness of change, see Coope 2009 and Anagnostopoulos 2017.

[9] See *Physics* III.2 202a3-9. The problem is first raised at III.1 201a19-27; cf. Anagnostopoulos 2017, 185 for a similar understanding of reciprocal change. See Gill 1980 who argues for the view that agents are changed when causing change in a patient.

[10] So understood, agents are not changed in causing change in a patient. Having changed a patient is not a change or movement the agent undergoes.

[11] See *Physics* III.2 202a9-11.

ἄνθρωπον). In order for the form to be causally efficacious there must be some kind of contact (*thixei*) between the agent and the patient. Indeed, it is because there is contact between the two that reciprocal change can occur.[12]

What is puzzling in [A] is that Aristotle has characterized the change as an activity that happens in the patient, but he also assigns a role to the agent. Not only does the agent have the form that is the cause and origin of the change, but the agent is also actively engaged in the change, by transmitting a form to the patient (for example by making something). This raises a question about the relation of the agent's activity to the change the patient undergoes.[13] It is this that Aristotle suggests may be puzzling, and the puzzle is spelled out in [A]: something is considered to be an agent by having a certain ability, but an agent only causes a change by being active.[14] Since Aristotle has defined change as something that is in a patient and the change is an actuality of the patient that requires contact with an active agent, one might wonder whether or not the agent's activity is a distinct actuality from the change the patient undergoes. Indeed, there must be an actuality of "both" (*amphoin*; cf. 202a16) the agent and the patient.[15]

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[12] Cf. *Physics* III.2 202a6-9. As we saw in Chapter 2 not all contact needs be reciprocal. Presumably non-reciprocal contact could not result in a reciprocal change.

[13] Hussey takes the problem to arise from the fact that "change" or *kinêsis* has both a transitive and intransitive use in both Greek and English, and that this allows Aristotle to raise the question where the agent's change (the transitive change) is located, and what is the relation of the agent's (transitive) change and the patient's (intransitive) change (see Hussey 1983, 65). My view amounts to much the same but connects the discussion in III.3 to Aristotle's previous discussion, without assuming the suggestion about transitivity, which Aristotle does not seem to highlight as the issue.

[14] Cf. *Physics* III.3 202a16-17: κινητικὸν μὲν γάρ ἐστιν τῷ δύνασθαι, κινοῦν δὲ τῷ ἐνεργεῖν.

[15] For a discussion of 202a15-16 and how to understand the use of *amphoin*, see Hussey 1983, 66. He notes that a distributive use of "both" is less likely, so the claim is that there is one actuality of both the agent and the patient; not that there is both an actuality of the agent and another actuality of the patient. However, if one were to take *amphoin* distributively then [A] can be read as formulating a puzzle with [B] suggesting a preliminary solution to this and [C] raising an objection to [B], which results in much the same reading

§1.2. A Preliminary Solution

Aristotle goes on to offer a solution, in [B], to how we should understand the actuality of "both". He suggests that there really is only one actuality involved here. The agent's and patient's activity are one and the same, like a distance, interval, or ratio (*diastêma*) between two points is one interval, or like the same steep hillside can be considered both as a steep incline up or down (*anantes*, *katantes*)—perhaps depending on one's location. These entities are all numerically the same entity, even if different in *logos* (either "definition", or perhaps "speech").[16] This solution is Aristotle's favoured one; or so I will argue.[17]

The solution in [B] is open to an objection. If the activities are different in *logos*, and the *logoi* pick out or refer to distinct things or essences, then Aristotle will not have done enough to show that the agent's and patient's activities are numerically one and the same entity. This is the objection spelled out in [C]. Moreover, even if one accepted that the examples Aristotle introduces in [B]—the interval and the hillside—are entities that are numerically the same, but different in *logos*, it remains unclear why changes should be thought of in this way. Aristotle needs to provide us with some reason to think that changes are like these entities.

§2. The "aporian logikên"

Having suggested that the actuality involved in the change is one and the same for agent and patient but different in *logos*, Aristotle goes on to raise the following difficulty:

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as I develop here.

[16] Cf. *Physics* III.3 202a17-21.

[17] [A]-[B] seem to anticipate the solution Aristotle goes on to give. Cf. Hussey 1983, 65.

> [C] But there is an *aporian logikên*, since it is perhaps necessary that there is an activity of the agent and of the patient; the one, then, is an action, the other an undergoing, and the function and end of the one is a thing done, of the other an affection. Therefore, since both are changes, if they are different, what are they in? Either both are in that which is affected and changes, or the action is in the agent, and the being affected in what is affected; if one must call this too a doing, it would be a homonym.
>
> ἔχει δ' ἀπορίαν λογικήν· ἀναγκαῖον γὰρ ἴσως εἶναί τινα ἐνέργειαν τοῦ ποιητικοῦ καὶ τοῦ παθητικοῦ· τὸ μὲν δὴ ποίησις, τὸ δὲ πάθησις, ἔργον δὲ καὶ τέλος τοῦ μὲν ποίημα, τοῦ δὲ πάθος. ἐπεὶ οὖν ἄμφω κινήσεις, εἰ μὲν ἕτεραι, ἐν τίνι; ἢ γὰρ ἄμφω ἐν τῷ πάσχοντι καὶ κινουμένῳ, ἢ ἡ μὲν ποίησις ἐν τῷ ποιοῦντι, ἡ δὲ πάθησις ἐν τῷ πάσχοντι, εἰ δὲ δεῖ καὶ ταύτην ποίησιν καλεῖν, ὁμώνυμος ἂν εἴη.[18]

In setting up his *aporia* in [C] Aristotle makes a number of assumptions or suggestions:

(i) It is necessary that there is an activity (*tina energeian*) of the agent and an activity of the patient.

(ii) The activity of the agent is the action (*poiêsis*). The function (*ergon*) and end (*telos*) of the action is an act or deed (*poiêma*).

(iii) The activity of the patient is the undergoing (*pathêsis*). The function and end of the undergoing is an affection (*pathos*).

(iv) Both (*amphô*) activities—the activities mentioned in (ii) and (iii)—are changes.[19]

[18] 202 a21-a28.

[19] In raising this puzzle Aristotle assumes that the activities under consideration here are changes. Aristotle does not seem concerned here to make distinctions between activities—*energeiai*—and changes, *kinêseis*. Although distinctions between these are vital for Aristotle in other contexts, he seems here content to move between the two—which is understandable since he has defined change as a kind of activity in III.2.

Aristotle can then raise the question:

(v) If these changes are different, where are they located, or what undergoes each change?[20]

(i)-(v) are best understood in light of Aristotle's immediately preceding remarks. The suggestion in [B] was that the activity of the agent and the activity of the patient are one and the same, but different in *logos*—they are one and the same change but with different accounts or definitions. The alternatives (i)-(iv) suggest, instead, that the activity of the agent and the activity of the patient are numerically distinct entities, with distinct ends and functions. The only options Aristotle considers in (v) are that either both changes are in the patient, or that one is in the agent, the other is in the patient.[21] He rejects these alternatives in [D] and [E]. He is then left with the options that there is only one activity, but he immediately introduces problems for this suggestion in [F]. He attempts to dismiss these objections in [G] and [H] and gives his response to the puzzle in [I].

In formulating his conclusion in [I] we will want to know if Aristotle accepts points (i)-(iv) –abandoning the preliminary solution sketched out in [B]—or does he solve the *aporia* in such a way that the view offered in [B] remains as his view? In order to answer this we will first have to consider in what sense this is an *aporia*, and what

[20] That the changes are distinct changes is presumably because the changes have distinct functions and goals, and undertaken by distinct entities (the agent and the patient respectively).

[21] Ross notes that the Arabo-Latin translation of the *Physics* and Themistius's commentary supply the option that both changes are in the agent, in an apparent attempt to formally complete the disjunction (Ross 1936, 540). However, to my knowledge there are no manuscripts that support this "fuller" disjunction. Nor should we expect one, if we take the discussion in III.3 as internal to Aristotle's discussion on change in III.1-3 which locates change in the patient.

Aristotle means by calling it an *aporian logikên*. What are we meant to have learned by solving it?

§2.1. The Aporia and Aristotle's Reason for Raising It

Generally, an *aporia* is a "perplexity or mental impasse" which arises from "arguments for contrary conclusions"[22]. Here the conflicting arguments are that change cannot be two different changes—for reasons given in [D] and [E]—yet cannot be one—for reasons given in [F]. Since both the option suggested in [B] and the alternatives in [C] leave us with absurd or impossible consequences we are seemingly left at an impasse.[23] Aristotle's strategy will be to disarm the objection to there being one change.

Ross claims that the problem is "superficial or dialectical" in nature, and rests on the idea that *poiêsis* and *pathêsis* refer to distinct changes, and on "failing to see that these are but two ways of describing the same event from two different points of view."[24] Although I agree with Ross' assessment of what the problem is about, I disagree that this makes the problem *superficial*. Against Ross, I think that it is a serious problem. As I argued above, the problem arises directly from Aristotle's own discussion of change. If Aristotle is to convince us that a change is the activity of an agent (or mover) acting on something that is moved, and that this constitutes *numerically one change*, he needs to give us a good reason why we shouldn't think that verbs (and nouns) of doing and of undergoing change in fact pick out distinct changes or activities of the agent and patient. There are (at least) two reasons why Aristotle needs to resolve this puzzle: there is an

[22] Madigan 1999, *xx*.

[23] For a similar understanding of the *aporia* see Coope 2004, 205, and 2007, 124.

[24] Ross 1936, 540.

issue with the adequacy of his account of change as a definition, and there is a difficulty regarding the generality of the (putative) definition.

Indeed, if Aristotle's definition leaves us in a state of bafflement, one may wonder if the (putative) definition can be considered a definition at all. This is made all the more pressing by the fact that Aristotle boasts in III.2 that his definition is "well said".[25] Moreover, Aristotle concludes his discussion of III.3 in [J] by stating that "what change is, then, has been said both generally and particularly",[26] going on to note that it is no longer unclear how to define (*horisthêsetai*) different kinds of change. So we should expect the argument in III.3 to make some contribution toward his definition of change.[27]

Another problem relating to the adequacy of the definition has to do with its scope: if Aristotle's definition fails to cover changes of the agent, then he has not given an adequate definition of all kinds of change (having only defined patients' changes). If Aristotle is to convince us that change is an actuality of a certain kind of capacity the patient has, he must show that the agent's activity is not a threat to this claim, since, if the agent's action turns out to be a different change, then Aristotle will not have succeeded in giving a general definition of change, one which he can use as basic principle in his natural philosophy. This would have serious implications for Aristotle's natural philosophy.[28]

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[25] Cf. *Physics* III.2 201b16-27.

[26] *Physics* III.3 202b23-24: τί μὲν οὖν ἐστιν κίνησις εἴρηται καὶ καθόλου καὶ κατὰ μέρος.

[27] For a similar claim see Gill 1980, 130 & 133.

[28] For instance, if we do not understand what change is, it is not clear if we really understand what natures (*phuseis*) are either; cf. *Physics* III.1 200a12-15. If natures are causes and origins of change and his definition of change only picks out changes that patients undergo, one might reasonably wonder if he has managed to elucidate natures properly, since e.g. the nature of fire is supposed to explain the fires upward motion and (presumably) the upward motion is something which happens to the fire (not something else); see *Physics* II.1 and VIII.4.

A third reason to reject the *aporia* as superficial is that it is natural to think that agents' actions and patients' affections (or actions) are distinct things (perhaps distinct events or processes). Take for instance Aristotle's own favourite example of teaching and learning: teaching is what the teacher does, and learning is what students do (or are supposed to).[29] To think of these two actions as distinct is attractive, because it allows us to say that even if the teacher is teaching—she is doing her best to make the lesson such that it will engage the student's attention, etc.—it might still be the case that a student fails to learn—perhaps because he is groggy from a party the night before. In this case it is not the teacher's fault that her students are not learning; they are themselves responsible for being attentive, for following the lesson, for doing the required work, etc.

This objection can be spelled out in Aristotle's own terms. For instance, in the *Categories*, Aristotle groups actions and affections as distinct categories or predicates.[30] A way of spelling out how action and affection are distinct would be to say that if they belong to distinct categories, then they must be numerically distinct entities, e.g. because by belonging to distinct categories they have distinct essences (or essential features), and that their definitions (*logoi*) are made in terms of their (distinct) essences.[31] In this case each change has a numerically distinct essence which explains why the changes belong to distinct categories, and thus they are also numerically distinct entities.[32] Aristotle's

[29] The example of teaching and learning is adopted from Aristotle who introduces these in [E] at 202a32.

[30] "Doing" and "being affected" (*poiêin*, *paskhein*) are introduced as two distinct categories in *Categories* 4 (1b25-2a4) and 9 (11b1-9).

[31] Assuming for the sake of argument that changes have essences. I discuss this issue further below.

[32] At *Physics* III.1 200b32-201a9 Aristotle specifies that a change always happens within the categories. For example, locomotion is a change within the category of place. One suggestion, keeping action and affection distinct, would be to suggest that a putative change involves an agent's action (e.g. causing change), a patient's affection (being changed), and a change in a third category (e.g. place, or going from A to B). One could treat the change in the third category as a "rich" description that contains the action and affection as two distinct events or processes, or one could identify the change in the third category (place)

own corpus thus contains the resources for spelling out an alternative picture of change according to which the action and affection are numerically distinct entities.[33]

Clarifying how his treatment of change can avoid an *aporia* is not an empty or superficial task; it is a way to defend its adequacy as a definition. Nor can his definition of change be considered successful, if it omits certain kinds of changes. Aristotle himself seems to think all changes are covered by his definition developed in *Physics* III.1-3. These considerations suggest that the problem is one Aristotle should take seriously (*pace* Ross).

§2.2. A Puzzle Concerning Predication

Now that we've seen in what sense the *aporia* in [C] is a problem and why Aristotle needs to resolve it, the next thing is to consider what we can learn from Aristotle calling it a *logikên* puzzle? The adjective *logikos*—like the adverb *logikôs*—is (obviously) attached to some sense of *logos,* but since *logos* has a wide range of meanings this does not do much to elucidate the matter.[34] There is a broad agreement among scholars that Aristotle's *logikôs* (and cognates) investigations are in some sense "general" and/or "abstract"; at times the words are rendered by the (quasi-)transliteration "logical". Similarly for the *aporia* in [C]. E.g. Hussey translates *logikên aporian* as "a difficulty of a formal kind", but comments that formal arguments are "very general" (and do not draw on premises or

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with the patient's affection. In either case it would not be true that action and affection are merely different *logos*, they would be essentially distinct entities and thus presumably numerically distinct as well. I discuss these points below.

[33] In *Topics* VIII.12 Aristotle calls a valid argument that is based on false (*pseudos*) but reputable (*endoxôn*) premises, a *logikós* one (cf. *Topics* VIII.12 162b17-162b30). What could be more reputable for Aristotle to consider than premises drawn from his own works?

[34] Bonitz 1961 lists four main senses the term is used in Aristotle (and plenty of variants falling under these).

principles of a particular science).[35] Charles 2015 calls it a "general difficulty".[36] "Abstract" is adopted in Waterfield 1996, while Coughlin 2005 adopts "logical".

None of these translations are immediately helpful in shedding light on how the *aporia* should be understood, and thus on clarifying what we should expect from its resolution. Without attempting a full verdict of how the *aporia* in [C] is *logikên*, let me make some suggestions which hopefully will shed some light on the issue by sketching a relatively safe reading of what the *aporia* involves.

I've argued that the discussion in III.3 arises from Aristotle's discussion and definition of change. As noted above, in [J] Aristotle expressly claims that it is no longer unclear how changes are to be defined (*horisthêsetai*). In general, the way Aristotle uses *logos* throughout III.1-3 seems to favour understanding it as involving some kind of account or definition. Since the context of discussion is Aristotle's definition of change, it makes sense to think that this puzzle relates to this discussion, and that by resolving it, something pertaining to the definition will have been clarified.[37]

Moreover, *logikôs* investigations are, in some sense, tied to linguistic considerations. We've already seen Ross' suggestion above that the aporia turns on "verbal differences".[38] One way to sharpen our understanding of what a linguistic inquiry might involve is to think of it in terms of predication. For instance, Aristotle begins *Metaphysics* VII.4 with a *logikôs* investigation of essence (*to ti en einai*) which involves

[35] Cf. Hussey 1983 *ad loc.* & 66-67.

[36] Charles 2015, 196.

[37] Themistius seems to think of the *aporia* as a "definitional problem" at 76,23 in his commentary; see Todd 2012, 87 (with note 796).

[38] He makes a similar point commenting on the use of *logikôs* in *Metaphysics* VII.4, claiming such arguments "probably" refer to "linguistic inquiries or considerations" and is "verbal" (cf. Ross 1924, II, 168).

predicating a *kath' hauto* or *per se* attribute (in the right way) of a subject.[39] Similarly, at the end of *APo* I.21 Aristotle launches into a *logikôs* argument which also involves predication.[40] In such contexts Aristotle is interested in what is correctly or truly predicated or said of something.

What importance is attached to linguistic considerations can vary greatly. Ross claims that the *aporia* is superficial or dialectical because of a failure to understand that one thing can be described in different ways. But if one took seriously the idea that action and affection mean different things because they have distinct functions and goals which can be expressed in different terms, then the linguistic considerations here point to a very different picture of change—one that seemingly avoids the issue Aristotle raises in [F]: agents and patients undergo distinct things because the action and affection are different. A reason to doubt the issue is superficial is that it in fact points us to a major issue in Aristotle's metaphysics and epistemology. For instance, if one held that things are defined and individuated in terms of their essences, and two definitions are made in terms of different essences, then the items defined by those essences must also be different. One could suggest that the function or the end of change is its essence. The actuality of both the agent and patient could not then be both numerically one and the same and different in definition, because if they are different in essential definition then (presumably) they must also be numerically distinct.[41]

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[39] Cf. *Metaphysics* VII.4 1029b1-2 & 13-19. For discussions of this difficult chapter and the connections between predication and the *logikôs* approach employed there, see e.g. Peramatzis 2010 and 2016, and Angioni 2014.

[40] Two *logikôs* arguments (and one "analytical") are given in *APo* I.22. See Barnes 1993 *ad loc.* for a discussion.

[41] The two items defined and individuated through their distinct essences might still be "one" or similar in some loose sense of oneness or sameness. I respond to this kind of reading below.

Lucas Angioni has recently suggested that a *logikôs* investigation might relate to an investigation of a definition and its logical consequences, or be an analysis of the correct use of certain expressions.[42] If Aristotle wants to defend the general applicability of his definition of change, then it should not have unpalatable consequences, or any ambiguities in the terms used in the definition ought to be dispelled. Moreover, Angioni suggests that the *aporian logikên* in III.3 might be understood as an investigation regarding the correct use of expressions.[43] I think this is exactly right, but what this involves requires some clarification.

My suggestion is that Aristotle's aim here is to clarify his definition of change, in particular, whether or not the activity of the agent and the patient are the numerically one and the same or distinct. A reason to believe that they are distinct is that we have different terms for agents' actions and for the affections or changes patients undergo. Indeed, these terms might be grouped into different categories, and not only have distinct meanings, but also refer to or describe distinct changes in the world.

The most natural way of taking the *aporia* seems to be as a problem relating to some sense of *logos* and take this to connect with the *logoi* mentioned in [B]. Before raising his objection Aristotle has argued that the activity of the agent and patient are numerically one and the same, but different in *logos*. The suggestion was that one and the same thing, a hill or hillside, can be called or referred to as an "uphill" or "downhill". The *aporia* in [C] suggests that this might not be the case for change. If it is necessary that a change involves both an agent and a patient (which Aristotle is committed to), then it may, in fact, be necessary that the activity of the agent and the activity of the patient are

[42] See Angioni 2014.

[43] See *ibid.*, n3.

distinct, one of which we generally call an "action", the other which we generally call an "affection". Each serves a different function (*ergon*) and has a distinct goal or end-point (*telos*). If so, then the activity of the agent and patient are not one and the same change (with different descriptions). Rather, the activity of each implies a distinct function and end-point.

So understood, Aristotle's puzzle relates to what is truly or correctly predicated or said of what, in what way, and what conclusions one can draw from predicating change, or agency, and patiency.[44] He has just argued in [B] that the agent's action and affection are the same, but different in *logos*, and he now raises a puzzle suggesting instead that action and the affection not only are different in *logos*, but also (numerically) distinct activities. If this is correct, then the puzzle in III.3 is introduced by Aristotle thus to clarify in what sense there is only one actuality or activity, which requires clarification what expressions like "activity of agent" and "activity of patient" involve.

We are now in a better position to try and understand what the *aporian logikên* means. Without accepting Ross' claim that the problem is "superficial" we can agree with him that the problem rests on "the verbal differences" between the 'action' and the 'affection'.[45] Since the problem suggests that the activity of the agent is an action (*poiêsis*), and the activity of the patient is an affection (*pathêsis*), this suggestion amounts to the claim that that the *poiêsis* and the *pathêsis* are (numerically) distinct activities. Moreover, the function and end of the *poiêsis* is a thing done (*poiêma*), while the work

[44] In this my understanding of *logikôs* is close to both Angioni and Peramatzis who takes *logikôs* investigations to involve predication. E.g. Angioni suggests that a *logikôs* investigation "consider logical relations between terms in a predication (as whether *one implies the other or not*)" and to "assess features of a predication (as *whether the predicate gives relevant information about the subject*)" (Angioni 2014, 76, emphasis added; see also Peramatzis 2016, 85). I discuss these points further below.

[45] Cf. Ross 1936, 540.

and end of the *pathêsis* is a being affected (*pathos*). I take it Aristotle's point here is that on the objection the two activities are picked out by different terms (the noun forms *poiêsis* and *pathêsis*), moreover, these also mean slightly different things since they are directed at different works and goals (*ergon kai telos*).[46] The verbal differences are thus (a) that the terms have different meanings (they are different in *logos*), and (b) refer to distinct activities.

The first stage in dispelling this *aporia* is to show that there are not two distinct changes. Aristotle does so in [D] and [E], arguing that that assumption that there are two distinct changes leads to different problems. We are then left with the option that there is only one change after-all. But if that is the case, then how are we to understand the meaning of different terms like action and affection? If they refer to the same change, does that mean that they are synonymous terms? And if the action and affection are numerically the same change, does that mean that both the action and affection aim at the same end (*telos*) or have the same function (*ergon*)? If so, it would be correct to say that an agent undergoes their action, or that a teacher, when teaching, is learning the lesson she is teaching. If Aristotle can show that there being one change does not force us to accept this conclusion then he can defend his initial suggestion in [B] that there is only change, but one that can be referred to or described in different ways.

[46] This is corroborated by Aristotle's point at 202a27-28 that were one to also call the *pathêsis* a *poiêsis* then these would be homonyms. In the *Categories* Aristotle notes that homonyms involve things that have a name (*onoma*) in common (*koinon*) but have different essential definitions (*logos tês ousias heteros*); cf. 1a1-5.

§3. The Objection to There Being One Change.

Having dismissed the options that there might be two changes in [D]-[E], Aristotle is left in [F] with the possibility of there being only one change or activity. He immediately raises problems for this option:

> [F] (1) Well then, the activity will be one. (2) But it is unreasonable that there be one and the same activity of two things different in form. (3) And if indeed the teaching and the learning are the same and the action and the affection [are the same], (4) then also to teach is the same as to learn, and to do [will be the same as] to be acted upon, (5) so that, necessarily, every teacher learns and [every] agent is acted upon.
>
> (1) ἀλλὰ μία ἔσται ἡ ἐνέργεια. (2) Ἀλλ᾽ ἄλογον δύο ἑτέρων τῷ εἴδει τὴν αὐτὴν καὶ μίαν εἶναι ἐνέργειαν· (3) καὶ ἔσται, εἴπερ ἡ δίδαξις καὶ ἡ μάθησις τὸ αὐτὸ καὶ ἡ ποίησις καὶ ἡ πάθησις, (4) καὶ τὸ διδάσκειν τῷ μανθάνειν τὸ αὐτὸ καὶ τὸ ποιεῖν τῷ πάσχειν, (5) ὥστε τὸν διδάσκοντα ἀνάγκη ἔσται πάντα μανθάνειν καὶ τὸν ποιοῦντα πάσχειν.[47]

This passage raises two objections to the claim that there is one activity (or change).[48] If Aristotle can dismiss these, then the suggestion raised in (1) will remain: there is only one activity or change.[49]

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[47] *Physics* III.3 202a36-b5, line-numbers added.

[48] Note that Aristotle moves between speaking of changes and activities throughout *Physics* III.1-3. For example, when he raises the puzzle in [C], Aristotle remarks that both the activity of the agent and the patient are changes (cf. 202a21-25). There does not thus seem to be any substantial difference being drawn here between activities and changes. More importantly, it shows that the objection made in [F] is part of the *aporia* raised in [C], since the claim that there is one *activity* does not follow (without additional argument) from showing that the *changes* cannot be two. However, it does follow on the assumption that activity (in this context) is change.

[49] Further, if there is only one change, his definition of change avoids the objection that it may leave out certain changes such as the activities by which agents change patients.

The objection begins in (2) by claiming that it is unreasonable to suppose that there could be one activity of two things that differ in form. Aristotle responds to this objection in [G]. The second objection runs from (3) to (5) and begins by suggesting that if there really is only one activity then the thing done (*hê poiêsis*)—for example the teaching (*hê didaxis*)—would be the same as the affection (*h*ê *pathêsis*)—e.g., the learning (*hê mathêsis*). If this is the case, then it would seem to follow that to do something (*to poiein*) would be the same as to undergo (*to pasxein*) something. For example, "to teach" (*to didaskein*) would be the same as "to learn" (*to manthanein*). So understood, the terms would be synonymous, meaning the same thing.[50] But if (4) is true, then it seems as if it would be true to say that every agent is affected or that a patient is acting; for example: a teacher would learn, or a student would teach. That is, one could swap "to teach" and "to learn" without altering the meaning of the claim. This is the undesirable conclusion reached in (5).

§3.1. Two Difficulties With (3)-(5)

There are two issues I wish to highlight with the understanding of this objection. One has to do with the structure of the argument from (3) to (5), the other with the terms used. Regarding structure, note that Aristotle introduces (4) with *kai* which is usually used as the connective 'and'. On a straightforward construal of [F], it might seem that (3) and (4) are independent premises, with (5) drawing a conclusion from both. Hussey 1983 and Anagnostopoulos 2017 render the structure as an inference: (3) if (*eiper*) [...], (4) then

[50] Aristotle does not directly claim the terms would be synonymous. But this assumption is, I think, relatively safe, given that Aristotle has already introduced homonymy earlier in III.3 (202a28). Further, "cloak" and "cape" are Aristotle's standard examples of synonymous terms, and he goes on to use them in his reply to the objection raised in [F]. I discuss Aristotle's use of synonymy in below.

(*kai*) [...], (5) so that [...]. However, it is not immediately clear from what claim (4) follows.

The terminological difficulty is the following: in formulating this objection Aristotle switches from using the noun forms (*didaxis*, *mathêsis, poiêsis*, *pathêsis*) in (3)—which I've translated as "teaching", "learning", "action", and "affection"—to articular infinitive forms (*to didaskein*, *toi manthanein*, *to poiein*, *toi paschein*) in (4)—which I've rendered "to teach", "to learn", "to do" and "to be acted upon" respectively. What is the significance of this switch, if any? Earlier in [C], Aristotle used the noun-forms *hê poiêsis* and *hê pathêsis* for the activity of agent and patient respectively—each with a respective function and end (*ergon* and *telos*)—the one defined on understood as an act or a deed—a *poiêma*—the other as an affection—a *pathos*.

Presumably, Aristotle is still using the noun-forms to indicate the activity of the agent and patient. Since the assumption in [F] that there is only one activity, it seems that if the activity of the agent and patient are one and the same activity, then presumably the function and goal of this activity must also be the same; presumably that the student acquires knowledge in the case of teaching and learning. If this is correct, then one can defend the inferential construal of (3)-(5): (4) follows from the claim in (3) when combined with the claims (ii) and (iii) from [C].

Are the infinitive forms introduced in (4) meant to indicate the function and goal mentioned in [C]? A reason to think this is that the objection concludes that the teacher learns (*manthanein*) and the agent is affected (*paschein*). If the activity of teaching and learning are truly the same, then they will have the same goal and fulfil the same function or *ergon*.

However, articular infinitives are ordinarily used to refer to activities or actions, just like the noun-forms. Anagnostopoulos suggests that Aristotle's argument does not hang on the difference between these terms.[51] However, Ursula Coope, developing an idea suggested by Hussey, argues that the articular infinitives should be understood as referring to the states the teacher and student are in, and not as "to teach" and "to learn".[52] Coope's reason is the following: in [H] Aristotle seems to suggest, via analogy, that one cannot conclude from the sameness of the noun-forms the sameness of the articular infinitives. Because of this contrast, there must be some distinction in their use. While this point is germane, it is not the only way to render [H]. I do think it is clear that [H] is supposed to be some kind of argument against the second objection in [F]. But as far as I can see, Aristotle can be read as accepting, for the sake of argument, that even if the noun-forms and the infinitive-forms are the same, it does not follow that the agent is acted upon; I discuss this alternative in more detail below. On this rending of [H] nothing hangs on difference between the noun forms and articular infinitives.

I do not know which of these interpretative options is correct. My preferred reading—which strikes me as textually the most accurate—is to deny any significant shift in meaning between the noun forms and articular infinitives and to take the structure of (3) to (5) inferentially, with (3) and (4) forming a single hypothetical conditional where Aristotle assumes the truth of (3) which entails the truth of (4) and from which one might plausibly think that (5) follows.[53] However, I will remain neutral on this issue and try to asses different ways in which Aristotle's answers are to be understood.

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[51] Cf. Anagnostopoulos 2017, 189-190.

[52] Coope 2004, 212; Hussey 1983, 69. The suggestion is not without its issues. For a discussion, see Anagnostopoulos 2017.

[53] So understood, (3) and (4) seem to form a compressed *modus ponens*.

As I suggested above the *aporia* is one that relates to linguistic considerations, predication in particular. Aristotle will want to show why the counterintuitive conclusion that a teacher learns and agents are acted upon does not follow from his favoured view that the activity of the agent and patient is one and the same. On this understanding, Aristotle notes in (3) that if the teacher's activity is one and the same activity as the student's, then (4) it also it seems true that to teach is the same thing (goal, function, or activity) as to learn, so that it would be true to say that a teacher learns (or that a student teaches). Generally speaking, if the action and the undergoing are numerically one and the same then, presumably, they are directed at the same end and they have the same function (*ergon*) as each other, in which case there seems to be no discernible difference between predicating agency and patiency of something. This is what the objection deployed in (3)-(5) assumes.[54]

If Aristotle can show that it is not unfounded to claim that there is one activity of two things different in form (2), and that (5) does not follow, then he will be left with the suggestion in (1) that the activity will be one. Aristotle's strategy for attacking (5) will be to point out that it assumes that if two things are the same in one respect, then they are the same in another respect. This is a false equivocation. As Aristotle goes on to show, (5) would only be true if a strict form of sameness is assumed to hold between action and affection.

[54] A strength of the objection in [F] so understood is that it can be recast in terms of the same activity, the same function, and the same goal, etc.

§4. Resolving the Dilemma

Aristotle's first line of defence, [G], runs as follows:

> [G] (6) Yet it is not strange that the activity of one thing be in another, (7) since the teaching is an activity of someone disposed to teach, however it is in something, and not cut off, but is of this thing in that thing. (8) Nor is there anything preventing there being one and the same [activity] of two things, (9) not as their being is the same, but as what is in potency stands in relation to what is active. (10) Nor is it necessary that the teacher learn, even if to do and to be acted upon are the same, (11) not, however, the same in the sense that the definition saying what it is to be is one, like 'cloak' and 'cape', (12) but like the road from Thebes to Athens and from Athens to Thebes, as was said earlier? (13) For it is not the case that all the same things belong to things that are the same in any sense whatever, but only to those for which the being is the same.

> (6) ἢ οὔτε τὸ τὴν ἄλλου ἐνέργειαν ἐν ἑτέρῳ εἶναι ἄτοπον,(7) ἔστι γὰρ ἡ δίδαξις ἐνέργεια τοῦ διδασκαλικοῦ, ἔν τινι μέντοι, καὶ οὐκ ἀποτετμημένη, ἀλλὰ τοῦδε ἐν τῷδε,(8) οὔτε μίαν δυοῖν κωλύει οὐθὲν τὴν αὐτὴν εἶναι,(9) μὴ ὡς τῷ εἶναι τὸ αὐτό, ἀλλ' ὡς ὑπάρχει τὸ δυνάμει ὂν πρὸς τὸ ἐνεργοῦν, (10) οὔτ' ἀνάγκη τὸν διδάσκοντα μανθάνειν, οὐδ' εἰ τὸ ποιεῖν καὶ πάσχειν τὸ αὐτό ἐστιν, (11) μὴ μέντοι ὡς[55] τὸν λόγον εἶναι ἕνα τὸν <τὸ> τί ἦν εἶναι λέγοντα, οἷον ὡς λώπιον καὶ ἱμάτιον,(12) ἀλλ' ὡς ἡ ὁδὸς ἡ Θήβηθεν Ἀθήναζε καὶ ἡ Ἀθήνηθεν εἰς Θήβας, ὥσπερ εἴρηται καὶ πρότερον;(13) οὐ γὰρ ταὐτὰ πάντα ὑπάρχει τοῖς ὁπωσοῦν τοῖς αὐτοῖς, ἀλλὰ μόνον οἷς τὸ εἶναι τὸ αὐτό.[56]

This passage contains three replies, each beginning with an *oute* ("and not")—at (6), (8), and (10). I take each in turn, but my focus will be on Aristotle's third reply.

The first reply delivered in (6) and (7) responds to a *prima facie* objection to the possibility of there being only one change, namely that the activity of agent would be in the patient (and thus not in the agent). This objection was raised in [E] at 202a33-34, as

[55] I follow Anagnostopoulos in rejecting Ross' emendation of ὥστε and read ὡς with the manuscripts; cf. Anagnostopoulos 2017, 187n45.

[56] *Physics* III.3 202b5-16.

a reason for rejecting the suggestion that both changes would in the patient. If the agent's action cannot be in the patient, then there cannot even be a question of whether the agent's action is the same as the one in the patient.[57] Hence, this reply is warranted. Aristotle's point here is to suggest that it is not wrong to think that the activity of one thing could be located in another.[58] Teaching provides a good example for Aristotle: it is an activity of the teacher, but it takes place in the student, and is not somehow separated from or "cut off" from the student. This also prepares us for his next point.

The second reply in lines (8) and (9), is meant to answer the first objection raised at (2) that there cannot be one activity of two things different in form. As I understand Aristotle's reply his claim is that the agent and patient are not different in form or species (*eidei*), but different like what is active is different from what is passive.[59] So understood, the point is that it is not unreasonable to assume that there can be one activity of two things, because we need not assume that the difference between an agent and patient are so great that they cannot share in the same activity or change. Indeed, we've just learned in (6)-(7) that the activity of the agent can be in the patient, which suggests that they are similar in the following—admittedly weak—way: one can act on the other, and the other can be affected by it.[60]

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[57] For a further discussion, see Coope 2004, 210.

[58] This suggestion is only problematic for someone who wanted to claim that the activity of an agent is also in the agent, as was the case in [E]. For a discussion of this distinction between an activity *of* something, and an activity *in* something, see Coope 2004, 205-206.

[59] The Greek here is difficult, but Aristotle's point here is clearly to deny the objection in (2).

[60] In *GC* I.6 322b16-19 Aristotle notes that to act and to be affected (*to poiein* […] *kai paschein*) necessarily requires that the agent and patient have a "single underlying nature" (*mian* […] *tên hupokeimenên phusin*). In *GC* I.7 323b30-324a8 Aristotle argues that agent and patient must be the same in kind (*genos*) but different in form (*eidei*).

Moreover, Aristotle's view of change requires that there is an agent which possesses some form that is transmitted to the patient. In this the agent and patient are both capable of possessing the relevant form, even if they do so differently: the agent actually has the form, the patient only has it potentially.[61] Here we seem to reach bedrock in Aristotle's metaphysics: there are substances with capacities for producing change, and with capacities for undergoing a relevant change.[62] As we saw in Chapter 1, such capacities form co-relative pairs, and relative entities must be related to each other in some respect. Although the agent and patient are numerically distinct entities (or distinct parts of a whole entity), they are both capable of possessing the same form, even if one does so in actuality, and the other only potentially. If one accepts this—as Aristotle surely does—then it is not so unreasonable to claim that there can be one activity of two things different "in form". So understood, Aristotle denies the objection raised at (2). The denial is supported by his own metaphysics, which assumes that there are capacities to act which are related to capacities to be acted upon and which are defined and understood together.

§4.1. Aristotle's Reply to the Objection that the Teacher Learns

The third reply, from (10) to (13), is Aristotle's first alternative for rejecting the claim made in (5). (10) begins by accepting the claim made in (4). Even if (4) is true, (5) need not follow; the argument running from lines (11) to (13) explains why. Aristotle begins his defence by pointing out that sameness is ambiguous between e.g. the strict sameness

[61] As should be clear from the discussion on capacities in Chapter 1, Aristotle thinks that a capacity in active exercise and having the capacity (but not using it) are one and the same capacity, even if actually exercising a capacity and merely having it are different. They are modal descriptions of the same thing. In this sense there can be one activity or actuality of two things different in form: one thing is actually F, the other is potentially F, and both exemplify F:ness even if in different ways.

[62] See *Metaphysics* V.12 1019a14-23, V.15 1021a14-30, IX.1 1046b4-28.

exhibited by synonymous terms and other forms of sameness change might exhibit.[63] Indeed, the objection in (5) only follows if strict sameness is assumed for the articular infinitive forms to do and to undergo. Strict sameness is exemplified by terms such as "cloak" and "cape". These terms share the same definition and meaning and are both equally suited to refer to the same thing, such as an outer layer of clothing. (12) points out that there is no need to assume that this kind of sameness is exhibited between actions and affections, since there is another form of sameness exhibited e.g. by a road running between two places like Athens and Thebes, and which was already suggested by Aristotle in [B].[64] (13) then drives the point home: it is only true that all things which

[63] In *Topics* I.7 "cloak" and "cape" are introduced as examples of the "most proper" (*kuriôtata*) and "primary" (*prôtôs*) ways of speaking about numerical sameness. Another example is the numerical sameness found between *definiendum* (e.g. "human") and *definiens* ("rational animal"); cf. *Topics* I.7 103a23-38. Numerical sameness applies when "there is more than one name but only one thing" (*Topics* I.7 103a9-10, tr. Pickard-Cambridge in Barnes 1984). However, in *Categories* 1 1a6-12 synonyms (*sunônuma*) are considered to be those things that have *a name and definition in common*. This might suggest that "cloak" and "cape" are not to be counted as synonymous terms, since even if their definitions are the same, they fail to satisfy they requirement that they have a name in common. However, this worry is alleviated when it is noted that the *Categories* seems to focus on *things*, and not words. According to the *Categories* both human and ox are synonymous in that both share the (genus) name animal and the definition corresponding to the name is the same for both human and ox. E.g. if one defined "animal" as meaning "living being capable of perception", this would apply equally to human beings, and oxen. In the *Topics*, Aristotle's focus is on one thing (*pragma*) but with multiple names. The two accounts are thus not in direct conflict. Since cloaks and capes share the same definition, they could also share a name—say "clothing"—and be synonymous in the *Categories* sense not only with each other, but also with other items that share the same definition (such as robes, togas, jackets, etc.). Further, one and the same human being can be referred to by different names and descriptions, including their real name or their title, through their essential definition, but also through accidental descriptions, or by using appropriate genus-terms (like "animal"). The *Categories* example of synonymy thus can also satisfy the numerical sameness criterion posited in the *Topics*. However, for the sake of simplicity, I will keep to the ordinary English use of "synonymous" words or phrases sharing a meaning (like "cape" and "cloak").

[64] Coope (2004, 214 with n23), Marmodoro (2007, 224) and Anagnostopoulos (2017, 189-190) all take the reference "as was said before" at 202b14 as a reference back to [B]. Note that Aristotle does not use the example of a road in [B], speaking only of an "interval" and "hillside". Hussey suggests that the road example is adapted by Aristotle from a fragment of Heraclitus "A road: uphill, downhill, one and the same"

apply to one apply to another if the entities share the same definition and essence. Aristotle instead suggests that the articular infinitives exhibit a different kind of sameness, the sameness in number sketched out in [B] that allows for difference in *logos*.

If this is right, then Aristotle's reply here is to point out that one cannot conclude from the numerical sameness of the activity of the agent and patient, that to teach is the same in definition and essence as to learn. *If* to teach was the same in definition and essence as to learn, *then* presumably it would be true to say of the teacher that she learns (and of the student that she teaches). But if to teach and to learn are *not* the same in this way, then it will not follow—not without further argument—that a teacher learns, because to say someone is teaching (*didaskein*) is quite different from saying that someone is learning (*manthanein*).

Indeed, in his reply to the objection raised in (2) Aristotle notes that agents and patients are related as a potential is related (*pros*) to activity. At (9) he seems to note that two things can be the same in some sense, but not the same in being. As I understand it, the thought is that to say that someone is a teacher or agent is to describe them in a certain role, having a certain relation to the student or patient, and with distinct goals, and perhaps with a distinct function to play in whatever relation obtains between the two. The point from (10) to (13) would thus be to highlight that it is not correct to conclude that a teacher learns because "to teach" and "to learn" have distinct functions or goals, to be predicated of the appropriate entities, the teacher and the student respectively, even if there is only one activity or change that obtains between the two.

What is clear is that Aristotle does not think that "to teach" and "to learn" are like "cloak" and "cape". Actions and affections are different in that they do not share the same

(B 60 Diels-Kranz; quoted in Hussey 1983, 70).

essence and definition. Like a road between Athens and Thebes, there is only one road, but two different end points. So understood actions and affections can be one or the same, even if they have distinct ends. They are not the same like cloak and cape are, or like a road to Athens is the same as a road to the capital of Greece; these are the same in a strict sense.

On my understanding of this passage Aristotle is saying that to do and to be acted upon can be the same, but not strictly the same. If they are numerically the same without sharing every property or feature then it is possible that "to teach" and "to learn" do not have all the same properties. For instance, who they are predicated of may differ. 'Learning' or 'to learn' is something predicated of a student, not the teacher. So understood, it need not follow that teaching (*didaskein*) involves any learning of the teacher. Aristotle is saying that numerical sameness of the activity of agent and patient does not directly imply anything about the sameness of functions or the goals of the agents and patients.[65]

What it is to predicate teaching and learning is to describe a thing in a certain role. Verbs are thus not like proper names or nouns: one cannot freely swap between terms—even if they refer to the same entity—without altering the meaning of what one is saying. In this the articular infinitives resemble destination descriptions like 'Athens' or 'Thebes'. The road between Athens and Thebes is one and the same road, but it is not one and the same in the sense that the road to Athens and the road to the Capital of Greece are one and the same. Similarly for descriptions like 'uphill' and 'downhill': these terms can refer to the same hill, but focus on different aspects of the same entity. A 2:1 ratio describes

[65] Similarly, one could not conclude from the fact that people are on the same road that they are headed in the same direction, or that they will end up in the same place.

something that is double to something else, a 1:2 ratio in turn describes a kind of half. Assuming that Aristotle is not drawing on any major distinction between the articular infinitives and noun-forms, then he could apply this claim to any terms referring to actions, processes, events, goals, and functions.

§4.2. A Secondary Reply Considered

Having presented his first reply to the objection in [F], Aristotle immediately considers another in [H]:

> (14) But indeed, not even if the teaching is the same as the learning, [are] to teach and to learn also [the same], (15) just as neither if there is one distance between things standing apart, (16) is standing apart from here to there, and from there to here, one and the same.
>
> (14) οὐ μὴν ἀλλ' οὐδ' εἰ ἡ δίδαξις τῇ μαθήσει τὸ αὐτό, καὶ τὸ μανθάνειν τῷ διδάσκειν, (15) ὥσπερ οὐδ' εἰ ἡ διάστασις μία τῶν διεστηκότων,(16) καὶ τὸ διίστασθαι ἐνθένθε ἐκεῖσε κἀκεῖθεν δεῦρο ἓν καὶ τὸ αὐτό.[66]

These lines contain Aristotle's "reserve" or second possible response to [F]. A reason to think [H] is a reserve position is the fact that in [G] the responses are introduced directly with *oute*, and that Aristotle refers back to his initial suggestion for avoiding the problem in [B]. By contrast [H] seems preliminary, the point is somewhat obscure, and it is introduced with the cryptic expression *ou mên alla*.[67] Further, Aristotle seems to return

[66] *Physics* III.3 202b16-19.

[67] See Denniston 1934, 28-30 for different uses of this expression.

at [I] to the claim made in [G] regarding strict sameness, when he summarizes his answer to the puzzle.

As I understand the argument, Aristotle accepts, for the sake of argument, in (14) the claim that teaching and learning are the same in the strict sense—i.e. that they are the same in that the definition that picks out the same essence, i.e. that they are synonymous terms—the claim he has just denied in [G]. So understood "the same" in (14) picks up "the same in being" from (13).

His suggestion is that even for cases that are strictly the same it does not necessarily follow that the agent's and patient's relations to this change is one and the same. He argues this through the use of an analogy in (15) and (16): even if there is only one distance between two points (*x* and *y*), it does not follow that to be at one point (*x*), is the same as to be at the other (*y*).[68] Indeed, one point might be the origin of the line, the other the mid-point. Alternatively, one and the same point might have two different roles. For example, one and the same point on a circle could be both the starting point and the end point, if one traced its circumference.

Understood in this way, Aristotle would be making much the same point as he made in [F]. There he said nothing about the sameness of the noun-forms. Here he now argues that even if these are (strictly) the same, it does not follow that to teach is (strictly) the same as to learn. One can still distinguish between the agent and the patient and the causal roles they have in the activity even in cases where the term for the change or activity they engage in does not mark out any difference in meaning. Even if teaching and learning were synonymous like cloak and cape, it need not follow that being a teacher is

[68] The argument seems to have the following structure: not even if A holds, B holds, just as, not even if C holds, does D hold. Note that A and C both use noun-forms (*hê didaxis*, *hê diastasis*) where B and D use infinitives (*to manthanein*, *to diistathai*).

the same as being a student, just like it is not the same thing to be the starting-point on a circle and to be the end point, even if the points are numerically one and the same point. One cannot conclude from the strict sameness of two terms—teaching and learning (assuming now that they are synonymous)—that the activity of the teacher and the student is strictly the same. Even if there is one and strictly the same activity between a teacher and student, to predicate this activity of the teacher is different from predicating it of the student. Here the subjects that this activity is predicated of will make a difference to how one understands the activities predicated of the subjects.

It is because the agent and patient play distinct causal roles that it does not follow that the agent (or the cause) undergoes the effect it causes. Indeed, even if there was no way to mark the distinction linguistically between the cause and what is caused, it would remain true on Aristotle's causal model that there are two distinct substances: one acting (or changing), the other something acted upon or changed by the agent.

§4.3. Conclusion to the Puzzle

Having replied to the objections raised in [F], Aristotle concludes his discussion in [I] with the following claims:

> (17) To speak generally, neither is the teaching properly the same as the learning nor is the doing properly the same as the suffering, (18) but that to which these belong [is] the change. (19) For the activity of this in that and the activity of that from this are different in definition.

> (17) ὅλως δ’ εἰπεῖν οὐδ’ ἡ δίδαξις τῇ μαθήσει οὐδ’ ἡ ποίησις τῇ παθήσει τὸ αὐτὸ κυρίως, (18) ἀλλ’ ᾧ ὑπάρχει ταῦτα[1] ἡ κίνησις·(19) τὸ γὰρ τοῦδε ἐν τῷδε καὶ τὸ τοῦδε ὑπὸ τοῦδε ἐνέργειαν εἶναι ἕτερον τῷ λόγῳ.[69]

In the previous section Aristotle accepted, for the sake of argument, the claim that teaching and learning are strictly the same. In (17) Aristotle returns to what I take is his favoured solution developed in [G], and points out that, strictly speaking (*kuriôs*), teaching and learning, and more generally, doing and undergoing, are not the same—they are not the same in essence and definition.[70] Rather they are the same like the road between Athens and Thebes, or the up- and downhill, or interval examples suggested in [B]. These are different in definition or *logos*, but nonetheless refer to the same entity. (18) spells this out further. I take “these” (*tauta*) to refer to the different activities mentioned in the preceding sentence, and take Aristotle to identify these with the change.[71] Aristotle’s point is that this what teaching and learning, and more generally acting and undergoing—are, or belong to—is a change. The point is *not* that *each is a distinct change*, rather the claim is that, for example, teaching and learning are both *a* (single) change; both are (truly) predicated of one and the same change.[72]

The final lines are introduced to help spell this out. Doing and undergoing can both refer to the same activity in question, since both are that activity, even if their definitions differ. “Doing” is the activity of the agent in the patient, while “undergoing” is the activity of the patient from the agent. Indeed, “the activity of this in that” and “the activity of that from this” are different in *logos*—either different definitions or ways to

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[69] *Physics* III.3 202b19-22.

[70] Charles 1984, 14f. also takes [I] as returning to [G] as Aristotle’s favoured solution. Charles 2015, 200 (with n26) suggests Aristotle remains neutral between [G] and [H].

[71] Here I follow a suggestion made by Anagnostopoulos 2017, 194n53.

[72] Or: there is a change to which both ‘teaching’ and ‘learning’ both apply.

specify the same activity that obtains between an agent and a patient. In these two definitions or accounts the terms "activity", "agent", and "patient" all refer to or describe the same entities. Even if "activity" is predicated differently when one says: "the activity of the agent in the patient", or "the activity of the patient by the agent", one is still speaking of the same activity. What the discussion in [G] and [H] help bring out is that one is not forced to accept the conclusion that an agent undergoes that activity, because doing and undergoing are not synonymous—and even if they were one can still distinguish between the roles the agents and patients have in relation to this activity. Indeed, one can define agency and patiency in terms of how they are related to the same activity. Thus the suggestion made in (1) stands: there is only one activity; which is both an activity of the agent and of the patient.

If this is right Aristotle avoids the objection to there being one change, and the suggestion that there are two changes or activities here. Aristotle can hold that even if there are different terms for the agent's doing and the affection the patient undergoes, the existence of such terms does not warrant the conclusion that wherever different terms are found, they refer to numerically distinct changes. When an agent acts on a patient so that the patient is changed, then the agent's action is a change; it is the same change the patient undergoes. Even if the terms used to denote agent's action and the patient's change differ in meaning—as in the case of teaching and learning—this does not constitute a general objection to there being only one change (the change that occurs—when all goes well—between a teacher and a student). We can describe one and the same entity in a number of different ways, and do so in non-equivalent, or, perhaps, in accidental (*sumbebekos*), ways.[73]

[73] See *Topics* I.7 103b31-39.

So understood, acting and being affected are the same entity or change—they are one in number—but since they are not the same in essential definition, they can be different in certain respects. Unfortunately Aristotle does not really spell out the sense in which these are different. The only thing he says—in [B] and in [I]—is that these are different in *logos*. Thinking of changes in comparison to descriptions like ratio, hillside, and the road example is helpful because it allows us to see how one can avoid the objection to there being one change.

§5. Conclusion of III.3

Having defended his favoured interpretation that there is only one activity in a change shared by the agent and patient—it is the agent's activity in the patient—Aristotle concludes his discussion of change with the following summary [J]:

> What change is, then, has been said both generally and particularly. For it is not unclear how each kinds of [change] will be defined: for alteration is the actuality of the alterable as alterable. Further, in more well-known terms, the [actuality] of the potential agent and patient, as such, simply and again in each case, is either building or curing. Each of the other changes will be spoken of in the same way.

> τί μὲν οὖν ἐστιν κίνησις εἴρηται καὶ καθόλου καὶ κατὰ μέρος· οὐ γὰρ ἄδηλον πῶς ὁρισθήσεται τῶν εἰδῶν ἕκαστον αὐτῆς· ἀλλοίωσις μὲν γὰρ ἡ τοῦ ἀλλοιωτοῦ, ᾗ ἀλλοιωτόν, ἐντελέχεια. ἔτι δὲ γνωριμώτερον, ἡ τοῦ δυνάμει ποιητικοῦ καὶ παθητικοῦ, ᾗ τοιοῦτον, ἁπλῶς τε καὶ πάλιν καθ' ἕκαστον, ἢ οἰκοδόμησις ἢ ἰάτρευσις. τὸν αὐτὸν δὲ λεχθήσεται τρόπον καὶ περὶ τῶν ἄλλων κινήσεων ἑκάστης.[74]

[74] *Physics* III.3 202b23-29.

Aristotle begins by restating a point he has made in III.1: each kind of change (such as alteration, motion, etc.) is defined in the same way.[75] He then restates his view of change in more "well-known" (*gnôrimôteron*) terms: a change, like building or curing, is an actuality of a potential agent and a patient (correctly described, as, say, 'doctor' and 'patient'). This is not a new definition, rather it is an expansion of what his definition entails; and something we have been prepared for throughout the discussion. In III.1 Aristotle gives his definitions of change, at end of III.2 he introduces the agent's activity, and goes on in III.3 to defend the claim that there is only one actuality between agent and patient that is the change. A change conceptually entails that there is something that acts as an agent on a patient, and a patient that is acted upon or affected by the agent. Indeed, as Aristotle noted at the start of III.1, agents and patients, and more generally things causing motion and those that are moved, form a pair of relative entities.[76] Moreover, any substance will only be an actual agent or patient when the relevantly related substance or entity is present.

If this interpretation is right then the structure of the argument of III.3 seems attractive: [A] begins by noting a difficulty regarding the agent's activity and suggests that the agent's activity can be the same activity that is the change in the patient, with [B] sketching out a possible way in which this sameness claim should be understood. [C] establishes an alternative to [B], namely, that there are two distinct changes; with [D] and [E] rejecting the alternative just raised. It then seems as if [B] might be right. But this leaves us with a further puzzle: if there is only one change, how are we to understand different terms like doing and undergoing in relation to this one change? Are they synonymous terms? If so, does the teacher learn? This was the objection raised in [F]. [G]

[75] Cf. *Physics* III.1 201a9-18.

[76] Cf. *Physics* III.1 200b28-32.

and [H] outline two ways of responding to [F], which leaves the alternative sketched in [B] as Aristotle's conclusion in [I]. Aristotle can then conclude his discussion of change in [J], having defended his definition of change from a possible inconsistency, and in so doing, clarifying how one should understand the key terms and concepts used in his definition of change: agent, patient, activity, and affection.

Indeed, many of the points he raised in his objection [C] remain true on his favoured view. (i) is (trivially) true: there is an activity of the agent and of the patient because they share in the same activity. (iv) is also true because that activity is a change. And it seems true that the sameness of the activity need not force us to say that their functions or goals are the same.[77] Finally, the activities are only different in *logos*, and are to be found in the patient, as we should expect, given Aristotle's definition of change.

§6. An Alternative Reading Considered

One objection to the reading developed above runs as follows: Aristotle cannot be suggesting that an action and affection are numerically one and different in definition because Aristotelian definitions are made in terms of essences (*to ti en einai*), and things that are distinct in essence are also numerically distinct. Hence, Aristotle's conclusion in [I] that action and affection are different in *logos* means that action and affection are essentially different and thus must be numerically distinct entities as well. Hence, Aristotle's claims regarding the sameness of action and affection must involve some looser sense of sameness.

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[77] Indeed, one could suggest that goals and aims belong properly speaking to substances (like persons and animals) not the changes themselves. To describe someone as a teacher and to describe someone else as a student is to describe people with specific aims of their own (even if related). The change involved for both the teacher and the student to realize their aims might still be the same change.

This kind of objection can be textually supported in the following way. In [I] Aristotle can be read as contrasting the agent's actions—teaching (*he didaxis*) and acting (*he poiêsis*)—with the patient's change, and then in (18) by identifying these as belonging to, or being said of, the change (but not strictly identical with it), with (19) further spelling out why the agent's activity are not strictly the same as the patient change: they are different in their essential definition (*logos*).[78]

A philosophical upshot of this reading is that it allows us, in principle, to explain the patient's affection as caused by the agent's action. On my favoured interpretation an action and affection are merely two different ways of describing one and the same entity. Hence, the action cannot be the cause of the affection; at least not in the sense of two distinct entities standing in a causal relation to one another.[79]

This alternative view makes three important (and controversial) assumptions:

[Assumption 1] Aristotle's use of *logos* in III.3 (or at least in [I]) should be understood as essence-involving definition.

[Assumption 2] Changes have essences (in terms of which they are defined).

[78] On this reading *tauta* in (18) refers back to the teaching and doing—the subjects of (17)—and not to all the activities (as on my favoured reading). Different versions of this reading have been developed and defended by Charles 2015 and Anagnostopoulos 2017. Marmodoro 2007 offers something of a middle ground, but insofar as I understand her reading, she defends the idea that strictly speaking action and affection are essentially distinct entities, which I disagree with.

[79] Cf. *Categories* 13 which suggest that relatives like double and half are "simultaneous by nature" (*phusei hama*) and hence one cannot be the cause (*aition*) of the other's existence or being (*einai*); cf. 14b27-34.

> [Assumption 3] It is meaningful to speak of numerical oneness or sameness when entities that exhibit this form of sameness have different essences.

Regarding [Assumption 1], it should be noted that it is by no means clear that Aristotle's use of *logos* in III.3 is meant to indicate any kind of essence-involving definition. Granted, I have argued for the view that action and affection are one in number and different in *logos*, where *logos* means either account or definition. However, Aristotle himself notes that not every *logos* is an essential definition.[80] Hence, not every occurrence of *logos* should automatically be read as involving essential definition.

Moreover, Aristotle's strategy in III.3 seems to be to contrast sameness in number that admits of a difference with *logos* with the strict form of sameness exhibited by synonymous terms. Given this, it is most natural to think that not every use of *logos* should be understood as involving essential definition. In the places where Aristotle does want the *logos* to involve the essence, he makes a point of explicitly saying so.[81] Instead, given the structure of the argument in III.3 it seems favourable to take the final use of *logos* in [I] as returning to the initial suggestion made in [B], which simply suggests that some entities, like hillsides and intervals, are numerically one but different in (non-essence involving) definition or account. Having dispelled the problems raised in the *aporia* it is natural to think Aristotle returns to his initial suggestion, given that he has shown it avoids the objections one might be inclined to raise against it.

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[80] Cf. *Metaphysics* VII.4.

[81] In III.3 he speaks in (9) of things that are the same in being (*einai*), at (11) and (13) he speaks explicitly of *logoi* that pick out the essence (*to ti en einai*), and at (17) of things that are strictly (*kuriôs*) the same. Similarly in III.1 201a29-34 he speaks of things that "unqualifiedly and by definition" (*haplôs kai kata logos*) the same. As the context makes clear the definition has to do with "being" (*einai*).

More importantly, for the alternative view to be successful as an interpretation of Aristotle, proponents of it owe us an argument to support their second assumption. The question of what Aristotle means by essence, what sorts of entities have them, is a major controversial issue, and discussing it here lies well outside my scope. Note that it is by no means clear that Aristotle accepts that changes have essences. If they do not, then changes are not the kind of thing that are to be defined in terms of essences. In this case [Assumption 2] could not be Aristotle's view, and hence the alternative would fail as interpretation of the Philosopher's views.

However, even if it is granted that changes do have essences it remains an open question how this should be understood. Recall our discussion in Chapter 1 regarding the "restricted thesis", the "liberal thesis" and "restricted liberalism" and what it means to be an essence-possessor. Assuming [Assumption 2] is right, then the "restricted thesis" cannot be Aristotle's preferred view. However, this still leaves us with the different ways of understanding what it would mean for a change to have an essence.

If the "liberal thesis" is correct—and Aristotle admits of a difference between primary essences belonging to substances and a secondary kind of essences that belong to non-substance categories—then [Assumption 2] will have some support. However, Aristotle does not (in *Metaphysics* VII.4) clearly endorse the "liberal thesis" over the alternatives.

However, if "restricted liberalism" is true, then it is not clear if there is such a thing as an essential definition of change. If there is, it is one that involves the essence of the substance of which the change is predicated. One could understand such definitions as true statements about a particular feature or modification of a substance. Thus, the definition of "man walks" would presumably involve the essence of "man"—e.g.

"rational animal"—and an account of walking. It is not clear that such definitions could not involve terms or items which are themselves numerically one but allow for different (non-essential) definitions. If so, [Assumption 1] and [2] could be correct but it would not directly show that action and affection cannot be numerically one and the same. Actions like teaching and learning would have essence involving definitions in virtue of being predicated of a substance—the teacher and student respectively—but it would not yet show that the activity predicated of these is distinct.

The "liberal thesis" thus seems a preferable reading to adopt in defence of the alternative reading sketched above. However, since Aristotle does not clearly endorse it, the alternative remains a speculative interpretation that requires further defence and development. In particular, it requires spelling out in what sense it is meaningful to speak of oneness and sameness of two entities that nevertheless have different essences, i.e. [Assumption 3].

I am not entirely sure it makes sense to speak of numerically one thing that nonetheless has numerically distinct essences. If distinct essences involve numerically distinct entities, then the oneness of the agent's action and patient's change is very weak. Indeed, they aren't—strictly speaking—numerically one and the same at all. However, since the alternative reading remains a (faint) possibility, let me attempt to say something in support of [Assumption 3]: One way to attempt to overlook the difficulty is by suggesting that action and affection are numerically one whole change, but essentially and numerically distinct parts of it.[82] The whole change can be thought of a 'rich'

[82] In [J] Aristotle says that change has been spoked of generally and "according to each part" (*kata meros*, 202b23-24). This could perhaps be developed into a reading according to which Aristotle thinks of the agent's activity and the affection of the patient as parts of one and the same change.

description of some process or sequence of events that contains, as its constituent parts, two essentially distinct changes: the agent's and the patient's activities.

§7. Conclusion

On my favoured reading defended here Aristotle thinks the agent's action and the affection or change the patient undergoes are merely two different ways of describing the same thing. By thinking of activities like a hillside, interval, or road between two places one can avoid the conclusion that the agent undergoes the change it causes in the patient. Even if the activity predicated of the agent and the patient is one and the same for both, predicating it of the agent or of the patient will matter. Moreover, even if one thinks of the activity of both as one and the same, Aristotle attempts to show that there is no need to understand this sameness as the strict kind of sameness found in synonymous terms.

This reading fits well with the substance causal reading developed in Chapter 2. The agent's action is not the (efficient) cause of the affection the patient undergoes, since these two are really one and the same entity. Rather, the agent is the efficient cause of the activity the patient undergoes. Moreover, it fits Interpretation A discussed in Chapter 1, according to which properties like capacities and their activities are not to be thought of as referring to distinct individuals, but are rather predicated of a substance or subject and hence describe that subject in a certain way. What the discussion in *Physics* III.3 has added to this picture is the thought that such descriptions can describe the same entity but in non-synonymous ways.

IV. Aristotle on Animal Locomotion

In the previous chapter we encountered Aristotle's claim that the action of the agent is not in the agent but in the patient. Building does not occur in the builder, but in the thing getting built. This raises the following question: how does Aristotle account for self-moving entities? He clearly thinks that self-movers exist: we see animals moving around, and their movements are not forced. But if the account in *Physics* III.3 is general and applies to all change—as I argued—how does it apply to walking for instance? If I walk to the shops, what is the patient where-in my walking occurs? Does it not, after all, occur in me?

Aristotle's account of self-motion in *Physics* VIII helps us clarify this issue. Aristotle's view is that a self-mover is a kind of complex entity where one part of it acts as the agent, the other the patient. As, will become clear, the account given in the *Physics* is preliminary. It helps us resolve the initial puzzle I sketched out above, but it does not tell us what the movement causing and movement undergoing parts of the self-moving animal are. The account in *DA* provides some of these details. However, the *DA* account is itself a preliminary sketch and does not fully explain how animal locomotion comes about. This needs to be fleshed out by Aristotle's arguments in *On the Movement of Animals* [MA].

There are three questions this chapter aims to answer:

[Question 1] How is self-motion possible (given that an action like walking is an agent's action that occurs in a patient)?

> [Question 2] What are the movement causing and movement undergoing parts of the self-mover (given that a self-mover is to be analyzed as both the agent and patient of change)?
>
> [Question 3] How do the different movement causing and movement undergoing parts of the self-mover interact such that locomotion occurs?

I will address each of these questions in order. In §1 I look at Aristotle's arguments in *Physics* VIII to answer the first. §2 and §3 looks at Aristotle's arguments in *DA* and *MA* to answer the second and third questions.

§1. How is Self-motion Possible?

Aristotle's project in *Physics* VIII is relatively clear: to discuss whether or not there is always motion or change, and if there is, what kind or kinds of motion could be eternal or infinite.[1] His aim is to establish that there is a single kind of motion that is eternal, and which is prior to other forms of motion and change. This motion is eternal circular motion, and Aristotle argues for this claim in VIII.7-10. In order to establish this, he will first have to show that there is motion eternally, and then that there is one kind of motion which is eternal, since one cannot conclude from the claim that movement is something that always exists that there is *one* motion that is eternal.

Given this aim one might wonder what relevance a discussion aimed at showing the eternal existence of motion might have for a discussion on animal locomotion.

[1] See *Physics* VIII.1 250b11-14. See Falcon 2015 for a discussion on the aim and structure of *Physics* VIII. See Coope 2015 for a discussion of the relevance of self-motion for Aristotle's overall arguments in *Physics* VIII.

However, the possibility that animals seem to generate their own motion from a state of rest or not moving proves to be a challenge Aristotle has to address, since if there are entities in the cosmos that can generate their own motion, that might raise the possibility that the cosmos itself generated its own motion from a state of rest—in which case the motion of the cosmos is not eternal.

For these reasons, the first stage of Aristotle's investigation into eternal motion will have to discuss various different kinds of moving and moved entities, and what relations there might exist between different things that are moved and the things that move them. His first step is to argue that everything that is moving is moved by something—either by its own nature or by something else. This is the chief result of *Physics* VIII.4. He then begins an investigation into how things are moved, which occupies his arguments in *Physics* VIII.5. The chief result of VIII.5 is to show that any chain of moving things has to originate in something unmoved which causes motion in something else. This will also be true—in a qualified sense—for self-movers: they are composite entities which have (minimally) an unmoved and a moved part.

§1.1. Moving Through Oneself and Through Another

VIII.5 begins with Aristotle considering two different cases: first where one thing moves another *directly*, and second, a case where one moves something *indirectly*—for example a man can move a rock by pushing it with a stick. In this case both the stick and the man are movers (both are *to kinoûn*), but function as movers in different ways, since (in this example), the stick depends on the man for its motion (by which it moves the rock), whereas the man does not depend on a prior motion to move the stick. In this example the man is a mover "through itself" (*di' auto*), whereas the stick is a mover "through another"

(*di' heteron*)—in this case: the man (who moves the stick to push the rock).[2] This gives Aristotle two basic kinds of movers: entities that move something through their own agency, and entities that move something through the agency of another.

Aristotle's goes on to argue that for any chain of moving things, there must some first (*prôton*) mover. Otherwise, there would be an infinite chain which Aristotle claims is impossible (*adunaton*).[3] Since there can be two kinds of movers only the things that move by themselves can function as first movers strictly speaking, at least in the sense of being what first imparts motion to a chain of moving things.[4]

Aristotle then develops another argument by focusing on what it means for something to move itself "by something". He reaches a similar conclusion: some self-moving entity (which moves by itself) is required as what (originally) imparts motion to something that is moved moved.

> For every (*pân*) mover moves something (*ti*) and by something (*tini*). For the mover moves either by itself (*hautôi*) or by another (*allôi*), as the man [moves something] himself or with a stick, and the wind itself or a rock which it pushes knocks something down. It is impossible, however, that that by which a thing moves (*hôi kineî*) move without what is a self-mover (*tou auto hautôi kinountos*). But if it moves by itself, it is not necessary that there be another by which it moves; however, if that by which it moves is a different thing, there is something which will move not by something [else] but by itself, or they will go on to infinity. If, then, something moved moves (*kinoumenon ti kineî*) [another], it is necessary to come to a stand and not to go on to infinity. For if the stick moves by being moved by the hand, the hand moves the stick, but if another also moves the hand, this different thing will be what is moving the hand. Whenever, then, a different thing always moves [another] by something, it is necessary that a self-mover be prior. If, then, this [mover] is moving, but there is nothing moving it, it is necessary that it move itself. Whence, according to this argument also, either what is moved is

[2] Cf. *Physics* VIII.5 256a4-13.

[3] Aristotle argues against there being an infinite chain of moving things in *Physics* VII.1. However, Ursula Coope argues that Aristotle's discussion of self-movers does provide reasons for this claim, and hence he need not rely on *Physics* VII.1; cf. Coope 2015, 258 (with note 16).

[4] Cf. 256a13-21.

directly moved by a self-mover, or at some time one comes to this sort of thing.[5]

This passage confirms the initial account given above. A mover will always impart motion either through itself, or through some other means. Indeed, for every mover it will be true that they move something (*ti*) and by something (*tini*;: either by themselves, or by moving something else.[6]

Moreover, if it moves through itself, then the mover is some kind of self-mover which requires no other thing by which it moves. Indeed, such a self-mover is always prior, and any chain of moved things which are moved by some means will ultimately terminate in something which moves by means of itself. As Aristotle makes clear later on in the chapter, a self-mover consists of an unmoved mover that moves without itself being in motion. Presumably, an unmoved mover moves something *directly*—i.e. through itself—even if it does so without itself being in motion.

What it is or means to be a mover, according to Aristotle, is for it to move something. Since Aristotle locates the motion (caused by a mover) as occurring in the patient, to say that something functions as a mover is not to say anything about how *it itself* might move or change, only that it is something which, in appropriate circumstances, causes motion in something else. So understood, a 'mover' is an agent that acts on a patient so as to move it. This leaves it open whether or not the mover is itself moved or changed in some way, when it causes motion (in the patient). Since what it is to be a mover is silent about whether or not it undergoes change itself, it is possible that there (at least) two, somewhat different, kinds of movers: ones that are unmoved or

[5] *Physics* VIII.5 256a22-b3.

[6] I take the dative to be an instrumental dative or dative of means.

unchanged, and one's that are themselves moved.

Similarly, what it means for something to be a moved thing is simply that this is an entity that has or undergoes some motion or a change. Indeed, the change is (in some sense) 'in' it. But this also leaves it open as to whether or not this entity causes change in something else. Describing something as 'moved' is simply to say that it is affected in a certain way.[7] A moved thing is thus a kind of patient: it has motion in it, and to describe something as moved is simply to say that something else moves or imparts motion to it.[8]

§1.2. Movers, Means, and Unmoved Things

Since to be a mover is simply to move something and to be moved is simply to be moved by something, it is possible that certain entities function as both moved entities and as movers. This is confirmed later in *Physics* VIII.5:

> For three things are necessary: the moved (*to kinoumenon*), the mover (*to kinoûn*), and that by which it moves (*hoi kineî*). It is necessary, then, that the moved be moved; it is not necessary, however, for it to move [another]. That by which it moves, however, both moves [another] and is moved. For this changes at the same time as, and according to the same (*to auto*) being (*on*) as, what is moved. This is clear, however, in the case of those things moving according to place. For it is necessary that they touch each other up to a certain point. But what is a mover so as not to be that by which a thing moves [another] is immobile.[9]

This discussion shows that what is necessary for moved entities is simply that they are moved. A moved thing cannot have motion and not be moved by it; that goes against the

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[7] As we will see, this is what allows Aristotle to analyse self-movers later in the chapter: a self-mover has an unmoved part that causes motion in a part that is moved, and since these parts are conjoined, the unmoved part is moved "accidentally" with the part that is moved. The moved part is itself properly speaking moved, but accidentally it seems to carry the unmoved part with it.

[8] Or perhaps the moved is moved by itself but *qua* other.

[9] *Physics* VIII.5 256b14-20.

concept of being a moved thing. What is required for a mover, however, is only that it moves something else: this is what it is to be a mover. It is not necessary that the mover itself be in motion. Indeed, the mover can be unmoved but still cause motion in something else.

This is not true of the means by which something moves. Such an entity functions as a mover *by being itself in motion*. Indeed, as the above quote makes clear, it "changes at the same time as, and according to the same (*to auto*) being (*on*) as, what is moved." Aristotle suggests that the validity of this claim is especially apparent in things that move with respect to place. Presumably he has in mind the examples he has used earlier in this chapter: the way in which a man moves a rock with a stick. Here, both the hand and the stick are means by which the man moves the rock. Let's say he pushes the rock forward. In this case the stick will have to be moved forward, and the hand will have to be extended forward by the man. So understood, the two means—the hand and the stick—are moved with the same kind of movement (forward motion) as the rock is. Moreover, it is because they are moved with this particular kind of motion that they impart motion in what they move: the hand moving the stick forward, and the stick moving the rock forward. So understood, the means by which something moves is a kind of moved mover.

So understood, the "same being" (*to auto on*) with which an unmoved mover moves the thing(s) by which something else is moved and the thing that is ultimately moved would be some kind of forward motion. I don't think this can be taken to mean each of these is moved by the same motion understood as the strictest kind of numerical identity.[10] That said, it is not clear how *on* here should be understood. This will be

[10] In the strictest sense two motions are numerically one and the same only if they occupy the same location; cf. *Physics* V.4. Since a hand that holds a stick cannot occupy the exact same spatial position their movements are presumably distinct.

important later on as Aristotle goes on in *DA* III.10 and the *MA* to discuss further details of animal locomotion, claiming that the animal is moved by the desiderative capacity through the use of some kind of instrument or tool (*organon*). Aristotle tells us relatively little about what kinds of changes tools undergo when used. It is not clear if tools are a kind of intermediary that would fit the idea of a moved mover.[11] However, while it might be true for some tools that they undergo the same kind of motion they transmit to the patient—like in the stick moving the rock example—this is not true for all tools. For instance, a saw undergoes a back-and-forth motion when used, but what is sawn—lumber—does *not* undergo a back-and-forth motion, but is being cut or sawn.[12]

What the present overview has sought to bring out are Aristotle's distinctions between three different kinds of entities: unmoved movers—agents that cause motion in something else without itself necessarily being in motion—moved movers—entities by which an agent moves something else and which function as movers because they are themselves moved—and moved entities—patients that are moved by a mover and which do not (necessarily) move anything. Moreover, there is a distinction to be made in terms of how something is a mover: whether or not it moves something directly—i.e. through its own agency—or whether it moves something indirectly—i.e. through the agency of another.

Aristotle makes use of these three features when he analyses self-movers toward the end of *Physics* VIII.5, to which I now turn.

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[11] In *Physics* II.3 194b35-195a3 speaks of tools (*ta organa*) and functions or works (*erga*) that come in between (*metaxu*) the mover and the goal (*telos*).

[12] At e.g. *GA* II.4 740b24-741a3 Aristotle suggests that tools undergo a change which is the activity of craft. See also: *GA* I.22 730b5-23. I hope to explore the connection of tools to Aristotle's views on movement and agency at a later date.

§1.3. Self-movers in Physics VIII.5

Aristotle goes on to analyse self-movers as a composite entity consisting of an unmoved and a moved part (minimally). He argues against treating a self-mover as a simple or single thing which moves itself in virtue of being in motion.[13] Aristotle refers back to his discussion in *Physics* III.1-3 to spell out why it cannot be the case that a self-mover is a single entity that both moves itself and is moved by itself.

> It is impossible, then, for what is moving itself to move itself as a whole. For as a whole it would be carried (*pheroi*) and carry according to the same locomotion (*phoran*), being one (*hen*) and undivided in form (*atomon toi eidei*); and it would be altered and alter, so that it would be teaching and learning at the same time, and be healing and healed according to the same health. Moreover, it was determined that it is the movable that is moved, and this is a thing moved in capacity, not in actuality;[14] what is in potency, however, goes into actuality; and motion is the imperfect actuality of the moved. The mover, however, is already in act, as the hot heats, and, generally, the thing having the species generates. Whence, the same thing will be hot and not hot in the same way.[15]

As we will see, Aristotle does not wish to deny that a self-mover is a kind of whole entity that is capable of moving itself. Rather, his concern is with what kind of an entity this self-moving whole is. In the above argument Aristotle's aim is to claim that a self-mover cannot be "one" and "undivided in form".[16] If the self-mover was simple in this sense,

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[13] He may have a view like that of the Athenian in Plato's *Laws* X 897a. For a helpful discussion of Aristotle's arguments here, see Coope 2015.

[14] This cannot mean that motion is a *dunamis*, for Aristotle argues at length in *Physics* III.1-3 (and elsewhere) that change is an actuality or activity. Rather, Aristotle's point must be that something is moved in virtue of a certain potential it has, not in virtue of an actuality. For this interpretation, see Broadie 1982, 244n27; Coope 2015, 254.

[15] *Physics* VIII.5 257b2-11.

[16] This claim raises an issue for Aristotle's claim that natural motion is caused by a thing's nature *qua* itself and not qua other. I address this worry below.

then, presumably, we would have the unwanted result that the agent would undergo the motion they cause. This is because Aristotle relies here on the idea that an agent of change must be actually F in order to cause something potentially F to become F. One and the same thing cannot be both actually F and potentially F at the same time. Hence self-motion must involve an active part that is the cause of motion and a passive part that undergoes motion. From this Aristotle concludes: "So of the thing moving itself [one part] moves and [one part] is moved."[17] A self-mover is thus a complex entity, consisting of both an active and a passive part.[18]

Aristotle then brings his earlier distinctions regarding kinds of movers and moved entities into play:

> Since, however, one thing moves [something], being moved by another, and another moves, being unmoved, and one thing moved is a mover, but another moved thing moves nothing, it is necessary that the self-mover be [composed] from an unmoved mover, and, also, from something moved that is not necessarily a mover (but whichever chances).[19]

Necessarily, a self-mover must consist of an unmoved mover and a part that is moved. The point of the parenthetical remark at the end is as I understand it, to highlight that the other part of which a self-mover must consist in must be moved, but may also be a moved mover, as the case may be.[20] However, as Aristotle's subsequent remarks make clear, a

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[17] *Physics* VIII.5 257b12-13.

[18] Presumably it is because self-movers have such complex natures that they can both move themselves and stop themselves, unlike the elements which fail to count as self-movers because they are simple entities. Where the elements seem to only have passive natures, self-movers have a complex nature that contains both active and passive parts.

[19] 258a5-8.

[20] For instance, when a man moves a rock with a stick, the hand that grasps the stick is a moved mover and

self-mover may consist of further moved movers without which a whole self-mover might not be able to move itself.[21] But *minimally* there needs only be a part that causes motion by being unmoved, and a part that is moved (and which accidentally moves the unmoved part with it).

Presumably, the unmoved part is necessary to explain why this kind of entity is a moved through itself and not because its motion derives from something else. Unless a self-mover moves of itself, then it would fail to be prior, since we would then need to appeal to something else to account for its agency. It is of course puzzling to claim that a self-mover contains a part that is unmoved. In what sense is this part unmoved? When I move myself, I do not leave pieces of myself behind. Aristotle solves this issue by noting that the unmoved part is moved accidentally, when it causes motion in the moved part.[22] After-all, Aristotle has argued that what it is to be a mover is to cause motion in something else. This is equally true of unmoved movers and of moved movers. But this tells us nothing about what might happen to them, when they impart motion in something else. Given that a self-mover is some kind of whole, Aristotle's thought seems to be that the unmoved mover is accidentally carried along, when it causes motion in the moved part(s).[23]

Aristotle goes on to characterize what it means for a self-mover to move "itself":

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not simply moved. It is a further question what determines why the man is a self-mover and not the composite entity of man and stick. For a discussion of this issue (and its relevance for Aristotle's *Physics*) see Coope 2015, 259-264.

[21] Cf 258a9-21.

[22] Cf. 257b20-26, b30-34.

[23] In this sense the unmoved mover is perhaps like the engine of a car, which is moved along the rest of the car given the way the various parts are connected.

> So of the whole, one part, being unmoved, will move, and the other will be moved. For only thus is it possible that something be a self-mover. Moreover, if indeed the whole moves itself, one part of it will move, and the other be moved. So AB will be moved by itself and by A.[24]

Since any self-moving entity must contain a moving part, A, and a moved part, B, the whole self-mover, AB, can be equally well said to move itself—AB moves AB—and that AB is moved by A.[25] In order to avoid the unwelcome results Aristotle raised against treating self-movers as simple or single entities, he must presumably think that it is ok to say of a complex entity like AB, that considered as a "whole"—considered as consisting of A and B—it moves itself "as a whole"; that it both causes and undergoes the motion in virtue of its distinct parts, where one part is causing motion and the other undergoing the motion.[26] So understood, Aristotle thinks that a self-mover moving "by itself" needs to be understood as moving in virtue of its parts causing and undergoing motion.

§1.4. Two Issues Considered

There are two issues arising from the discussion in *Physics* VIII that I wish to address. The first has to do with the identity of the different unmoved and moved parts Aristotle identifies in this account. What, precisely, is the unmoved part of the whole? What is the moved part? The second has to do with the sense in which the changes or movements under consideration are natural. These questions are related. If natural motion is a change caused by a thing's soul or nature acting on the thing itself and "*qua* itself" (and *not* acting

[24] *Physics* VIII.5 258a1-5.

[25] A moves itself accidentally in that A is carried along with B to the extent that A and B form the composite entity AB.

[26] Cf. 258a21-27.

on itself "*qua* other"), to what extent can Aristotle arguments regarding self-movers be natural motion if a self-mover cannot be "one" and "undivided in form", but must be composed of two distinct parts?

I begin with the identity-question. We would like to know what in the account sketched out above counts as the part that functions as the unmoved mover, and what functions as the moved part(s)? Although Aristotle does not specify what the parts of self-movers are throughout *Physics* VIII he seems to think of only "ensouled" or "animate" (*empsuchôn*) entities as self-movers.[27] For instance, in VIII.4 Aristotle remarks that:

> an animal moves itself by itself, but we say that whatever things have the origin of motion in themselves are moving by nature. Whence, the animal as a whole (*to zôon holon*), by nature, moves itself by itself; nevertheless, its body can be moving both by nature and besides nature.[28]

Although Aristotle does not explicitly address the identity questions, his discussion throughout *Physics* VIII suggests the following (basic) picture: what is moved is the whole animal, the composite of body and soul. Reading these two into Aristotle telegrammatic remarks above gives us the soul as the unmoved mover A, and the body

[27] The movements of animate and inanimate entities are mentioned at e.g. VIII.2 252b12-28, where both "we" (*hemin*; presumably "we humans") and animals (*zôôn*) are cited as examples of entities which (presumably) are capable of originating their own motions. At 253a7-21 he goes on to speak of difficulties pertaining to the movement of ensouled beings, suggesting that some of animals "inborn parts" (*tôn sumphutôn*), giving the "perceptive part" (*aisthêtikês*) as an example. Nature (*phusis*) is mentioned at e.g. VIII.3 253b7-9 and 254a10. VIII.4 discusses at length the natural motions of different things like animals and the elements. In VIII.6 259a27-b20 Aristotle summarizes his arguments speaking of the genus of animals and ensouled as self-movers and of the body (*to soma*) as what changes places (in locomotion) and of "what is in the body" (*to en tôi sômati*) changing place with it.

[28] VIII.4 254b14-19.

the moved part B, and the whole animal is the composite entity AB. For Aristotle it is correct to say both that AB moves by itself (understood as moving in virtue of its parts), and that AB is moved by A.[29]

What of the second issue? Aristotle clearly thinks animal self-motion he discusses here is natural motion.[30] The problem is: does Aristotle's claim that a self-mover is a composite of two or more different parts or features threaten his views that their locomotion is natural? The issue arises when we recall that Aristotle thinks natures are origins of change in a thing "primarily, in virtue of itself, and not accidentally".[31] This is an issue which I cannot fully explore here but I will sketch out two possible lines of responding to this worry.

One way to respond would be to suggest that Aristotle's considered view must ultimately be that natures are not directly efficient causes of motion (or rest). Rather, natures explain what capacities a thing has, and these natural capacities are the real efficient causes of locomotion.[32] Since capacities are other-directed and co-relative, self-motion would be understood as the unmoved moving parts capacity to cause change in something other than itself—a moved part—and the moved part's capacity to be changed by something other—the mover.[33]

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[29] And Aristotle's remarks allow for somewhat more complex cases where a self-mover consists of an unmoved mover (the soul), one or more moved mover (presumably some part of the animal like the perceptual capacity), and a moved part (like a hand or another limb).

[30] Cf. the passage from VIII.4 quoted above.

[31] Cf. *Physics* II.1 192b23-24.

[32] This kind of a view was outlined briefly in the discussion on nature in Chapter 1.

[33] This need not invalidate Aristotle conception of natures as a cause of a thing "primarily, in virtue of itself, and not accidentally" given that the natural capacities are capacities of the thing itself and non-accidentally related to it.

Alternatively, one could seek to resolve the issue by suggesting that natural things have a specific kind of unity in virtue of which they move and are moved, such that the unmoved mover and moved parts of the animal are not "other" in the sense that would threaten Aristotle's conception of nature as a *per se* origin of change of the thing itself. Aristotle's hylomorphism seems to be formulated to resolve this kind of challenge. For instance, in *Metaphysics* VIII.6 Aristotle suggests that as long as we recognize that form and matter stand to each other as *energeia* to *dunamis* and that these are in some sense one and the same, then there will be no puzzle about what is the cause of hylomorphic compounds being one. In *Physics* II Aristotle repeatedly remarks that nature is "two" or "twofold" (*dichôs*; *duo*; *dittê*) being both form and matter and these are not to be understood as two distinct natures of one thing, but rather, as two different aspects of one thing.[34] In *DA* II.1 Aristotle claims that the soul is the form of a living body, where the body is to be understood as matter and an "underlier" (*hupokeimenon*). Thus, if the unmoved mover of the whole animal is the soul and the moved part is the body, the relation between the unmoved mover and moved part(s) is special, and should not be understood as e.g. the hand that moves a stick that moves a rock, where the hand, the stick, and the rock are distinct substances acting on each other.[35]

As Ursula Coope has pointed out given that the above is a fine Aristotelian answer to this issue, it is noteworthy that Aristotle himself does not give it here (at least not explicitly).[36] If Aristotle were to identify the unmoved mover with the form of the self-

[34] Cf. *Physics* II.1 193a9-b5; II.2 194a12-27; II.8 198b30-32.

[35] It may be helpful to contrast the special unity of natural entities to accidental unities, like that of a doctor who cures herself. The doctor's exercise of her *dunamis* to heal is an other-directed capacity. A self-healing doctor heals herself insofar as she *happens* to be the relevant other—the patient—that the *dunamis* is directed at acting upon. A thing with both active and passive natures is not an accidental unity in this sense.

[36] Cf. Coope 2015, 260. However, given the examples of self-movers that Aristotle employs throughout *Physics* VIII, it may be that Aristotle think this in fact is his favoured solution (see footnote 26 above).

mover, then he could not straightforwardly make use of his arguments regarding self-movers in discussing the prime unmoved mover of the cosmos. "The prime mover cannot be the form of the thing it first moves, since then it would itself be moved accidentally"—and Aristotle thinks that the prime mover of the cosmos "is not, even accidentally, moved."[37]

Coope's resolution to this puzzle is to take Aristotle's arguments at 258a9-b9 as introducing a distinction between a primary self-mover and something that is a self-mover "of sorts". "The primary self-mover, then, will be the unmoved moved together with the *first* thing that it moves. An animal is a self-mover because it is composed of an unmoved mover (presumably, the animal's soul) together with the first thing moved by that mover."[38]

For reasons that should become clear from my discussion of the account of animal locomotion in *DA* III.10 and *MA* I do not think we should ascribe to Aristotle a view according to which only the unmoved mover and the first moved part are the genuine self-mover. As we will see, Aristotle treats the capacity for desire in *DA* III.10 as (some kind of) a moved mover. Presumably this is a faculty of the soul, which seems to have the effect that only the soul would count as a genuine self-mover. But this seems to rob the whole animal of its status as a genuine self-mover.[39]

Moreover, at *Physics* VIII.5 258a21-b4 Aristotle speaks of the mover and moved being continuous (*suneches*), and when considering a case where something is removed from the self-mover as he notes that if something is divided (presumably the self-mover) then it will no longer have the same nature (*phusin*). Entities that are continuous are not merely touching, but in some sense held together (they are *sunechêtai*) and form some kind of whole or unity (cf. *Physics* V.3 227a10-17).

[37] Coope 2015, 260.

[38] *Ibid.*

[39] One could of course accept this outcome, but one would then presumably have to give some account of why the ensouled animal is more of a self-mover than e.g. the animal that carries a stick, which intuitively

Without attempting a full verdict of Coope's arguments let me simply propose an alternative way of reading Aristotle's remarks at 258a9-21. As I understand these lines Aristotle is envisioning, for the sake of argument, that there could be a self-mover that is composed from more than an unmoved mover (A) and moved part (B). There can also be self-movers where (B) is a moved mover that moves a further moved part (C).[40] He first notes that the whole ABC moves itself. However, he goes on to consider what happens if some part of such a self-mover is removed. He suggests that if C is moved, AB will still move itself. I take it that Coope takes this as evidence for treating AB as the primary self-mover. But Aristotle need not be read that way. He may simply be envisioning a hypothetical case where a self-mover might be such that a part of it is removed but that the remaining whole remains, nonetheless, a self-mover. For instance, I might lose the lower parts of my legs and still move myself. So understood, Aristotle is only trying to establish that *minimally* a self-mover *must* consist of an unmoved mover and a moved part but that there may be more complex self-movers, and that only some parts of such an entity could be removed without affecting the entities status as a self-mover.

If the above suggestion is right, then it is worth noting that for such complex self-movers their self-motion will consist of both direct motion and indirect motion. Direct motion in the sense that the unmoved mover moves the moved mover by itself, and the moved mover moves the moved part indirectly, through the agency of the unmoved mover.[41] Both movements originate in the unmoved mover. However, while the unmoved mover A moves B directly and by itself, A only moves C through B, i.e. indirectly.

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is more of an accidental unity than the soul-body composite of the animal.

[40] In fact, there could be many moved movers but Aristotle posits only one for the sake of argument.

[41] Cf. 258a10-18.

It is important to note that Aristotle is not concerned, in *Physics* VIII, to spell out what these moving and moved factors of self-movers turn out to be.[42] Given that his aim in *Physics* VIII is highly abstract and focused on developing an argument for the existence of a prime unmoved mover that moves the cosmos, it is not clear how committed Aristotle is to his initial and abstract account of self-motion sketched out above.

§1.5. Summary: How is Self-motion Possible?

We are now in a position to answer the first question I raised at the start of the chapter. Aristotle's basic view is that self-moving entities are both agents and patients of their self-motion. We are both the cause of our walking, and we are affected by what we cause to occur—say going wherever it is we want to go. However, Aristotle does not treat self-movers as a simple or single subject who happens to be both an agent and a patient of self-motion. Rather, self-movers are composed from (minimally) two parts, a part which moves and a part that is moved. Presumably these two parts form some kind of genuine unity.

The part by which the self-mover moves itself is an *unmoved* part. It moves by itself by (somehow) causing motion in the moved part. It does not move in virtue of itself being in motion. If that was the case, then something else would have to explain the motion in virtue of which the self-mover moves. Rather, it causes motion "by itself".

Of course, we will want to know more about how Aristotle envisions an unmoved mover causing motion in something moved. Moreover, if my above suggestion regarding complex self-movers is correct, we will want to know how the moved mover of the self-

[42] As Coope also notes (cf. Coope 2015 249, 263).

movers moves something else by being moved by the unmoved mover. Resolving these issues requires turning to Aristotle account of animal motion developed in *DA* and MA—to which I now turn. While the *DA* helps flesh out Aristotle's account by providing details for which features of a living being function as the movers and moved parts, it does not resolve how locomotion comes about from these.

§2. Animal Locomotion in DA III

Aristotle's chief discussion on the cause or origin of animal locomotion is *DA* III.9-10. He begins this investigation by asking what power (*dunamis*) of the soul initiates motion with respect to place.[43] He sets up the subsequent discussion in the form of a puzzle: given that the self-possessed (or *enkratic*) persons are moved by their reason (*noûs*) or knowledge (*episteme*) contrary to desire (*orexis*), and weak (or *akratic*) persons are moved by desire or appetite (*epithumia*) contrary to reason, it seems that there are two different sources of motivation: reason and desire (at least in rational animals).[44] He dispels this view by claiming that when we are said to be moved by reason, we are in fact moved by a rational desire (or wish, *boulêsis*).[45] Reason does not move the animal independently of desire. Whether or not the movement is in accordance with our reasoning it is always (*aei*) the case that what moves (*kineî*) us is something desired (*to orekton*)—some form of practical good (*prakton agathon*).[46] Aristotle can then conclude that what moves an animal in all cases is the soul's power (ability, or capacity) to desire.[47]

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[43] Cf. *DA* III.9 432a15-19.

[44] Cf. *DA* 433a1-8 and III.10 433a9-14.

[45] Cf. *DA* 433a22-26.

[46] Cf. *DA* 433a28-30. The role and importance of calling the object of desire a good will be discussed further in Chapter 5.

[47] Cf. *DA* 433a31-b1.

This answers the initial question raised at the start of III.9.

However, while this answers the question *what* initiates animal motion, it does not tell us *how* or *why* desiring something causes locomotion. How does desiring something good initiate bodily movement? To fully understand his account it must be complemented by considering his arguments regarding self-movers (from *Physics* VIII) and his more detailed claims regarding animal motion in MA. Both contain important details omitted or not discussed in *DA* III.10, and when read together give us a better understanding of the precise details of animal locomotion. However, *DA* III.10 forms the basic account of purposive, bodily, movement of animals, and the majority of this chapter will focus on it.[48]

§2.1. From Practical Good to Locomotion

Having argued that it is the soul's power to desire something good achievable through action which moves the animal, Aristotle spends the remainder of *DA* III.10 in giving us a summary account of how desire leads to bodily motion. He gives this account as a 'chain' of different movement causing and movement undergoing parts or features, employing technical terminology also found in his *Physics*. I've divided the relevant texts of *DA* III.10 into three passages—[A], [B], and [C]—and I will deal with each of them in turn. At [A] (433b10-13) Aristotle goes on to clarify the relation between the object of desire and the capacity for desire. In [B] (433b13-21) Aristotle spells out the chain of different features or parts involved in animal locomotion and introduces some kind of bodily instrument (an *organon*) "by which" the animal is moved. He ends—in [C] (433b21-27)—with a preliminary account of how this instrument imparts motion.

[48] To what extent this account can be applied to cases like purposive resting, or to actions that do not involve movement (like working out a puzzle in one's mind) will be briefly considered in Chapter 5.

Aristotle begins his overview of how desire causes motion as follows:

> [A] Now the mover is one in form, the desiderative capacity as desiderative (but first of all the object of desire, for this moves without being moved by being thought or imagined), but in number the movers are many.
>
> εἴδει μὲν ἓν ἂν εἴη τὸ κινοῦν, τὸ ὀρεκτικόν ᾗ ὀρεκτικόν (πρῶτον δὲ πάντων τὸ ὀρεκτόν· τοῦτο γὰρ κινεῖ οὐ κινούμενον τῷ νοηθῆναι ἢ φαντασθῆναι), ἀριθμῷ δὲ πλείω τὰ κινοῦντα.[49]

This passage immediately raises a number of interpretative difficulties. It is not immediately clear what Aristotle has in mind in saying that the mover is "one in form". That the mover is one in form is presumably contrasted with the claim that "in number" the movers are "many"—this is how I understand the contrast between the *men* and the *de* in εἴδει μὲν ἓν […] ἀριθμῷ δὲ πλείω. In line with this, I take the (bracketed) claim that the first mover is the object of desire as (partly) pointing forward to passage [B] where the relation between the object of desire and the capacity (and other factors) are discussed in more detail.

This reading also helps with Aristotle's immediate purposes: since the first mover is an object of desire, and since there are many kinds of desires—as alluded to in the immediately preceding discussion—it is understandable that Aristotle would specify that despite this multiplicity, what moves the animal is in all cases the desiderative capacity and that the objects that affect it are one in form or perhaps species: they are all objects of desire. So understood, Aristotle's point in [A] is to specify that there are numerically many objects of desire that can affect the desiderative capacity which is what explains motivational conflict—which Aristotle discusses in the lines preceding [A]. So

[49] *DA* 433b10-13. Here I have bracketed the phrase πρῶτον δὲ πάντων […] φαντασθῆναι for reasons that will become clear.

understood, [A] brings to conclusion the preceding discussion on what moves animals and humans by showing that even in cases of motivational conflict the power that moves the animal is its desiderative capacity.

Moreover, Aristotle makes a number of other important preliminary remarks in [A] which his subsequent discussion develops further. Of particular interest to us are his claims that:

(a.) "the desiderative capacity as desiderative" is "the mover" (*to kinoûn*), but that

(b.) the "first" (*prôton*) mover is what is desired, and this

(c.) "moves without being moved" (*kineî ou kinoumenon*),

(d.) by being "thought or imagined" (*tôi noêthênai ê phantastênai*).

What it means for the desiderative capacity to function as "the mover", and for the object of desire to be the *first* mover which "moves without being moved" will be clarified in the discussion that follows, when Aristotle goes on to distinguish the relations between the different factors involved in producing locomotion. In this way [A] also bridges the discussion to [B], which discusses the ways in which the object of desire and the desiderative capacity are both kinds of movers.

The point of the qualification in (a.) that what moves is the "the desiderative capacity *as desiderative*" is to highlight that we are really moved by our capacity to desire. The desiderative power of the soul is not independent from the functions of the soul's other abilities—like its power to perceive or think.[50] However, these capacities can

[50] A full investigation of the relations between the different powers of the soul is not something I can properly consider here. A few points in favour of the view sketched out above: First, Aristotle seems to be highly critical of the project of dividing the soul up into too many distinct parts or capacity (cf. 433b1-5; for a similar point see Rapp 2020, 2. Second, Aristotle has previously (in *DA* III.7) noted that the

function without desiring. That is: it is possible for someone to entertain the notion that something would be good to do, without experiencing a desire to do it.[51] Cognitive faculties can be active without there being desire. However, when one *is desiring something*, this is a cognitive activity (such as perception or thought) of a special, desiderative, kind.

The claims (b.) and (c.) suggest that Aristotle applies the basic picture of *Physics* VIII to how desire moves the animal: for any chain or sequence of moving and moved entities there must be some first mover (which turns out to be a kind of unmoved mover). Here, the object of desire is specified as the unmoved mover.[52] The following remarks help spell out how an object of desire functions as an unmoved mover.

The object of desire causes animal movement *by being thought or imagined*; this is the point of (d.).[53] Thinking and imagining are activities (*energeiai*) of the soul; they

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desiderative capacity is "not different" (*ouk heteron*) from the ability to be averse, nor from the perceptive capacity, even if "different in being" (*to einai allo*). Indeed, being pleased and pained (*hêdesthai kai lupeîsthai*) are activities of the "perceptive mean" (*aisthêtikêi mesotêti*) in relation to something good or bad. Similarly, rational desire seems to involve reason asserting that something is good or bad. In these cases, there seems to be one activity (perceiving, reasoning) which is a kind of desiderative cognition; cf. *DA* III.7 431a8-20, 431b6-10. For a discussion of III.7 and the view that the experience of pleasure, pleasantly perceiving something, and perceptual desire (*epithumia*) are the same activity, see Charles 2006. Aristotle claims that the experience of pleasure is a kind of perception at PA 661a6-8; see also Moss 2012. Finally, in *MA* 7 Aristotle considers the question what kind, or in what way, thinking initiates motion and action, and his answer seems to be that it is desiderative thinking (cf. 701a26-b1). These claims suggest that desire is a rich cognitive activity, one where a more basic activity of the soul is active in a distinctive, desire-involving, way.

[51] This allows Aristotle to distinguish between theoretical (in the sense of non-action, or non-pursuit, involving) contemplation of goods or objects of desire (including things one should do or would like to do), and desiderative cognition which *does* involve some form of pursuit (or avoidance). In the latter cases, thinking one should do something in the right, desire-involving, way, involves doing something, in the way the former cases do not. Cf. III.9 432b26-433a1.

[52] As I argue in the next chapter we should not think of the object of desire as some external thing that causes motion in the animal.

[53] I take the *tôi* here as a dative of means or instrumental dative.

are exercises of the animal's capacities to think and imagine. Crucially, the kind of activity involved here is—as I argued in Chapter 2—like that of knowing something and actually using or exercising that knowledge. In these cases, it is "up to" the person or animal in question to exercise this capacity.[54]

So understood, the claim in (a.) and (d.) specifies by what kind of activity the object of desire causes movement. It is not just any kind of cognition that causes locomotion, rather it is a desire involving type of cognition which moves animals. Aristotle's point is that animals are moved by their cognitive faculties insofar as they are active in a way that involves desiring or striving for something. It is not mere theoretical contemplation of something good, but an activity directed at the good in a specific way: one that involves being drawn towards this good.[55]

When read together the four claims I highlighted in [A] suggest that Aristotle has his *Physics* VIII.5 model in mind when analysing animal locomotion. Further evidence that Aristotle has his *Physics* VIII.5 model in mind can be found in passage [B]—to which I now turn.

§2.2. Passage [B]: The Different Features of Animal Motion

Having specified that it is the soul's power to desire something good attainable through action that moves the animal, he then spells out the different features involved in producing animal locomotion in more detail:

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[54] Indeed, such a change of state—going from not exercising the capacity to exercising it—is not properly speaking a change (it is not a *kinêsis*), but a fulfilment of one's nature.

[55] This suggests a rather special teleological relation to the good. It is not merely that this activity is good for the animal. What seems special with desire is that it involves some kind of awareness or cognition that something is good or to be gone for.

> [B] Since there are three [features], first, the mover, second, that by which it moves, and further, third, what is moved, and the mover is twofold, in the one instance being unmoved and in the other a moved mover. So then, the unmoved [mover] is the good to be done, and the moved mover is the desiderative capacity. For what is moved [is moved] insofar as it desires, and desire is a kind of change or activity, and what is moved is the animal. The instrument by which desire moves is already something bodily; accordingly, it is necessary to examine it among the functions common to body and soul.
>
> ἐπεὶ δ' ἔστι τρία, ἓν μὲν τὸ κινοῦν, δεύτερον δ' ᾧ κινεῖ, ἔτι τρίτον τὸ κινούμενον, τὸ δὲ κινοῦν διττόν, τὸ μὲν ἀκίνητον, τὸ δὲ κινοῦν καὶ κινούμενον· ἔστι δὲ[56] τὸ μὲν ἀκίνητον τὸ πρακτὸν ἀγαθόν, τὸ δὲ κινοῦν καὶ κινούμενον τὸ ὀρεκτικόν· κινεῖται γὰρ τὸ κινούμενον ᾗ ὀρέγεται, καὶ ἡ ὄρεξις κίνησίς τίς ἐστιν ἢ ἐνεργεία·[57] τὸ δὲ κινούμενον τὸ ζῷον· ᾧ δὲ κινεῖ ὀργάνῳ ἡ ὄρεξις, ἤδη τοῦτο σωματικόν ἐστιν—διὸ ἐν τοῖς κοινοῖς σώματος καὶ ψυχῆς ἔργοις θεωρητέον περὶ αὐτοῦ.[58]

In passage [A] Aristotle noted in passing that the desiderative capacity is "the mover" (*to kinoûn*) while what is desired is the first mover, causing motion without itself undergoing motion (*kineî ou kinounmenon*). Here the roles get further specified and tied in with bodily motion. Aristotle introduces two new features using similar terminology he uses in *Physics* VIII.5: a means by which the desire moves (*hôi kineî*) the animal, which, in turn, is what is moved (*to kinoumenon*). He also specifies the way in which both the desiderative capacity and the object of desire function as movers. Indeed, Aristotle already made the point that the desired good is the unmoved mover, and passage [B] further elaborates on the way in which the desiderative capacity is a mover: it is a "moved mover": it is both moved and it causes motion in something else (*kinoûn kai kinoumenon*).

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[56] Reading δὲ with Hicks 1907.

[57] I read ἢ ἐνεργεία with Hicks 1907 and Polanksy 2007 supported by the majority of MSS's against e.g. Torstrik 1867 and Ross 1967, who print ἡ ἐνεργείᾳ (ἡ supported by MSS E and C^1; ἐνεργείᾳ is suggested by Torstrik).

[58] *DA* 433b13-21.

Importantly, [A] focused on the way in which the unmoved mover moves the capacity for desire: it moves by being the object of some cognitive activity. I've argued that this type of activity involves a transition from not exercising the capacity to exercising it, where this transition depends on the agent or subject to engage in (or not to). [B] introduces a different relation by which the capacity for desire moves the animal: the capacity for desire moves the animal (body) through the use of an instrument (an *organon*). Understanding this relation will prove crucial for our understanding of Aristotle's account of bodily motion. (I return to this question below.)

Before considering how the desiderative capacity moves the animal through the use of some means, we will need to consider how we should understand Aristotle's claim in [B] that it is the animal (*to zôon*) that is the moved thing. As I understand it, Aristotle is trying to enumerate the different features or parts involved in locomotion, then presumably what Aristotle means in [B] is that it is the *body* of the animal that is moved, and not animal as the whole body-soul composite.[59]

Another reason to favor this view is that animals are generally used as *the* example of a self-moving entity. Recall that Aristotle's generally holds that a self-mover is a whole that moves itself "as a whole by the whole" which is to be understood as the self-mover being both a mover and a moved in virtue of one of its parts being the mover and another part being moved. If so, then it is better to think that Aristotle has in mind the animal body in [B], which is moved by the desiderative capacity of the soul (through the use of some bodily instrument).[60]

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[59] I favor taking the animal here to mean the animal body (see also next footnote), given the way the discussion in [B] seems to treat these parts as on par with each other—as does the parallel passage in *Physics* VIII.5.

[60] I think this reading is supported by Aristotle's summary remarks at *DA* III.10 433b27-28 where claims that "the animal (*to zôion*) is capable of moving itself (*heautoû kinêtikon*) just insofar as it is able to desire"; here the animal is something which is described as able to move itself and not merely something that is

At this stage, all Aristotle tells us, is that what is moved is the animal, and this is moved insofar as it desires—desire being some kind of change or activity. But, of course, this cannot be the end of the story since even if desiring is a kind of motion or activity, it is (presumably) not strictly speaking locomotion.

§2.3. The Instrument of Bodily Movement

Having sketched out the features of animal locomotion in passage [B] which introduced the idea of the animal being moved by a bodily instrument (*organon*), he goes on to give a preliminary account of how this instrument moves the animal in passage [C]:

> For the present, it may be enough to say summarily that we find that which causes motion by means of an instrument at the point where beginning and end coincide; as, for instance, they do in the hinge-joint, for there the convex and concave are distinct in *logos*, but inseparable in magnitude. For all animals move by pushing and pulling, and accordingly there must be in them a fixed point, like the centre in a circle, and from this the motion must begin.

> νῦν δὲ ὡς ἐν κεφαλαίῳ εἰπεῖν, τὸ κινοῦν ὀργανικῶς ὅπου ἀρχὴ καὶ τελευτὴ τὸ αὐτό—οἷον ὁ γιγγλυμός· ἐνταῦθα γὰρ τὸ κυρτὸν καὶ τὸ κοῖλον τὸ μὲν τελευτὴ τὸ δ' ἀρχή (διὸ τὸ μὲν ἠρεμεῖ τὸ δὲ κινεῖται), λόγῳ μὲν ἕτεραὄντα, μεγέθει δ' ἀχώριστα. πάντα γὰρ ὤσει καὶ ἕλξει κινεῖται· διὸ δεῖ, ὥσπερ ἐν κύκλῳ, μένειν τι, καὶ ἐντεῦθεν ἄρχεσθαι τὴν κίνησιν.[61]

Alas, while [C] does provide some more details it raises more questions than it answers. For my purposes there are two points this passage that I want to focus on further.[62] These

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moved which suggests to me that generally Aristotle considers the animal as a kind of hylomorphic whole for which reason [B] is better understood as involving the animal body as what is moved.

[61] *DA* 433b21-27.

[62] The question about the location of what moves with an instrument being somewhere beginning and end

are:

(i.) [C] begins by pointing out that the instrument by which the animal is moved is something bodily (*sômatikon*).[63]

(ii.) All (*panta*)—presumably: all animals—move by pushing (*ôsei*) and pulling (*helxei*). This is why (*dia*) there must (*dei*) be something steadfast (*menein ti*) from which the motion originates (*archesthai*).

What we will want to know is how does the capacity for desire function here. In particular: how does the capacity for desire accomplish the required pushing and pulling through which animals move themselves? Is the means or bodily instrument with which the soul's ability to desire introduced to accomplish this task? For further clarification on these points we must turn to the MA.

§3. Instruments and Movers in De Motu Animalium

The *MA* seems to flesh out the basic account given in *DA* in a number of different ways,[64] by e.g., considering different 'external' and 'internal' conditions that must obtain for bodily movement to occur.[65] External conditions include, for example, that the animal must be able to push (or pull) itself against something unmoved (such as the ground), in order for it to be able to move.[66] Internal conditions, in turn, include (1) the animal's

coincide as exemplified by some kind of joint lies outside my current aim to consider.

[63] It presumably for this reason that the functioning of it will be investigated in a different context and not in a work focusing on the soul.

[64] For a discussion, see Rapp 2020.

[65] For a discussion, see Rapp 2020.

[66] Cf. *MA* 2-4.

ability to overcome its own state of rest (or whatever external factor may be constraining the animal), and (2) the ability to push and pull, which Aristotle seems to hold is a general requirement for there being motion with respect to place (as noted in [C]).

Both of these internal conditions are satisfied by the "connate *pneuma*": *pneuma* supplies the animal with the required strength to generate motion, and it accomplishes locomotion because the organ that houses (or is) the connate *pneuma* (the heart, or something in its vicinity) expands and contracts, which in turn causes pushing and pulling of the limbs.

Although the *MA* contains further arguments and discussions regarding animal locomotion, it is not independent of the arguments Aristotle makes in *DA* III.10. The discussion on locomotion in *DA* aims to answer the question what ability or power (of the soul) moves the animal (cf. 432a15-22), while the *MA* aims to answer more fully *how* locomotion comes about (given this power or ability). Indeed, the *MA* account seems to start from the assumption that what moves the animal is desire, and that this moves the animal as a moved mover; see *MA* 700b35-701a5, and 703a4-5. Moreover, when Aristotle turns to discuss animal locomotion in *MA* 6, he begins with a cross-reference to the DA, and repeats the point that the final cause is the starting-point for animal locomotion, that this is an object of desire, and more generally a good. The two works thus seem closely linked.

§3.2. Innate Pneuma

Aristotle (in)famously discusses the so-called *sumphuton pneuma* (*sumphuton*: "innate" or "connatural"; *pneuma*: "breath" or "spirit")[67] in *MA* 10, as the kind of instrument that is supposed to be able move the animal body. The discussion seems to begin by recalling

[67] Since there are many obscurities surrounding *pneuma* I will leave the term untranslated.

the discussion from the DA:

> According to the account that gives the cause of motion, desire (*orexis*) is the middle (*to meson*), which moves by being moved (*ho kineî kinoumenon*). But in ensouled bodies there must be some body (*sôma*) of this kind. Now that which is moved but is not by nature [a mover] can be affected by an external power, but a mover must of necessity have some power (*dunamin*) and strength (*ischun*). It is clear that all animals have innate *pneuma* and derive their strength from this.[68]

It seems that Aristotle does not think that desire is, on its own, sufficient to move the animal body, since apparently the capacity for desire does not supply the relevant strength (*isxun*), or power or ability (*dunamis*) to the animal by which it can move its body. Presumably this is why *pneuma* is introduced here. The animal must have power and strength to overcome a prior state of rest to begin moving, and in order to move, it must presumably be able to push against the ground (or air, or water), and pull or place its limbs into position (for instance).

More importantly, in the above quote Aristotle claims that the *pneuma* is some kind of body (*soma*), which fits with Aristotle's claim (i.) in [C]. Moreover, the *pneuma* is here characterized as a kind of mover. Something that is merely moved can be affected by something external that moves it. A mover by contrast must have some kind of power or ability of its own by which it can move something else.

But what is it about the *pneuma* that makes it suitable to provide the required strength to move the animal? Aristotle goes on to add the following point:

> And [*pneuma*] is obviously well disposed by nature to impart motion and supply strength. Now the functions (*erga*) of movements are pushing (*hôsis*) and pulling (*helxis*), so the tool (*to organon*) of movement has to be capable of expanding and

[68] *MA* 10 703a4-10, tr. Nussbaum 1978.

> contracting. And this is just the nature of the *pneuma.* For it contracts and expands without constraint, and is able to pull and push for the same reason [...].[69]

Here the *pneuma* is characterized as a tool (*organon*). In [C] we found the claim that all animals move by pushing and pulling. Given its context to summarily discuss the tool by which desire moves the animal, the thought seems to be that the tool of movement is somehow involved in the pushing and pulling. In the above *MA* 10 passage we find the *pneuma* characterized as being able to expand and contract, which is presumably why it is able to push and pull, thus setting the animal in motion (or bringing it to a halt).

Two further questions naturally arise at this point: what is it that makes the *pneuma* expand and contract? How does the expansion and contraction of the *pneuma* allow it to push and pull? Indeed, what is it pushing or pulling? Aristotle provides us with details that help answering these two questions.

§3.3. Heating and Cooling, Pushing and Pulling

MA 8 provides us with some further details. Aristotle begins there by reiterating the point (familiar from the DA) that the origin of motion is an object of desire or avoidance but adds that the cognition of such objects are "of necessity […] accompanied by heating and chilling." Aristotle does not (here) go into detail as to why desiring and avoidance involve thermal alterations.[70] Presumably this is because he thinks that cognitive activities like desire, fear, anger, etc. are to be understood *hylomorphically*—that is as involving both a material and formal component. For instance, in *DA* I.1 he tells us that on his favoured approach (a kind of) anger (*orgiszethai*) is to be understood both as a "boiling of the blood" and as a "desire for revenge". Aristotle thinks of affections of the soul as

[69] *MA* 703a18-23.

[70] I will speak of 'thermal alterations' as covering both heating and cooling.

"enmattered accounts" (*logoi enhuloi*), and of the soul as an actuality of a body capable of living.[71]

However the relation between the soul's activities and the bodily motions that accompany these are to be understood, in the *MA* Aristotle clearly thinks that it is heating and cooling that causes the inner parts of the animal to expand and to contract (cf. 701b13-32, and 702a7-10).

This suggests that the thermal alterations accompanying desire is what causes the *pneuma* to expand and contract.[72] How does this help with pushing and pulling (through which the animal is moved)? On the above suggestion, *pneuma* does not move the animal's limbs on its own. It is because the activity of desire involves the right kind of thermal alterations in the body, that the *pneuma* is affected so as to expand and contract. And when the *pneuma* expands and contracts it also pushes and pulls on the relevant bodily parts that it is connected to: e.g. sinews and limbs; like the strings in a marionette (cf. 701b2-10). This suggests there are two kinds of instrumental parts in the animal with which the animal moves itself: the *pneuma* which is affected by the desiderative capacity so as to expand and contract because it is thermally altered, and limbs and organs of a different kind that are pushed and pulled on by the motions of the *pneuma*.

I'm inclined to follow Berryman, who suggests that the " role of sinews [...] is to *augment* the effect, acting as a rigid body positioned so as to translate a small change at one end into a large change at the other."[73] This is correct insofar as the sinews and limbs are concerned, but I'd argue that we should think of the alterations of the *pneuma* as already an example of a how a small effect like the thermal alterations of desire can have

[71] Cf. *DA* I.1 403a25f. For his own positive account of the soul, see *DA* II.1-2.

[72] And possibly to harden or soften, and/or to become rigid or malleable (cf. 702a7-10).

[73] Berryman 2002, 94.

larger scale consequences: expansion and contraction. Indeed, this may very well be the reason Aristotle introduces talk of tools or instruments as the kinds of means by which one thing moves or affects something else. Thinking of means in terms of tools can be helpful precisely because tools are the kind of intermediary that allows an agent to accomplish something through the use of the tool. For instance, in sawing a builder uses the saw in order to build. The use of the saw involves moving the saw back and forth. The saw transforms that back-and-forth motion into another kind of motion: cutting. What the saw cuts is not itself moved back and forth. Instead, it is being cut or sawn.

§ 3.4. Summary: The Parts of Animal Self-movers

We are now in a position to sketch a general answer to the second and third questions outlined at the start of the chapter. If the above suggestions are correct, then Aristotle's discussions on animal locomotion in *DA* and *MA* fill out and expand on the initial account of self-movers developed in *Physics* VIII.5.

In the *Physics* account Aristotle contented himself to show that by necessity a self-mover must minimally contain an unmoved part and a moved part, leaving open the possibility for more complex self-movers with intermediate moving parts. *DA* III.10 develops a more complete picture. There Aristotle identifies the good object of desire as the unmoved mover, which acts on the desiderative capacity of the soul through some kind of cognition. The desiderative capacity is a mover by virtue of it being affected by the object it desires. In the *DA* III.10 account Aristotle limits himself to suggesting that the desiderative capacity moves the animal (body), through the use of a bodily instrument. Finally, the *MA* complements this picture, by introducing the connate *pneuma* as a kind of body and instrument which expands and contract when affected by desire. The *MA* also discusses further physiological features involved in animal locomotion, such as a sinews

and bones. When the *pneuma* expands and contracts it pushes and pulls on connected organs, and it is through this pushing and pulling motion that the animal limbs are moved (or brought to a halt).

At this stage, a summary may provide helpful:

> [1] Animal locomotion begins with the cognition of something good. The object of desire affects the capacity for desire through some form of cognition. This makes the capacity for desire active.
>
> [2] When the desiderative capacity is active the animal is desiring. This is accompanied by some kind of thermal alterations in the body. It is by desiring that the animal is moved. Specifically: the desiderative capacity moves the animal body through the use of bodily instruments: instruments that allow the animal to push and pull through which the animal is moved.
>
> [3] The thermal alterations accompanying desire cause the *pneuma* to expand and contract. It is by expanding and contracting that the *pneuma* is able to move or affect the muscles, sinews, and limbs of the animal by which the whole animal is ultimately moved. The motions of the *pneuma* cause it to push and pull on further relevant organs or tools (like the sinews and bones). Ultimately this chain of motions will reach the animal limbs which are moved (and which do not necessarily move anything further). Since the animal is a genuine hylomorphic unity of some kind the whole animal is moved (with respect to place) when its limbs are moved (with respect to place).

§4. A Puzzle Regarding the Unmoved and Moved Mover

In this final section I want to consider together the account of animal locomotion we are given in *DA* and MA, with the initial account sketched in the *Physics*, and discuss a difficulty our understanding of the above three-stage model encounters.

The difficulty is this: as we've seen, Aristotle does not in his *Physics* VIII discussion identify what the movement undergoing and movement causing parts of the self-mover are. His remarks suggest he thinks that self-movers are living, ensouled, creatures, and presumably that the soul is a good candidate for functioning as the unmoved mover that moves the animal body. How is this basic picture consistent with the more fully developed account of the DA? Indeed, in what sense is the desiderative capacity of the soul a *moved* mover? Has Aristotle abandoned his view that the soul is the *unmoved* mover? Indeed, how are we to understand the role of the object of desire as an unmoved mover in the *DA* account? In what sense is the object of desire a part of the animal?

The first thing to note is that I believe it would be a mistake to think of the object of desire as an external thing that causes the animal to move in pursuit of "it". This is because the object of desire is some kind of good, and I understand this goodness to be some kind of activity of the soul. Although this activity can be directed at something external—say food or drink—in calling what it is desired a kind of good Aristotle is thinking of the object of desire insofar as it is something good for the animal in question. In this sense what is desired is an internal feature of the animal in question.[74] After all, it would be odd if Aristotle's answer to the question what power of the soul moves the animal would show that the animal does not in fact move itself, but is moved by something external.

[74] I explore this thought further in Chapter 5.

Here I think it is helpful to think of the distinctions Aristotle makes in *Physics* VIII.5 between being a mover "by oneself" and being a mover "through another". Aristotle introduces unmoved movers as a kind of basic explanatory principle. An unmoved mover moves by itself, i.e. through its own agency, and in evoking something as an unmoved mover he is saying that this thing moves something else because it is the relevant explanatory factor to cite. By contrast, to say that something is a mover "by another" means that this thing only functions as a moving factor because it itself is in motion through the agency of something else. Such a mover cannot be a complete explanation because its agency is a dependant on the agency of something else.

I suggested above that what it is to desire is to cognize something good. If this is right, then the way in which the object of desire—the first, unmoved mover—causes motion is "by itself". Desiring (so understood) does not involve a further, distinct, type of activity, through which some object of desire moves the soul. This is as we should expect given Aristotle arguments in *Physics* VIII.5—an unmoved mover causes motion "by itself" and not in virtue of being moved or affected "by another". Rather, desiring is an activity of the soul. It is an activity whereby the soul cognizes something that is or appears good for it to do or have. I take it Aristotle has this in mind when he explains in passage [A] that the object of desire moves "by being thought or imagined".

Thinking about the difference between something moving "by itself" and "by another" also helps resolve the sense in which the capacity of the soul is a *moved* mover. As I understand it, the point of calling something a moved mover is to highlight that this thing functions as a mover because it itself is moved in some sense, and it is in virtue of being moved or affected in some way that it, in turn, functions as a mover of something else. In this case the capacity for desire has to be made active by the object of desire, and it is in virtue of being active that the capacity of desire moves the animal (through the use

of an instrument).

§5. Summary

If the above account is right, Aristotle seems to have a complex, three-part, account of animal locomotion. In the first part of the account the practical good moves the capacity for desire through some form of cognition. This is an immediate or unmediated kind change: the activity of the object of desire is a cognitive activity of the capacity for desire. The good action that is aimed at when cognized in the relevant way is the activity of capacity of desire: this is what desiring is.

Next the desiderative capacity moves the animal through the use of a bodily instrument: the *pneuma*. Desiring involves some kind of thermal alteration which cause the *pneuma* to expand and to contract. In contrast to the first stage this motion involves a mediated kind of change. The final stage involves the bodily parts being moved by the *pneuma*. The *pneuma*'s pushing and pulling on the relevant connected organs is what moves the animal with respect to place. Indeed, these organs seem to be moved movers or means in the *Physics* VIII.5 sense: they move the animal's limbs (and thus the animal) by being moved themselves: the limbs are pushed and pulled forward because the sinews and bones are pushed and pulled on by the *pneuma*.

This account also raises the following puzzles. On the one hand, it is not clear to what extent it can be applied to explain actions that do not involve moving the body (or bringing it to rest)? For instance, working through mental puzzles. Perhaps this is why Aristotle focuses on the kinds of alterations desire can have on the body. Another puzzle is this: on the complex account of self-motion developed here which is the motion the agent is the cause of? One, or all of them? These issues will be explored further detail in the final chapter.

V. Teleology, Desire, and Agency

The aim of this final chapter is to answer three, related, questions. Earlier in the thesis we've met Aristotle's claim that one thing is "for the sake of" something else. For instance, capacities (*dunameis*) are "for the sake of" their activities (*energeiai*) and use (*khrêsis*), and animal motion is for the sake of the desired end.[1] But what does Aristotle mean when he speaks of something being for the sake of a goal? This is the first question. The second question has to do with desire and agency. In particular, how is my claim (in Chapter 2) that the agent is a cause of exercising their two-way capacities compatible with Aristotle's claim that the object of desire is a cause of moving or resting (which we met in Chapter 4)? Finally, our discussion of bodily motion revealed Aristotle's complex account involving many different activities and changes: the activity of desire, the activity of the *pneuma*, instrumental motions (etc.) which ultimately result in bodily movement. Does Aristotle think these form one unified process (of which the agent is the cause)? What, if anything, unifies them? Or is the agent only the cause of one or some of these motions which then are the cause of the other motions?

These questions are best answered by considering Aristotle's teleology. While Aristotle does not give us a general account of purposiveness, he does discuss teleology relatively consistently. For instance while Aristotle identifies a broad range of different kinds of goals, common to all these seem to be that they are some kind of good. Importantly, this goodness has to be understood in relation to the being (*ousia*) of the agent or substance in question. Finally, goal-directedness allows Aristotle one way of

[1] We met the first thought in Chapter 1, and the latter in Chapter 4.

unifying different processes: one whole process or action can have various parts that are all for the sake of the goal.[2]

§1. Goal-directed Efficient Causes

My concern in this thesis has been with cases of agency that stem from a thing's nature (*phusis*) or from some kind of power or capacity (a *dunamis*) it has. One common feature these kinds of agency share is that they are examples of goal-directed efficient causes at work. The aim of this section is to make some preliminary remarks regarding efficient and final causes, which will help our understanding of what it is for nature, soul, desire, and craft to be goal-directed efficient causes.

Aristotle famously identifies four kinds of causes (*aitia*): formal, material, efficient, and final causes.[3] All causes are explanatory: they explain why (*dia*) something is the case, or why something happens. We do not have knowledge or understanding (*eidenai*) without knowing the cause.[4] In addition to there being many kinds of cause, these can also be causes in different ways (*tropoi*). Indeed, causes can be related *to each other* in different, complex, ways. For instance, many things can be the cause of one thing. Aristotle illustrates this thought with an example: both a sculptor and some bronze are causes of a statue.[5] Causes can also be causes of each other. For example: health is the

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[2] For an overview of the different complexities surrounding Aristotle's views on teleology see Gotthelf 2012a, 67-70. My own understanding of teleology owes to Meyer 1992, Johnson 2005, Judson 2005, Charles 2012, Kress 2019, and Coope 2021.

[3] Cf. *Physics* II.3.

[4] Cf. 194b16-23.

[5] Cf. 195a3-8. Perhaps Aristotle would also count the shape as a (formal) cause of the statue, and/or the want to celebrate an event or to honour a person as a final cause. However, see Sprague 1968 for a critical.

goal of exercise, but exercise is the efficient cause from which health comes about.[6] Moreover, one and the same thing can function in multiple causal modes. In *Physics* II.7 198a24-27 Aristotle claims that "three of these [i.e. causes] often come together in one (*hen*)" going on to say that formal and final causes "are one" (*hen esti*), while the efficient cause is "the same as these in species" (*tôi eidei tauto toutois*); the outlier here being the material cause.[7]

However, one case where one thing seems to function in all four causal modes is nature. Nature is both the formal and the material cause of a thing.[8] Moreover, nature is an efficient cause of a things moving (or resting).[9] That nature is an efficient cause seems to be a point where Aristotle agrees with his predecessors in his engagement with their views in *Physics* II.8.[10] Aristotle differs from his predecessors is that he thinks natures are goal-directed efficient causes. Where his predecessors seem to refer to necessity (*anagkê*) to explain how natures *qua* efficient causes function, Aristotle appeals to a final cause.[11]

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[6] Cf. 195a8-11.

[7] It is by no means clear what Aristotle means with these sameness claims. For a discussion of this passage—with focus on the sameness of formal and final causes—see Rosen 2014.

[8] This is clear from Aristotle's initial discussion of nature in *Physics* II.1-2 where he notes that nature is spoken of both as matter and as form. That this is Aristotle's considered view is confirmed by his continued talk of nature as "twofold" (*dittê*) in *Physics* II.8 199a30-32.

[9] That nature is an efficient cause is implicit in the way he introduces nature as a cause of some kind of moving and resting in *Physics* II.1 192b8-24; cf. *Physics* III.1 200b12-b15 where Aristotle claims that nature is an origin or principle of motion and change. On an alternative understanding of Aristotle's view of nature, nature is not *itself* an efficient cause, but rather the formal and/or material nature of a thing explains why the thing has the capacities that it does, and these *capacities* are the efficient causes of a natural entity's movements. For the sake of simplicity, I will not consider this alternative here.

[10] This point is made with great clarity by Kress 2019 and Coope 2021.

[11] Aristotle defends the teleology of natures against his predecessors appeals to necessity in *Physics* II.8-9. As I understand it, Aristotle's strategy here is to first show that the opponent cannot rule out natures acting for the sake of some goal (in II.8), and then to argue (in II.9) that necessity is in fact present in natural

Although nature is in many ways a special case, is certainly not the only case where one thing functions in many casual modes or fulfils many causal roles. Another case is soul (*psuchê*).[12] In *DA* II.4 Aristotle provides a brief note on the way the soul is a cause (*aitia*) and origin (or principle; *archê*) of a living body.

> The soul is the cause and principle of the living body. As these things are spoken of in many ways, so the soul is spoken of as a cause in the three of the ways delineated: for the soul is a cause as the source (*hothen*) of motion, as that for the sake of which (*hou heneka*), and as the substance (*ousia*) of ensouled bodies. That it is a cause as substance is clear: for substance is the cause of being for all things, and living is being (*to einai*) for living things, while the cause and principle of living is the soul. Further, actuality (*entelecheia*) is the account (*logos*) of that which is potentially (*dunamei*). It is evident that the soul is a cause as that for the sake of which: just as reason (*ho nous*) acts (*poiei*) for the sake of something, in the same way nature (*phusis*) does so as well; and this is its end (*telos*). And in living beings the soul is naturally such a thing. For all ensouled bodies are organs (*organa*) of the soul—just as it is for the bodies of animals, so is it for the bodies of plants—since they are for the sake of the soul. 'That for the sake of which' is spoken of in two ways: that on account of which (*hou*) and that for which (*hôi*). Moreover, the soul is also that from which motion in respect of place first arises, though this capacity does not belong to all living things.[13]

As this passage makes clear, the soul is both an efficient and final cause (in addition to being the formal cause, assuming the cause as substance or being is understood to be the formal cause). The passage also contrasts the soul to reason (*nous*) and nature, suggesting

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teleology, but that the goal is required to make sense of the necessity. I hope to develop this reading in further detail at a later time.

[12] It is not entirely clear how soul and nature are related. In *DA* I.1 402a7-8 Aristotle suggests that soul is something that has a nature. However, in *DA* II.1 Aristotle repeatedly suggests that soul is the first actuality of a natural, living, body, and that soul and body are related as form and matter. This suggests that the soul is the formal cause of a living creature, while the body is the material cause.

[13] *DA* II.4 415b8-23 (tr. Shields 2016, modified).

that they are all causes that act (*poiei*) for the sake of an end; i.e. these are all cases of goal-directed efficient causes.

In addition to the soul and reason being goal-directed efficient causes, he also extends this thought to desire. We've already met Aristotle's arguments for how desire is an efficient cause of locomotion in the previous chapter. In developing his arguments that desire is the soul's capacity that moves an animal Aristotle claims that "every desire is for the sake of something".[14] He uses the claim as part of an argument to show why both desire and thought (including imagination) are good candidates for being what moves humans and animals. It is because that which is desired (*hou hê orexis*) is the starting point of practical thought (*archê toû praktikoû noû*), and the final stage of practical—or means-end—reasoning is the starting point of action (*praxeôs*) that both desire and practical thought are reasonably taken to be movers (*kinounta*).[15] Aristotle goes on to argue that since the practical intellect never moves without an object of desire it is desire (and not thought) that is the cause of action and motion.[16] It is clear that Aristotle holds that desire and thinking alike are goal-directed.[17]

Finally, one form of practical reason that also functions as a goal-directed efficient cause is craft (*technê*). Craft turns out to be important because Aristotle illustrates the way in which nature is goal-directed by drawing important parallels between nature and craft (as we will see below). Aristotle sometimes speaks of the craftsman as an efficient cause, sometimes of the craft itself. This need not worry us. As we saw in Chapter 1, a craft is a *dunamis*, a property in virtue of which its possessor has the ability to cause a

[14] *DA* III.10 433a15.

[15] Cf. 433a13-18.

[16] Cf. 433a18-30.

[17] At 433a14-15 Aristotle notes that practical, means-end, reasoning differs from theoretical (*theôrêtikoû*) in that both are aimed at different ends.

certain change. So, I take it as Aristotle's considered view that it is really the craft which is the efficient cause of a change.

Before considering the way in which craft and nature are goal-directed efficient causes, let me make some general clarificatory remarks on what it is to be an efficient or final cause according to Aristotle. Given that one thing can function in many causal modes it will be worth setting these out.

§1.1. Efficient Causes

It is worth bearing in mind that all Aristotelian causes are "efficacious"—they are all responsible for something being in a certain way or for something being the case. In this sense talking of one kind of cause as the "efficient causes" is somewhat unhelpful.[18] As Tuozzo has noted although Aristotle's efficient causes are "deceptively familiar" to modern readers, they have in fact little in common with contemporary (mechanistic) conceptions of cause.[19]

Aristotle's efficient causes are whence (*hothen*) a change or activity originates from. The efficient cause is an "origin" (*archê*), what "first" (*protê*) moves or affects something.[20] As Tuozzo puts it, these formulations make "prominent two features of Aristotle's conception that the traditional translation obscures": one is that the efficient cause is *where* the change comes from. The other that the efficient cause is first: it is where the *beginning* of the change comes from.[21] The efficient cause is thus not the only cause relevant for explaining a change or affection. The material cause is what undergoes

[18] See Tuozzo 2014, 25n7 on the origin of the translation of "efficient cause".

[19] Cf. *ibid.*, 23-24.

[20] For references to these locutions and a discussion of them see *ibid.*, 25-26.

[21] *Ibid.*, 25.

the change, the form is the respect in which the matter changes into something else or undergoes some affection, and the final cause is goal the change aims to bring about.

The usual example of an efficient cause is some kind of substance. When introducing efficient causes in *Physics* II.3, Aristotle notes that

> […] whence is the first beginning of change or of rest [is called a cause], as the counselor is a cause, and the father of the child, and generally, the one making of the one made and the one changing of the one being changed.[22]

As I understand this, the substance is a cause in virtue of possessing a kind of capacity or nature. Thus, the house-builder is an efficient cause in virtue of possessing the art of house-building, while fire is an efficient cause of moving upwards in virtue of its nature.

Later in II.3 (at 195b21-25) Aristotle says that one should always seek the most precise or ultimate (*to akrotaton*) cause. "For example, a man builds because he is a house-builder, and he is a house-builder according to the art of housebuilding. This, then, is the prior (*proteron*) cause."[23] It is not immediately clear what the connection between being an ultimate case and being the prior cause. My understanding is that priority here does not denote temporal priority but rather importance in some explanatory and/or ontological sense. The man and house-builder here are extensionally equivalent. Hence, both are whence the change originates from. For this reason, it is better to think Aristotle is urging one to seek the correct specification of the cause: it is in virtue of possessing the craft that the man (in this case) is a house-builder. The craft has a kind explanatory priority; hence it is the most precise cause.

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[22] *Physics* II.3 194b29-32.

[23] 195b21-25.

However, Aristotle *also* counts chance (*automaton*) and luck (*tuchê*) events or happenings as efficient causes.[24] I won't dwell on the differences between these two here. Common to both is that they are accidental or incidental (*kata sumbebêkos*) causes. They are not causes of things that come to be always or regularly.[25] A standard example of a lucky (or unlucky) occurrence is the (happenstance) meeting of a debtor and their creditor at a marketplace. If neither has gone there with the goal of paying or collecting the debt—but, say, to do the weekly shop—and they meet at the same stall with the effect that the debt gets paid, then the meeting is an incidental cause of the paying of the debt (an action).[26] Here, a kind of happening or event functions as the efficient cause whence some action or change comes to be. For this reason, it would be wrong to suggest that efficient causes are always a substance or *dunamis*.[27]

§1.2. Causes & Explanation

Being a cause is a matter of explanatory relevance, or a correct connection between *explanans* and *explanandum*. Both the man, the bass-player, and the house-builder can be whence a house (or house-building) comes from. Indeed, these can all be descriptions of one and extensionally the same thing. However, if we are concerned with explaining the cause of whence a house comes from, then "the house-builder" is the explanatory relevant description to use, even if the house-builder (in this case) is a man who is also a skilled bass-player.[28]

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[24] Cf. II.6 198a1-5.

[25] Cf. II.5 197a32-35. For a discussion of these cases, see Judson 1991a.

[26] Whether it is lucky or unlucky happening depends on further circumstances.

[27] As Tuozzo 2014 seems to suggest.

[28] Note that the distinction between proper and incidental causes is not restricted to efficient causes, but applies for all causal modes.

Hankinson puts the point helpfully: "while *aitia* proper are non-extensional, incidental *aitia* clearly are. If all we are concerned with is correctly identifying the factor responsible, rather than picking it out under the appropriate description, then extensionality reigns."[29] However, to *explain* a phenomenon (in such a way that generates knowledge or understanding) is to cast it under a description which makes clear the connection between the object of explanation and what is responsible for it. For Aristotle, there is thus an *intensional* aspect to explanation. The extensionally equivalent descriptions may be true, but they do not necessarily help shed light on the phenomenon in question. So, while there may be chance events that explain why something happens, the object of explanation is in some sense not appropriately related to what explains it. There is no general rule that debts get paid when people go to the marketplace.

§1.3. Final Causes

I noted above that while Aristotle does not offer us a general account of purposiveness, he does discuss final causes with relative consistency throughout his writings. In this section I want to highlight a few salient features.

As I see it, it is likely that Aristotle took human goal-directed activity for granted and took that as a basis for explicating teleology in the natural world. There are two reasons to favour this view. First, in introducing teleology in *Physics* II.3 Aristotle takes human activity—walking for the sake of health—as a straightforward example of teleology. Gotthelf has noted that Aristotle there assumes a familiarity with the concept from ordinary use and argues for its inclusion among causes.[30] Monte Ransome Johnson

[29] Hankinson 2009, 218.

[30] Gotthelf 2012b, 4.

has, in turn, convincingly argued that Aristotle did not invent teleology, but rather took over some basic conception of teleology from his predecessors, and developed it.[31] Secondly, this approach fits with Aristotle's general methodology in the *Physics*: we begin from what is more knowable to us and proceed to what is more knowable according to nature.[32] So understood, we begin with an understanding of teleology given our own nature and activities, which gives us a basic conception of what final causality involves, one which we can use to identify other kinds of final causes.[33]

In general, all final causes are (in some sense) "good", according to Aristotle. This is clear from the way he introduces the final cause in *Physics* II.3. There he uses the example of health—a state—as the goal or *telos*, and as the cause of walking, i.e. an action. He also introduces a wide range of *means* as teleologically caused—including instruments and other changes as "for the sake of" the end.[34] Elsewhere in the *Physics* Aristotle cites organisms, artefacts, and natures as teleological causes, and suggests that parts of animals, and perhaps even natural phenomena count as teleological effects.[35]

That things happen for some particular *good* of a thing can be taken as Aristotle's "basic teleological axiom".[36] Indeed, having presented the four causes in II.3, Aristotle summarizes the final cause as an "end" or "goal" (*telos*), "good" (*agathon*), "the best" (*beltiston*) and as "goal of things that lead up to it".[37] In II.7 the final cause is introduced

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[31] Cf. Johnson 2005, 35.

[32] Cf. *Physics* I.1 184a16-21.

[33] Note that this claim does not commit one to a heuristic or pragmatic model of teleology, since claiming that we come to learn and understand teleology through our understanding of ourselves is different from claiming that teleology is merely a tool to be used in (certain) explanations.

[34] Cf. *Physics* II.3 194b32-195a3, a23-26.

[35] For a fuller list, see Charles 1991, 102-103 & 104.

[36] Cf. Lennox 2001, 341; Judson 2005, 359.

[37] Cf. 195a23-26.

as something good for the substance or being (*ousian*) to have or achieve; things will be better (*beltion*) if something comes about. But this claim is immediately qualified by Aristotle: the thought is not that *everything* will be better if something happens, rather, it is somehow better in relation to an individual substance (given its being) to reach some goal. The final cause must thus be understood in relation to a particular (kind of) substance.[38] For Aristotle, the goodness of final causes is connected with what that thing is; with what its nature or essence is.[39] It is thus not any end or limit Aristotle has in mind, when he speaks of goals or final causes.

In *EN* I.6 he criticizes his former friends—presumably Plato or members of Plato's Academy—for positing a "universal good" (*katholou beltion*) or Form of goodness. Aristotle's view is presumably that goodness can be predicated in all the categories, but that the goodness in question must be understood in relation to the category in question; there being no "common Form" (*koinê idea*) of goodness. What it is to be 'good' will vary from category to category. For instance, God and intelligence are goods in the category of substance; virtue or excellence in quality; the moderate in quantity; the usable in relations; the right moment in time (and so forth).[40] Aristotle does not really offer an in-depth reason why these might all be considered goods of some kind or other (at least in EN I.6). He is content to note that goods do *not* seem to be a mere "chance homonym" (*apo touches homônumois*), tentatively suggesting that goods might either be

[38] For similar claims see *IA* 2 704b12-18, *IA* 8 708a9-12, *GA* V.8 789b2-5. See also *DA* III.7 431b10-12.

[39] However, as the passage from *De Anima* II.4 noted, there is a difference between characterizing the end as a good goal or aim, and being a beneficiary of that goodness; these two do not always coincide. For an excellent discussion of this point, see Johnson 2005, 64-80.

[40] See EN I.6 1096a11-29.

called good with references to a single or primary usage (*pros hen*) or "according to analogy" (*kat' analogian*).[41]

With this overview in place, I now turn to consider some parallels between the way in which both nature and craft function as goal-directed efficient causes, and consider what relevance the goal-directed aspect has for our understanding of these cases.

§2. Nature, Craft and Telic Structure

Above we met a diverse set of cases—nature, craft, soul, reason, and desire—all of which are both efficient causes and directed at some kind of good goal. Indeed, that these are all examples of goal-directed efficient causes sets them apart from other efficient causes, like chance happenings.[42] These are not merely origins from where some change, action, or effect comes from. In addition to this, they are directed at some kind of end.

§2.1. Nature & Craft

The most detailed discussion regarding teleology we find in Aristotle is his defence of natural teleology in *Physics* II.8-9. His aim in *Physics* II.8 is to show that nature is *among* the class of phenomena that act for the sake of something.[43] This allows him (in principle) to compare the workings of nature to other teleological cases. At 199a8-20 he draws some comparisons between the workings of craft and nature. Presumably these can be meaningfully compared given that both are efficient causes. If he can show that nature

[41] See 1096b25-31.

[42] In *Physics* II.5-6 Aristotle also suggests chance and lucky occurrences are among the kinds of things that could have come to be for the sake of an end, but don't. For a brief discussion of this, see Judson 1991, 76-78; for a longer discussion, see Johnson 2005, 95-104.

[43] Cf. *Physics* II.8 198b10-16, where he employs the genitive (of possession or belonging) to indicate this.

too functions in a similar, goal-directed, manner to crafts, he will have made an important move toward his defence of natural teleology.[44]

Aristotle's appeal to skills (*technai*) in defence of teleology will strike some as dubious. It is important to note that Aristotle does *not*—as it is sometimes supposed—argue that because craft is teleological, nature is.[45] He proceeds far more carefully. He begins with a general observation about what teleology involves.[46] He then introduces a curious example comparing the workings of craft and nature.[47] Following this he claims: "If, then, things which are according to art are for the sake of something, it is clear that things according to nature are too."[48] However, he immediately adds a qualifier to this claim: "For the posterior is to the prior in a similar way in what is according to art and in what is according to nature."[49] The qualification that the analogy between craft and nature has to do with a certain sequence of how these processes unfold makes clear that Aristotle is not simply claiming that nature is teleological because art is. Rather, they are similar

[44] Judging to what extent Aristotle is successful lies outside my present aim.

[45] For instance Ross 1936, 528; cf. Granger 1993, 168. *Pace* Ross and Granger, there is no need to read *prattetai* ("doing") at 199a9 as restricted to human, virtuous, or rational action, since Aristotle is happy to use the term loosely for both natural and rational doings; cf. II.5 196b22. For a criticism of the "traditional interpretation" of the nature-craft analogy see Kress 2019, 339-340.

[46] Cf. 199a8-12, quoted below.

[47] Cf. 199a12-17. Aristotle envisions an imaginary case where a house would come to be in the same way by nature, as it does by art. However, he need not be claiming that nature imitates the activity of a housebuilder. Rather, he might mean a more abstract claim that e.g. walls come to be so that heavy materials are used as foundations, and lighter ones on top of these. So understood, if houses came to be through housebuilders and through goal directed natures, in either case it would be true that the house emerges from the foundations up, with lighter building materials resting on heavier ones, and not the other way around. Aristotle also suggests that in certain cases art imitates nature, and that it can carry to the end what nature is incapable of. Throughout these examples it is clear that Aristotle is trying to make some kind of point regarding the order in which art and nature function (cf. 199a15).

[48] 199a17-18.

[49] 199a18-20.

in this restricted sense: both involve earlier stages which are done for the sake of later ones.

This is presumably some kind of structural point. It isn't merely that one stage of a process occurs before another in time. Rather, the prior stage occurs because it is an expedient or good way of bringing about the later stage. This is why Aristotle says these prior stages are "for the sake of" the latter.

That nature and craft are analogous in this way is clear, Aristotle thinks, from the fact that certain animals act in observably goal-directed ways, without the use of craft-knowledge or reason. Having claimed at 199a18-20 that the same telic structure is found in art and nature, Aristotle goes on to say that "this is most apparent in the other animals, which act neither by art, nor by inquiring, nor by deliberating. Whence, some people are at a loss as to whether spiders and ants and such things work by mind or by something else."[50] As becomes clear from the lines that follow, the actions Aristotle has in mind here include nest-building by swallows and the weaving of webs by spiders.[51] These do not come to be in some random fashion, but are built—regularly—in certain ways, following a certain order, and making use of specific building materials, etc.[52] Since these animals act without craft or reason, their natures are the most likely explanations for their activities, and for these activities occurring in the ways that they do.

[50] 199a20-23. It strikes me as most natural to read this passage as lending strength to the immediately preceding claim that nature and craft have a similar structure, and not as picking up the thought that nature is goal-directed.

[51] Cf. 199a26-27.

[52] Cf. HA IX.7 612b19-32, 612b33-613b4, IX.13 615b32-616a6.

§2.2. Telic Structure

Let us look more closely at Aristotle's general observations regarding teleology.

> Moreover, in things in which there is an end, the prior and successive things are done for the sake of this. As a thing acts, therefore, so is it naturally apt [to act]; and as it is naturally apt [to act], so each thing acts, unless something impedes it. But it acts for the sake of something, so it is also naturally apt to act for the sake of something.[53]

Aristotle begins with a general observation that for any goal-directed process, all prior and successive stages or events are done for the sake of a goal. Then he makes an anodyne claim about natural processes: things act in ways that are natural for them to act. Indeed, natures presumably act in natural ways (unless something impedes them).[54] He then combines these two thoughts: natures that are goal-directed act (as efficient causes) naturally in such a way that the prior and successive stages come to be for the sake of the goal.[55] Note that this suggests that Aristotle thinks that goal-directedness is not imposed from without, but is found within the nature itself. More importantly, as the examples that follow show, Aristotle sees final causes operating in the same way for both art and nature: prior and posterior stages or events come to be for the sake of some goal. Indeed, Aristotle says that they act for the sake of another. This gives Aristotle the following basic conception of structure found in teleological processes:

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[53] 199a8-12.

[54] Kress suggests Aristotle's reference to acting in II.8 is meant to be taken as a reference to efficient causation (Kress 2019, 343).

[55] For a different, but related, construction, see Kress 2019, 338.

> [Telic structure] In a goal-directed process, P, e_1, e_2, ..., e_n are/come to be for the sake of the goal, G (unless something impedes it).[56]

This kind of structure Aristotle thinks is clearest from craft-productions, and if natures are goal-directed the same basic structure will be true for them too. In craft-production the craftsman's relevant know-how or skill is what guides the process in the correct order to completion; in the natural world it is a thing's nature that directs the process to completion. In both cases craft and nature function as efficient causes that are goal-directed.

In what follows I take the above telic structure to apply not only to craft and nature, but to the soul, desire, and reason. Note that Aristotle introduces his claim regarding teleological processes in *Physics* II.8 199a8-12 as a general remark regarding teleology. Like many processes, goal-directed processes have a certain structure: they follow a certain order or develop in a certain way. The difference, according to Aristotle, between goal-directed processes and activities and those that are not, is that the sequence of events that occur, occur for the sake of the goal. This kind of sequence is clearest from his favoured case of teleological process: craft-productions. The craftsman does things in a certain order, her actions are guided by her skills and by her desire to reach a certain

[56] A few things worth noting about this formulation. First, in a telic process, the entire sequence—e_1, e_2, …, e_n—occur for the sake of the goal G. There can be simple telic cases where only thing—e_1—comes to be for the sake of G. Finally: I cannot here explore the difference between synchronic and diachronic cases of teleology. My assumption is that Aristotle takes processes as a basic kind of case which he uses to develop or present his basic views on teleology. To what extent this understanding can be applied to substances, and other cases lies outside my present aim to consider.

end. Indeed, the craftsman is sensitive to the good goal she is trying to achieve, and this sensitivity to goodness guides her actions.

§2.3. Errors, Impediments, and Success

It is of course central for the viability of teleological processes as conceived above that they do, in fact, reach the goals they purportedly are aimed at. If teleological processes are not regular, or do not reliably reach the goal or end they are aimed at, then this calls into question the plausibility of invoking goals in the first place.

Aristotle can reply to this kind of objection by pointing out that speaking of impediments, interruptions or mistakes assumes some kind of success-case against which one can compare unsuccessful (or less successful) cases. Aristotle makes this kind of move in *Physics* II.8 199a33-b26, noting that goal-directedness functions as the success-case against which mistakes can be judged.[57]

Even Aristotle thinks that the end of a natural processes is something that can come to be through chance. However, when those ends occur regularly, they are the products of nature, craft, or some other regularly functioning cause, and not chance. When mistakes occur it is because something impedes natures' (or crafts') in-built structure by which the end comes about.

As we saw from Aristotle's discussion of two-way powers in Chapter 2, Aristotle is willing to take some positive case as a privileged case against which non-standard exercises of a skill can meaningfully be contrasted to. It seems Aristotle has something similar in mind with regard to teleological processes: he privileges one set of cases as

[57] See *Physics* II.8 199b1-4, and Coughlin's comment (Coughlin 2005, 44n30).

successful cases to which other cases can meaningfully be contrasted to and classified as failures, errors, partial successes etc.[58]

§3. The Priority of Final Causes

I've suggested that craft, nature, soul, and desire act as goal-directed efficient causes. Considered as efficient causes they are sources of some kind of activity like motion (or rest, as the case may be); considered as final causes they are some kind of good to have or bring about. I now want to consider the relation between something being an efficient cause and it being a final cause.

The final cause is something which is good in relation to some individual given its nature or essence: it is, in some sense, good for the substance or agent to bring about or possess. However, it is not sufficient, in the case of human action (or animal locomotion), merely for a good goal to be present, the agent must also have a desire to bring about that goal at a given moment.[59] If something is to be caused teleologically, the goal must function as a cause, and not merely be present. But what is the difference between something being good, and the good being a cause? For instance, what difference is there between saying that teeth grow and develop in an organism *because* it is good for the organism that its teeth grow and develop in such a way, and saying that the growth and development of teeth are good for the organism to have, but these do not come to be because of the goodness—but, for example, given certain, necessary, material conditions or properties? A similar question can be raised regarding action: why should one think that goodness is a cause of an action? Indeed, an action might be a good thing to do, but

[58] Indeed, in *Metaphysics* IX.9 Aristotle seems to argue that goodness is prior to badness. For an extended discussion, see Beere 2009, Chapter 14.

[59] Cf. *DA* III.9-10, MA 6-7.

it might be caused by something else, for example, by a desire. So understood, desire (or desiring), is the cause of action, and not the good goal the action aims at.

The importance of final causes becomes clearer when we consider that efficient causes can themselves stand in need of explanation. Aristotle's thought is not merely that I have a desire for something—say health—which then causes me to move and act and which happens to be good for me. Rather, it is good for me to have a desire for health, as this keeps me from being sick. If final causes are good-involving origins of change, what explains the substance's benefit of having such a desire? Is it merely a happy accident? Aristotle would presumably not agree to this. Rather, I agree with Ursula Coope who notes that

> [...] ordinary animal desires [...] are themselves purposive. The sparrow does not *just happen* to be beset by the desire to build a nest. Rather, it has this desire *because building a nest is good for it*. Thus, a general explanation of the bird's purposiveness (of how it is that a bird can act and be a certain way for the sake of some good) needs to explain not only the purposiveness of its nest-building but also the purposiveness of its *having the desire* for nest-building. Aristotle's claim is that both these kinds of purposiveness are explained by the bird's nature: it is *because of the bird's nature* that it desires to build (and builds) nests for the sake of its good."[60]

In the case of a bird, it is the nature of the bird which—according to Aristotle—explains why it has the natural abilities and desires that it does. In a similar way, I want to suggest that for Aristotle, we do not really explain an action by merely specifying a desire to act. Something needs to explain why the agent has the desire that she does. Aristotle agrees

[60] Coope 2021, 178; Coope does not defend the claim that desires are purposive, but Aristotle clearly endorses this view at *DA* III.10 433a15.

that the desire is a cause whence the change comes from. However, this explanation would (for Aristotle) be incomplete in an important way. We would like to know why the agent desires what she pursues, and not merely that it is because of the desire that some action or bodily movement comes about. As I will suggest below, nature is not the only relevant feature when considering why agents have certain desires: habituation and learning can also play important roles.

There is thus some kind of explanatory priority here: final causes help explain the presence of (certain) efficient causes. It is because a certain end is good for a certain substance that it has the means to acquire it (when all goes well).[61] However, final causes are not only explanatorily prior to efficient causes. A goal-directed efficient cause is an efficient cause that is inherently directed at some kind of goal. It is not merely something which is an origin of change or activity and which has an end. Rather, the goal-directedness is part of the account or essence of this type of efficient cause: it is what it is because it is directed at a particular (kind of) goal.[62] Moreover, it is this feature—goal-directedness—which explains why, when active, the efficient cause is operative in the way that is. The goal helps explain why this kind of process develops or unfolds in this particular way. So understood, final causes also seem to have an ontological priority as well.

That final causes are ontologically prior to efficient causes is clear, I think, when we consider Aristotle's arguments for priority in *Metaphysics* IX.8.[63]

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[61] This need not be read as an unrestricted claim. Not every efficient cause is explicable in terms of some good final cause.

[62] Aristotle claims that final causes are prior because they are in the account (*logos*) in PA I.1. For a discussion, see Code 1997, 134-136. See also *Physics* II.9 200a34-b8.

[63] Note that Aristotle explicitly remarks that his points about priority apply to both natures and capacities; cf. *Metaphysics* IX.8 1049b4-12.

§3.1. Priority & Teleology in Metaphysics IX

In Chapter 1 we met Aristotle's claim in *Metaphysics* IX.8 that *energeia* is prior to *dunamis*. In developing his ideas on priority Aristotle appeals to teleology. He claims that *energeia* is prior in being (*ousia*) and form (*eidei*) because the activity is an end or goal (*telos*).[64] This assumption is clear from his argument for why *energeia* is prior in form and being:

> But indeed *energeia* is prior in substance too, first because things posterior in coming to be are prior in form and in substance (for example, adult to boy and man to seed; for the one already has the form, the other does not), and because everything that comes to be proceeds to an origin and an end (for that for the sake of which is an origin, and the coming to be is for the sake of the end), and the *energeia* is an end, and the *dunamis* is acquired for the sake of this.[65]

Here he seems to be appealing to something like the telic structure outlined above. His thought is that things like adult (*anêr*) and human (*anthrôpos*) although being posterior in the (presumably temporal) order of generation to things like youth (*paidos*) or seed (*spermatos*), they are prior in being and form because these latter entities are such as to develop into adult humans (when all goes well). However, in order for this to be a convincing reason for thinking that *energeiai* are prior to *dunameis* he will need to give some arguments for thinking that *energeiai* are, in fact, ends.

Aristotle proceeds to develop a basic conception of goal-directedness in *Metaphysics* IX.8, one that helps illustrate what he has in mind when he speaks of

[64] Cf. *Metaphysics* IX.8 1050a4-10.

[65] 1050a4-9.

activities as goals: capacities are for the sake of their exercise, i.e. the activity, and not the other way around.

> For it is not that animals see (*horôsi*) in order that they may have sight (*opsin*) but they have sight so that they may see, and likewise too they possess the building craft (*oikodomikên*) in order that they may build (*oikodomôsi*) and the contemplative ability (*theôrêtikên*) in order that they may contemplate (*theôrôsin*).[66]

This strikes me as an anodyne notion of a goal. Assuming (as Aristotle does) that there are such things as capacities or powers to produce some kind effect, it is reasonable to treat the effect the *dunamis* produces as a kind of goal of that power. Indeed, we understand what the *dunamis* in question is by understanding its co-relative *energeia*. As Aristotle also puts in IX.8, the *dunamis* is defined with reference to the *energeia* but not vice versa.[67]

The close connection between goals and activities (*energeiai*) becomes clearer when we recall the connection Aristotle draws between activity and actuality (*entelecheia*): "the function (*ergon*) is the end (*telos*), and the activity (*energeia*) is the function, and this is why the name 'activity' is said of things with reference to the function and extends to the actuality."[68]

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[66] 1050a10-12.

[67] Cf. 1049b12-17. *Dunamis* does at times convey possibility and it isn't entirely unreasonable to think that (some) possibilities are in fact prior to their realization (which might never come about). However, I take these to be a secondary use of *dunamis*. Aristotle's main interest in the term has to do with causal powers and their realizations. For a brief discussion on the logical use of *dunamis*, see Makin 2012, 401.

[68] *Metaphysics* IX.8 1050a21-23.

While the idea that the exercise of a capacity is the goal of that capacity seems like an unobjectionable thought, the picture is not so simple since Aristotle allows for a difference between goals and ways of being related to a goal. Even if seeing and thinking are exercises of the soul's capacities and what those capacities are arguably for, the same does not seem to be true for a capacity like housebuilding. The capacity for housebuilding is surely not only for the sake of the activity of building, but is also for the sake producing a completed house.

Aristotle is obviously not ignorant of this distinction. In fact, he uses this difference as a way of distinguishing between different kinds of actions and changes. For instance, in a difficult passage in *Metaphysics* IX.6 Aristotle distinguishes between two types of actions (*praxeis*) in terms of their relation to their goal (*telos*): actions or activities proper (*energeiai*) are or contain their goals; changes (*kinêseis*) do not.[69] Properly speaking *energeiai* are end-inclusive, while *kinêseis* are end-exclusive: when the process or change is taking place the goal that the change aims at is not yet "present" (*huparkohonta*).

Despite these differences, Aristotle thinks that in either case it will be true the activity is prior in being and form to the capacity that gives rise to it. This is what Aristotle seems to have in mind when he claims that even if in some cases the exercise (*hê khrêsis*) of a capacity is the ultimate (*heskaton*) end "it is nevertheless in the one case no less the end (*telos*), in the other more the end than the potentiality".[70] As I understand it, Aristotle's point is simply that even if an action like housebuilding is directed at a further

[69] Cf. IX.6 1048b18-35. Following Burnyeat 2008 many scholars (including Beere 2009 and Anagonstopoulos 2017) take issue with this passage for textual and philosophical reasons. The philosophical objections strike me as weak, but I cannot explore them here. Gonzalez 2019 defends the passage on both textual and philosophical grounds.

[70] *Metaphysics* IX.8 1050a27-28.

end—the house—it is still true that the activity of the capacity for housebuilding is a kind of end albeit an intermediate one.[71]

From these considerations Aristotle concludes:

> So in all the cases where what comes to be is something different in addition to the exercise (*chrêsin*), in these cases the activity (*energeia*) is in what is being made (for example, the act of building is in what is being built, and the act of weaving is in what is being woven, and likewise too in other cases, and generally the change is in what is being changed); while in all the other cases where there is no other function (*ergon*) in addition to the activity, the activity is in them (for example, seeing in the one seeing and contemplation in the one contemplating and living in the soul, which is why flourishing is also; for it is a kind of living). So it is evident that the being (*ousia*) and the form (*eidos*) are activity.[72]

Given the difference between end-exclusive and end-inclusive actions it is not immediately clear how Aristotle can conclude, as he seemingly does, that it is "evident" that the *energeia* is being and form. Since some changes are directed at further results beyond the change itself, does this not suggest that the goal—the completed house—is the being and essence for house-building?

This worry is somewhat mitigated when we recall that Aristotle's aim in IX.8 is to focus on the way in which the activity is prior to the origin of change (whether nature or a capacity). With this restriction, Aristotle's conclusion is that the activity is the form and being for a capacity, which leaves open the possibility that in some cases a change or

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[71] For a similar understanding, see Makin 2006, 201-202. Perhaps it would be better to say that in these kinds of cases the change is a means toward the end, where the means is something that cannot be understood without the end it is a means to. As made clear in *Physics* II.3 instruments and intermediaries are to be understood in connection to some goal.

[72] 1050a30-b2

activity like housebuilding is itself directed at a further goal (which then presumably is the being and form of that activity). However, that further goal may itself turn out to be some kind of action or activity.[73]

§3.3. Interim Summary

I will not dwell on this issue here. What is important for my purposes is that the action—the activity or change—is the being and form for the sake of which capacities and natures are. It isn't merely that we cannot understand what these are without understanding the actions these are directed at. Rather, what it is to be an origin of change (like nature and capacity) is to be a goal-directed efficient cause whence some change comes from. The explanatory priority is underwritten by a kind of ontological priority: priority in being.[74] Minimally, the goal capacities are directed at are their exercise. These exercises may themselves require explanation in terms of some further goal, but that does not invalidate the claim that certain origins of change (i.e. efficient causes) are inherently goal-directed, and hence must be understood in terms of the goal they are directed at. Hence, we cannot properly speaking understand goal-directed efficient causes without understanding the goals these are aimed at. Indeed, the being for this type of efficient cause is to be directed at a certain end. The efficient cause is what it is because it is directed at a certain goal.

Moreover, Aristotle allows for a wide variety of goals. Goals include the end at which something or someone aims at, but also for whose benefit something is done. Some activities are themselves the goal which that activity is aimed at accomplishing. Others

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[73] Note that these goals may themselves be actions of some kind. For instance, in *APo* II.11 Aristotle suggests in an example that a house is for the sake of protection (cf. 94b8-94b23).

[74] Indeed, it seems that Aristotle's thought is that the being fixes the essence of what something is, and a correct explanation of that thing is linked with understanding the being of the thing in question.

are directed at further things like artefacts (houses), or states (health). The value of such ends may themselves require reference to further ends to properly understand their value: e.g., happiness, well-being, or living well.[75]

Many cases of agency—whether natural, rational, desiderative—involve these forms of goal-directedness. Indeed, we understand these cases of agency in virtue of understanding the goals these cases are directed at. The final cause not only explains the way in which an efficient cause functions or operates, but why certain things have the capacities or abilities they do. The connection between the kind of thing something is and what is good for it, becomes a little clearer when we consider the relationship between desire and goodness—to which I now turn.

§4. Desire and Goodness

I now turn to consider another question regarding desire and agency. In particular, we will want to know how my claim that a (living) agent is a cause of her actions and motions is consistent with Aristotle's claim that the object of desire is the cause of motion and rest?[76]

The first thing to note is that the object of desire (*to orekton*) is a kind of good (*to agathon*). Aristotle makes this clear in *DA* III.10 when arguing for his view that it is desire (and not thought) that moves the animal:

> For this reason it is always the object of desire (*to orekton*) which moves, but this is either the good (*to agathon*) or the apparent good (*to phainomenon agathon*).

[75] Cf. EN I.4 1095a14-20, I.7.

[76] My answers in this section will be preliminary and suggestive, requiring further work.

> Not every good, but the good that can be done (*to prakton agathon*)—what can be done is contingent and can be otherwise.[77]

By calling the object of desire a kind of good Aristotle can make two further, important, moves. On the one hand, it allows him to treat a range of different phenomena as objects of desire. In fact, translating *to orekton* as "the *object* of desire" is somewhat misleading. We do not merely desire concrete things (such as a drink, or that car) but a whole range of different phenomena: things, actions, and states (such as health or safety). These are all goods, and can all be what is desired by someone. On the other hand, by focusing on the goodness of what is desired, Aristotle can presumably ignore certain difficulties that arise when we consider what might initially appear to be distinct motivating forces. We do not merely pursue what we desire, we also avoid pains or what we hate, flee when terrified, etc. Instead of thinking if the avoidance of something one hates (e.g. doing the dishes) is the same as a desire for the opposite of what one hates (or a desire to do anything but the dishes, or something like that), Aristotle can focus on the goodness of the motivating factor.[78] Insofar as something is good for one it can serve as explanation for one's behaviour, whether or not the thing in question is something we fear, hate, love, desire, etc.

Moreover, calling the object of desire a kind of good is significant given Aristotle's teleology. Above we met his "basic teleological axiom" that goodness is to be understood relative to the substance of which goodness is being predicated. Perhaps his most suggestive illustration of the relevance of an agent's nature or character to what she

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[77] *DA* III.10 433a27-30; cf. *MA* 700b23-29, *EN* III.4 1113a23-24, *EE* VII.2 1235b25-27.

[78] See *DA* III.7 431a13 for the claim the capacity for desire and for avoidance are "not different" (*ouk heteron*).

finds good can be found in his treatment of pleasure (an apparent good) in the *NE* X.5 1176a3-21. There, he first claims that each kind of creature has its own corresponding kind of pleasure. He goes on to expand on this view, noting that even creatures of the same kind will, at times, find different things pleasant or painful. He illustrates this point with an example, saying that the same thing may taste differently to someone who is healthy and to someone who is ill. Aristotle then generalizes from this saying: "This happens with other things too in the same way".[79] This claim is by no means clear. However, he goes on to suggest that the virtuous person should be taken as sort of standard of what is ordinarily pleasant (for humans), and says that there is nothing surprising that not everyone takes pleasure in what the virtuous person does, since there are many different conditions which can affect or corrupt us.[80]

If this is correct, Aristotle moves from saying that different activities (perception and thought) have correspondingly different kinds of pleasures, to saying that different creatures (such as humans and donkeys) take pleasure in different things, to saying that creatures of the same biological kind but in different physical states (such as the healthy and the sick, and the young and the old) experience pleasures in different things, to the claim that different types of character (such as the virtuous and the corrupt) experience pleasure differently.[81]

So understood, he seems to allow a wide range of different factors such as biological, physiological, and dispositional—perhaps even sociological and educational—which can affect how and what we experience as pleasant. This explains

[79] Cf. *EN* X.5 1176a15.

[80] Cf. 1176a3-24.

[81] Indeed, it is striking that Aristotle here argues for the different kinds of pleasurable experiences one might experience on the basis of how one will have different perceptual experiences such as sweet, and the temperature. This suggests that the perceptual experience itself is relative to the kind of agent one is.

why habituation and education are important factors in becoming a virtuous person. Aristotle thinks that in order for someone to be a virtuous person, they must exhibit virtues of character (*êthikê aretê*), which comes about through habituation (*ethismos*, *ethidzein*). Character (*êthos*) is linked to our habits or customs (*ethê*); things we usually (*ethein*) or repeatedly (*pollakis*) do. Such actions and activities change or affect the way we are and how we see the world, since they either become dispositions (*hexeis*) or modify ones we have from birth by nature. Indeed, the aim of habituation is to complete or perfect (*telein*) the dispositions we have by nature, but which do not develop well on their own; in this they resemble skills (*technai*). In general, dispositions are more or less permanent character-traits or capacities (*dunameis*) – one's that dispose us to act or react in certain ways – and are difficult to change or get rid of once we have acquired them.[82] Indeed, habits are sometimes referred to as "second natures".[83]

While much more needs to be said about the precise details, I hope the basic picture I am attempting to outline is clear: pleasure and pain, and more generally, what one finds good and bad, is dependent on the kind of person or animal one is; and this in turn can depend on a variety of different factors. Sometimes these features of who or what we are can pull apart. For instance, *qua* human being I am a rational and social animal (if Aristotle is to be believed). In light of these facts about me, I need company and rational discourse. However, I am also Finnish, and *qua* Finnish I desire silence, solitude, and sauna. Who we are as a person or agent is not (I think) a simple matter. Rather, we seem to be a kind of conflux or nexus of different capacities and powers—capacities and

[82] Cf. *EN* II.1-6; III.5; X.9; *EE* II.2; *Politics* VII.13 1332a38-b7; *Rhetoric* I.10.

[83] Aristotle comments on the connection between nature and habits in e.g. *Rhetoric* I.11 1369b34f.

powers that enable us to act in certain ways, or which give us different reasons to be motivated to pursue different ends.

Thinking of Aristotle's basic teleological axiom helps answer the question I raised at the start of this section. Since the object of desire is some kind of good, it must be understood in terms of the soul, nature, or character of the desirer. If I am pursuing some goal, my being—what I am—is part of the explanation of why I am pursuing that goal. For this reason, I don't think there is a tension between holding that the agent is in control or the cause of her actions, and saying that the agents desire is the cause of the action. The agent's desire cannot be understood apart from the agent in question. Desiring, so understood, is an activity of the soul directed at something good, where that good has to be understood on relation to the soul of the agent.

Moreover, although it is true that something must explain the difference between having a desire for a healthy walk or a desire to build a nest, and actually walking or nest-building, Aristotle can presumably explain this difference by also appealing to the soul or nature of the desirer. If the animal or person in question is not in an appropriate state, they will not be appropriately drawn to what would otherwise be an object of desire for them. If I have eaten and am no longer hungry, then food will not strike me as something to be gone for.[84] Aristotle can appeal to the correct circumstances and the substance's nature, character, or education (etc.) as explanations. The desirer must be in an appropriate circumstance in which the object of desire can act on the desirer in the relevant way.[85]

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[84] Contrast the case of the glutton who despite being full continues eating: here the fact that this person in question is a glutton explains why they continue eating.

[85] I think these points about the connection of desire and goodness also helps motivate the thought that what functions as the unmoved mover of an animal self-mover is the soul's ability to cognize something good

§5. Action & Unity

I now turn to the final question raised at the start of this chapter. Our analysis in Chapter 4 has shown that animal-self-motion is complex, with various different component parts and movements. Does Aristotle have anything illuminating to say about how these sub-processes are unified into a single action-process, of which the agent is the cause? Or should we think that the agent is merely the cause of one activity—desiring—which then, in turn, causes some kind of heating and cooling, which in turn causes some kind of expansion and contraction of certain bodily parts, and so on, all the way to bodily motion & action?

Thinking about the structure of telic processes helps us resolve this question. Complex, goal-directed, processes—processes that contain different parts—are unified by the fact that they are aimed at the same goal. Above we met Aristotle's distinction between activities proper and changes: activities are complete in that they are or contain their ends, whereas changes are incomplete in that they are directed at further ends. I take it that activities that are their own end do not have parts and hence are complete in a way that complex processes are not.[86]

Aristotle discusses one such example—building—when distinguishing between activities and changes in EN X.4.

> For every movement involves time, and relates to some goal, as does e.g. the movement that is building, and it is complete when it finally does what it aims at. So that will be either in the whole time, or in this. But if it is divided up into

for it, and hence the unmoved mover should be understood as an internal activity of the soul, and not as an external thing in the world that affects the animal such as to move it.

[86] In line with this, it seems that the question of unity does not arise for activities that are complete as they exhibit a simple telic structure.

> temporal parts, the resulting movements are all incomplete, and distinct in form both from the whole (*holês*) and from each other; for the putting together of the stone blocks is distinct from the fluting of the column, and both of these from the making of the temple—and the making of the temple is a complete movement, since it is not lacking anything required for the task in hand, whereas that of the base, and of the triglyph, is incomplete (*atelês*), since (*gar*) each of these is a making of a part (*merous*). So they are different in form, and it is not possible in any of the portions of the time to find a movement that is complete in terms of its form; if such a movement is to be found, it is to be found in the whole time. And similarly with walking, and the other cases.[87]

A complex action is "complete when it finally does what it aims at" and the whole action is distinct from its parts. For instance, building a temple involves a whole range of different actions that need to be completed.

Importantly, Aristotle explicitly states that the sub-actions of the whole are themselves incomplete *since* they are parts. What does Aristotle mean by this? He surely does not mean that one cannot complete or finish making a part without finishing the whole. That would make complex actions like temple-building impossible. Indeed, without first completing the base, it would be impossible to continue building the rest of the structure.

Hence, it is better to take Aristotle here to mean that various sub-actions like building the base from stone blocks, fluting the column, and carving of triglyphs, have to be understood as parts or means toward some larger aim (the building of the temple, in this case). These can be completed independently of one another, but their identity (in this case) can only be understood in relation to some other end (the whole).

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[87] *EN* X.4 1174a19-29 (tr. Broadie & Rowe 2002).

The important point I want to draw from these considerations is that an action is a kind of a whole entity. It can be simple or complex: simple if it does not contain any parts, complex if it does. Even if it is complex, and contains distinct parts, the parts cannot properly be understood without considering the whole. Thus, the goal the whole action aims at is important for considering questions of identity and unity.

What does this mean for bodily motion and action in general?[88] Action is a kind of whole that must be understood in terms of the good goal that the whole is aimed at. The practical good goal that the agent desires gives a kind of unity to the various sub-processes Aristotle identifies as parts of bodily motion. So understood, the agent is not merely a cause of the first activity—desiring—which then causes other movements to take place. Rather the agent is a cause of the whole process. It is because she desires to bring about this goal, that she moves her body in the way that she does.

Indeed, her bodily motions are instrumental to achieve her goal: their functioning cannot properly be understood without understanding them as parts or means to the broader aim the agent aims at. For instance, when cooking a risotto, it is the action of cooking a risotto which explains why I move my body in the way that I do, in the order that I do, etc. The goal is explanatorily more basic and prior to the means employed in pursuit of that goal. This also helps see how Aristotle might account for actions that do not involve bodily movement: for instance when working on puzzle in one's mind or solving a sudoku. These can be explained by one's desire, but since they do not involve bodily movements, the body will not form a part of the story here. It may be that one

[88] Note that Aristotle generalizes in *EN* X.4 1174a30-b2 from building to other cases like motion with respect to place in general—hence I take these points apply to Aristotle's views on self-motion.

needs to employ certain (mental) tricks and procedures to accomplish one's task, but Aristotle does not require the means to be employed here to be bodily means.

§6. Summary

Let me end by summarizing some of the points this chapter has sought to develop. By considering Aristotle's teleology we gain a better insight into his philosophy of action. One way in which teleology helps is that the different kinds of agency Aristotle (and we) are interested in turn out to be goal-directed cases of agency, since nature, the soul, and in general capacities, are efficient causes that act for the sake of some goal. Considering how these are goal-directed cases helps us see how a good goal functions as a cause. A final cause is not merely an end-point at which some process terminates. Rather, for any efficient cause that acts for the sake of a goal, the goal has to be understood as the essence or being of that efficient cause.

In order to understand why something cognizes something as a good goal to be gone for requires further considerations into the kind of thing or person this (type or kind of) agent is. Teleology thus helps explain not only why some process occurs or why it occurs in the way that it does, but also tells us something about the agent or substance that is the cause of the process: it is something for which doing so and so is some kind of good.

Some actions are complex processes containing a series of different changes and activities which need to be understood in relation to the good goal that the whole action is directed at accomplishing. The goal is ontologically and explanatorily more basic than the parts of the processes required to attain the goal. In some sense it is because *this* kind

of goal is the overall aim of some whole process that *these* kinds of motions and means are involved in its pursuit.

Whether an agent's action and the affection that patient undergoes are understood as different descriptions of numerically one and the same process, the goodness aimed at is common to both this action and this affection. Indeed, it is because both the action and affection are directed toward this good that they are descriptions of the same entity; goodness gives some kind of grounds of truth for thinking these descriptions pick out one entity. Alternatively, if one thinks of action and affection as essentially distinct (and merely numerically one), then the goodness can be understood as the whole of which the two are parts. In either case, the goodness itself must be understood in relation to the substance in question.

Conclusion: Aristotle's Philosophy of Action

In this final section I bring together the interpretation offered in the previous five chapters with the contemporary views sketched in the Introduction, to consider to what extent Aristotle approach is distinctive and what its key features are.

§1. Summary: Aristotle on Action and Agency

In Chapter 1 I began with the question whether Aristotle has a unified way of approaching the different examples of agency which contemporary philosophy of action is interested in. My suggestion is that the correct starting point to answering this question is by thinking of actions in terms of an exercise or activity of a capacity or nature; a kind of property or feature of a substance. This approach has a number of important consequences. First, it gives Aristotle a very broad notion of agency. Second, agency turns out to conceptually entail patiency, for we cannot really define or understand what it is to be an agent without understanding that to be an agent is to act on something, i.e., a patient.

Third, Aristotle treats activity (*energeia*) as a basic and primary notion. This ties into the preceding two points. On the one hand, although agency and patiency go together, of these activity is granted a privileged status, since the activity of the agent turns out to be epistemologically, causally, and ontologically primary. Indeed, we understand capacities and natures in virtue of understanding the activity these originate. On the other hand, although activity is taken as a basic notion, it is far from being simple. This is because different examples of activities form an analogous kind. In treating activity as basic, Aristotle is thus not simply privileging human (intentional) action as his starting

point, but rather a wide range of cases of fundamentally different kinds of active beings and different ways of being active. Given this kind of bottom-up approach, although a basic notion, activity also turns out to be a broad notion.

This approach also raises a number of difficulties. First, it isn't clear to what extent the distinction between natures and capacities can be sustained, since although capacities are other-directed, natures are not.[1] Moreover, given Aristotle's broad conception, it isn't clear how capacities and their exercises ought to be individuated, and what their identity conditions are. But perhaps most crucially, it isn't clear what kinds of things or properties capacities and their exercises in fact are. While Aristotle suggests that actions are some kind of particular, it is not clear what this claim amounts to. Given the broad, bottom-up, approach it isn't clear that Aristotle thinks that activities form a unified ontological category.

Chapter 1 ended by briefly considering some moves one might attempt to make given Aristotle's views on essence and predication to develop a view that might allow one to treat Aristotle's particulars as the kinds of concrete individuals Davidsonian particulars are. Given Aristotle's silence on this question, my own view is that it is better to think Aristotle's particulars in another way: as drawing on the idea that there are various active and passive entities in the world, and when we speak of actions and changes, we are speaking in abstraction. So understood, our ontology does not contain agents and patients and their actions and affections, but rather the things described as agents and patients.

[1] This issue is further compounded by Aristotle's insistence that self-movers move themselves by nature, and that they are composed (minimally) from two parts.

Chapter 2 sought to explore what kind of picture of causation emerges from thinking of causation in terms of agent's and patient's capacities to act and be affected. This account turns out to be complex given that Aristotle differentiates between one-way and (rational) two-way capacities, and between capacities that must be made active by an external agent and capacities that are simply "up to" the agent to use, depending on how they desire or choose to use them. Although Aristotle spells out certain conditions that must obtain for an agent to act on a patient, he does not seek to spell out sufficient and necessary conditions required for causation to occur. Given the wide range of different capacities Aristotle is willing to discuss, I suggested that he is best taken as being content with making some general observations regarding these, leaving certain questions to be pursued later (with attention to the field of study in question).

That said, Aristotle's views suggest he has in mind a substance- or agent-causal account where causation is to be understood in terms of an agent acting (in virtue of a capacity or nature) on a patient (which is affected in virtue of possessing a co-relative capacity to be affected). I defended this interpretation against a view more favourable and recognizable to contemporary "mental-cause" type of reading, which would see the kinds of exercises that are "up to" the agent to engage in as reducible to a more straightforward case: one involving treating desiring as the activity of a one-way capacity to desire made active by the relevant object of desire acting as the causal agent.

Chapter 3 discussed further the relation between an agent's action and the affection or change the patient undergoes by considering Aristotle's arguments in *Physics* III.3. I defended the reading that Aristotle's considered view is that the agent's action and the affection of the patient are one and the same thing, even if different in description (or non-essential) definition. This reading lends further defence to the agent-causal reading in Chapter 2, since the alternative sketched out there requires thinking of the agent's

action as the cause of the patient's affection; whereas the reading I develop and defend argues that we should think of the *agent* as the efficient cause of the action and affection, where these constitute numerically one thing (even if different in description). That said, Aristotle's arguments in *Physics* III.3 do lend themselves to another interpretation, one that argues that the sameness of the action and affection is in some sense "loose", one that admits of these being essentially distinct. While a possible reading, it requires further work on Aristotle's views on essence and definition to be regarded as a persuasive view.

Chapter 4 in turn considered Aristotle's views on self-motion and animal bodily motion. Given the account of causation emerging from Chapters 2 and 3 we might wonder how Aristotle in fact account for cases of agency like walking. It turned out Aristotle has a complex account regarding self-motion, where the self-mover is both the agent-cause of her walking, and the patient that undergoes that motion. More precisely, self-motion for Aristotle begins with the cognition of some kind of practical good, an object of desire, which makes the capacity for desire active in such a way that the animal body is moved in pursuit of the good it cognizes. So understood, self-motion is not a simple or single motion, but a complex series of motions and activities.

Finally, Chapter 5 discussed the relevance of Aristotle's views on teleology for a number of issues raised in the Thesis. First, another way in which we can see something of a unitary approach to questions concerning agency in Aristotle is by considering the ways in which nature, the soul, the soul's capacities like reason and desire, and rational, or acquired, skills or crafts function. As I argued, these are all goal-directed efficient causes: sources of some motion, activity, or affection which occur for the sake of something good. Such efficient causes operate in a way that exhibit what I called telic structure. This structure explains the ways in which these efficient causes operate: certain things are done for the sake of something else. Moreover, that these are goal-directed

cases of efficient causation is relevant because we cannot properly understand the kind of efficient causes these are without understanding the goals these are directed at. The goal, it seems, is explanatorily and ontologically more basic. Even here Aristotle operates with a broad conception since goodness needs to be understood in relation to the thing or kind in question. Goodness is not a unitary kind, and there is a wide variety of different kinds and ways of something being good for a thing or kind in question.

Desires are a good example of this. There are both genuinely good things that we desire, and merely apparently good things we desire. Moreover, there are a number of different factors that can affect what we desire. Some desires might be ones we have given our natures, others might be acquired through some processes of habituation, or through training or learning. Thus, what is and what appears good, pleasant, desirable, detestable, revolting, appealing, etc. may depend on a wide range of different factors—factors that can sometimes leave us motivationally conflicted in various ways.

Finally, conceiving of actions as processes that exhibit telic structure allows us to think of complex actions as a kind of whole. Parts of such complex actions are all done for the sake of the same end. So understood, the goal gives a kind of unity to the parts. This helps with our understanding of self-motion: even though the analysis of self-motion in Chapter 4 yielded a complex account of different activities and movements, these can nevertheless be thought of as one whole complex process; one which the animal is the cause of, in virtue of cognizing something that is or appears good to it.

§2. Intentionalist Accounts, Causal Theories, and Aristotle's Approach

In the introduction we met two different approaches in contemporary philosophy of action—CTA and IAA—and their different views on what is ontologically and

observationally basic. We are now better placed to consider Aristotle's approach to action in contrast with these contemporary ones.

As I see it, Aristotle's approach cannot be reduced to either IAA or CTA, but forms an approach of its own. One way Aristotle's approach is unique is that his natural philosophy does not carve up the world into distinct physical and intentional or mental categories (in the sense of non-physical). Instead, he operates with a richer, hylomorphic, conception of the world which lends itself to a very different approach to action and agency.

Another way Aristotle's approach is unique is this. He is clearly formulating a causal account of action. However, it is obviously not the same causal account many contemporary philosophers work with. Perhaps the biggest difference between Aristotle and standard CTA's is that Aristotle deploys his causal account as an inquiry which is much closer in spirit to the IAA. Like the IAA Aristotle does not seek to go behind action and give a reductive account of it, but takes the concept of action as basic and proceeds from there. But Aristotle does tell us something about the causes of actions and affections: these are the agents and patients from which actions and affections originate.

However, there are important differences between the IAA and Aristotle. While Aristotle might agree that we need to start with a basic conception of action and agency, his basic conception does not only focus on human, intentional, agency. Indeed, Aristotle does not (seem to) operate with a notion of intention or intentionality, but with a broader ideas of teleology. Granted, Aristotle does at times privilege examples of human agency for our understanding. Teleology is a case in point since Aristotle appears to rely on human craft-production to defend and develop his views regarding natural goal-directness.

Moreover, given Aristotle's agent-causal views, his causal account of action can be applied equally to the explanation of animal and human behaviour—indeed it also includes the agency of non-living substances. But again, this approach is not reductive. Rather, Aristotle develops a form of substance-causation, but one that accepts the differences between these substances. This picture is built from the bottom up. The agency of rational beings, of animals, of plants, and of the elements are all equal cases of agency.[2]

This gives a kind of causal theory of action, but a kind of causal theory that is not rooted in Davidson's Humean conception of causation. Indeed, given the role of agents (and patients) and their goodness, it will be a causal theory where the agent is ineliminable from this causal story. Moreover, it is a causal theory that does not aim to give a reductive or decompositional account of action, but one where the concept of action, agency, and patiency are basic. It is a kind of causal story that tells us something about the agent, about what she takes to be a good thing to have or do, and what she takes is a good way of pursuing that goal. Aristotle's causal account has thus at best a superficial resemblance to contemporary CTAs.[3]

Another way in which Aristotle's powers-based conception of causation matters is this: Davidson took our ordinary language to force us to accept events into our ontology. This is because without introducing events into the picture Davidson thought we cannot make sense of how ordinary sentences refer to actions, and in particular, how different sentences refer to the same action, unless we think these sentences as containing

[2] Even if we may need to begin with an understating of our own, rational, agency, for the sake of understanding agency in general, at best this means human agency is epistemologically prior to other forms of agency, not ontologically.

[3] Aristotle is not of course the only philosopher to advance some kind of agent- or substance-causal account. For an overview of different agent-causal accounts, see Clarke 2010.

reference to an event. Davidson himself comments that his approach might seem ontologically "excessive".[4] I think it is ontologically excessive when combined with his theory of causation. This is because when we try to grasp what is involved in seemingly simple sentences like "John broke the window" a first approximation suggests this sentence only contains John, the window, and presumably something John does. However, for Davidson what John does is to move his body which is itself an event which stands in need of explanation in terms of what causes it. John's doing turns out not to be simple, but itself something that consists in a John's bodily movement, and the mental event(s) that causes it.[5]

Aristotle's approach to causation might contain the seeds of a different kind of picture, one that accepts that some action ascriptions are in a sense simple: If John breaks a window, then this is because John has a power or ability to break the window (which has a corresponding power to be broken), and what John does is to exercise that power. It may of course be true that on Aristotle's approach John must also desire to break the window in order to be said to exercise his power to do so, but this analysis does not force us to invoke two events in the way Davidson's picture does.

Aristotle may think that we should not understand a sentence like "John broke the window" as involving three individuals, but two: John and the window, and the sentence describes these two as related in a certain way. So understood, John's action is not a distinct entity. This does not mean that actions do not exist, it simply is a different way of understanding what kind of existence actions have.

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[4] Cf. Davidson 2005, 285.

[5] For an excellent discussion over these issues, see Ford 2014.

Here more work on Aristotle's philosophy of language is required. Moreover, more work is needed on Aristotle's views on essence and definition, hylomorphism, causation, on the identity conditions of capacities and their individuation, on how the good is cognized, and so on. Answering these questions would enrichen our understanding of Aristotle's philosophy of action. However, while important questions, they in turn require a basic conception of Aristotle's views on capacities, nature, activities, affections, the relation between agent and patient, desire, and goodness—topics this thesis has made a start at clarifying. As I noted in the Introduction the aim of the thesis is to make a start on working out what philosophy of action might look like for Aristotle, and to explain why philosophers with such different conceptions of philosophy of action all find something attractive in Aristotle's work.

We are now in a better position to understand why philosopher's with very different approaches to action-theory all find some reason to attribute to Aristotle features of their own thinking. One the one hand, it is easy to see why Davidson (and Smith) think Aristotle is progenitor of a CTA: Aristotle clearly thinks actions, like bodily movements, are caused by some desire. However, I've argued that this is at best a superficial resemblance. That said, although Aristotle's approach may be closer in spirit to IAAs, it is nevertheless a causal account, one that aims at a kind of explanation and understanding that lends itself to scientific inquiry, and which takes as its starting point a broader notion of agency than contemporary IAAs. Given that Aristotle's approach is rooted in a very different metaphysical picture and makes use of a different conception of causation than the Humean picture underpinning many forms of contemporary CTAs it is understandable why Aristotle is a tempting source of inspiration for proponents of IAAs.

§3. Action and Agency in Aristotle's Philosophy

Let me end by highlighting some of the interesting features of Aristotle's approach that strike me as distinctive and potentially attractive to contemporary philosophers working on action (and on the importance his views on agency and action have for our understanding of Aristotle's own philosophy).

(i) *Aristotle's account is both metaphysically diverse and inclusive*. This is because anything with a capacity or nature is (as I've argued) a kind of agent or patient. A consequence of this approach is that the concepts of agency and patiency are very broad: ranging from the simple elements in the natural world, to animals, humans, and (possibly) beyond the sub-lunar world to moons, planets, and stars. Agency is not restricted to human beings or animals, nor is it restricted to particular substances like this atom of earth, or that herb, or Henry the human, but allows us to think of more complex entities like families, herds of sheep, forests, clouds, and nation-states as agents. Rather, anything that can acquire a power and exercise it is a kind of agent. One attractive feature of this is that it allows the explanation of joint agency: there are things one cannot do alone. Moreover, Aristotle method of making comparisons between different kinds of agents and activities to spell out what is common and what is distinctive to each is an interesting approach to philosophy of action in its own right, and something Aristotle can contribute to the contemporary debate.

(ii) *Aristotle's philosophy is both a philosophy of action and a philosophy of affection*. I suggest that we should think broadly of actions as the exercises of active capacities; as the activities of agents. That said, since active capacities conceptually entail passive ones, actions—on my suggestion—entail co-relative affections—exercises of passive capacities. So understood, Aristotle's philosophy of action is also a philosophy of affection, since agency involves patiency. When something acts as an agent, something

else is affected as a patient. As we saw in Chapter 4, Aristotle applies this thought to self-motion: we both cause our own movements, and we are also affected by the movement we cause. Contemporary philosophy of action rarely focuses on the passive or affective side. Aristotle's approach suggests that it should.[6]

(iii) *Aristotle takes activity as a basic notion and proceeds from there.* In adopting an approach to action-explanation that takes activities as basic Aristotle is relying on what might be called a realist assumption: we can and do observe actions or activities directly. We do not merely see some underlying token event or process of movement taking place from which we must infer—through complex cognitive processing—whether that thing is an action, or, say, a sc. "mere event". Instead, we are able to observe actions and changes directly.

Indeed, given the priority of *energeia* a bodily movement (a *kinêsis*) is to be understood in light of the action, not the other way around. For Aristotle, then, an action is not an event involving bodily movement (or rest) that counts as an action because it is caused in a particular way. Rather the action is the cause of moving in that way. Movement is not explanatory of action, but the reverse: the action is explanatory of the movement.

(iv) *Aristotle's metaphysics and natural philosophy are normatively laden*. Given the importance teleology has for Aristotle's natural science and metaphysics, and given the importance goodness has for teleological analysis, it seems that Aristotle's natural science is normatively laden. This apparent fact is on its own a distinctive and interesting

[6] In principle Aristotle's broader conception enables him to think that we are equally responsible for what we do and for the kinds of things that can affect us. Our control of ourselves does not merely end with what we do, but to the capacities we have which include both active and passive capacities. For an excellent discussion of the risks of conflating agency, patiency, voluntariness, and intention, see Hyman 2015.

feature of his work, and something worth exploring in order to understand agency and life. One practical consequence of this approach seems to be this: some philosophers worry that in speaking of desires as the cause of an action, this way of speaking seems to leave the agent outside the picture. At best, the agent seems to be a kind of container where the desire-event occurs, but once it occurs it is the desire that is cause of the action, not the agent. Moreover, when we try and inquire into why someone does something, what we want to know is their reason for acting.[7] I think Aristotle's approach recommends an interesting approach: the desire with which someone acts has to be understood in relation to the kind of agent this person is. So understood, who or what that person is, is part of the explanatory story here. We do not merely learn that there is a desire that causes movement, but that there is something good or attractive to the agent. So understood we learn something about the agent in question.

(v) *Aristotle's philosophy is a philosophy of action*. Given the centrality notions like *energeia*, *entelecheia*, and *dunamis* have for all of the Philosopher's thinking it turns out that philosophy of action is not at the periphery, but is at the heart of his work. Indeed, if it is right to claim that *energeia* and *dunamis* are basic concepts that have to be understood together and which and derive their meaning from using something versus merely having it, then Aristotle's metaphysics and natural philosophy is—at its core—a philosophy of action and agency. It is by understanding what is common between cases like the rational agency of craftsmen and doctors and the natural agency of fire or winds, that we understand what it means to have and to exercise some kind of power or ability, what kinds of conditions must be in place for the exercise to be possible, and so on. It is a philosophy that begins with an idea of the world around us as active and alive and one

[7] Cf. Hornsby 2004, 8.

that attempts to explain the distinctive features of the various (and sometimes strange) goings-on we see around us, without attempting to reduce all these different activities to more basic, static, and ultimately, lifeless, components.

Let me end with a quote from Fredrick Stoutland. What he says on behalf of von Wright, I say on behalf of Aristotle:

> His discussions are subtle, thought-provoking, deeply original, very instructive, and impossible to summarize. One reads them to be free from philosophical orthodoxy and dogmatism, to get clear about the problems involved, to avoid futile projects and dead ends, and to be stimulated to pursue new lines of thought.[8]

[8] Stoutland 2010, 596.

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Latin title	**English Title**	**Abbreviation**
De Interpretatione	*On Interpretation*	*DI*
Analytica Posteriora	*Posterior Analytics*	*APo*
De Generatione et Corruptione	*On Generation and Corruption*	*GC*
De Anima	*On the Soul*	*DA*
Historia Animalium	*History of Animals*	*HA*
De Partibus Animalium	*Parts of Animals*	*PA*
De Motu Animalium	*On the Motion of Animals*	*MA*
De Generatione Animalium	*On the Generation of Animals*	*GA*
De Incessu Animalium	*Progression of Animals*	*IA*
Ethica Nicomachea	*Nicomachean Ethics*	*EN*
Ethica Eudemia	*Eudemian Ethics*	*EE*

List of titles of Aristotle's works and their abbreviations.

Appendix: Word-count

Total word-count of document:	76,742
-ToC, Abstract, Acknowledgements:	747
-Introduction & Note on Translations:	4,371
-Chapter 1:	13,919
-Chapter 2:	13,310
-Chapter 3:	14,692
-Chapter 4:	12,587
-Chapter 5:	11,367
-Conclusion:	3,994
-Bibliography & Word-count:	1,755
Thesis length (Total-Bibliography):	74,987