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DOING AND BEING

An Interpretation of
Aristotle's *Metaphysics* Theta

JONATHAN BEERE

DOING AND BEING

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JONATHAN BEERE

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To my parents

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In fact, the world is full of hopeful analogies and handsome dubious eggs called possibilities.

— George Eliot, *Middlemarch*

As kingfishers catch fire, dragonflies draw flame;
As tumbled over rim in roundy wells
Stones ring; like each tucked string tells, each hung bell's
Bow swung finds tongue to fling out broad its name;
Each mortal thing does one thing and the same:
Deals out that being indoors each one dwells;
Selves—goes itself; *myself* it speaks and spells;
Crying *What I do is me: for that I came.*

— Gerard Manley Hopkins

PART I

THE SIGNIFICANCE OF
METAPHYSICS THETA

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Peace between the Gods and Giants

1.1 INTRODUCTION

The ninth book of Aristotle's *Metaphysics*—Book Theta—is a compelling work of philosophy. It develops a theory of causal powers, and then distinguishes two ways of being: being-in-capacity and being-in-*energeia* (where *energeia* is, as a first gloss, the exercise of a capacity). The discussion culminates in a challenging and controversial claim: *energeia* has priority in being over capacity (*dunamis*). My primary goal is to explain this claim: its meaning, its justification, and its philosophical import.

The claim is obviously not easy to understand, but the difficulties are much greater than one might have expected. There are a variety of reasons for this. The most interesting and important reason is that the concept of *energeia* is radically foreign to us.

We can approach the foreignness of *energeia* by way of some ordinary English words. There are, on the one hand, words for *doing* such as 'act,' 'action,' and 'activity,' and on the other hand, the words 'actual,' 'actually,' and 'actuality,' which are connected with *being*. All these words come from the Latin *actus*, which itself is a form of a word for doing (*ago, agere*). The connection among these words is not a historical accident, but a linguistic fossil of Aristotle's thought. The Latin phrase *in actu* was used to translate the Greek term '*energeia*,' which first became a central philosophical concept in Aristotle's work. There are no recorded uses of the term before Aristotle. This is part of the reason why I leave '*energeia*' (a linguistic innovation) untranslated, while translating its complement, *dunamis* (an ordinary Greek word), as 'capacity.'

'Activity' and 'actuality' are even now the two standard translations of '*energeia*.' Sometimes, '*energeia*' can be translated only by a word for doing like 'activity,' while 'actuality' and related words yield absurdity. For instance, when Aristotle says that pleasure is unimpeded *energeia*, he must mean that it is unimpeded activity, not unimpeded actuality.¹ Other times, '*energeia*' can be translated only by a word like 'actuality,' while 'activity' yields absurdity. For instance, when Aristotle denies that the infinite has

¹ *Nicomachean Ethics* VII.12 1153a12–15.

being-in-*energeia*, he is denying that it is has being-in-actuality, not that it has being-in-activity.²

The connection between activity and actuality is not a distraction from the philosophical issues. Nor is it a mere difficulty of translation. In my view, it is the problem of how to grasp this radically foreign concept, how to grasp the unity among the diverse cases of *energeia*.

The two translations of ‘*energeia*,’ so very different from one another, suggest that the word is ambiguous. But I will argue that it would be disastrous to see ‘*energeia*’ as ambiguous, since the very point of the term is to capture what these diverse cases have in common. On the other hand, if we insist on seeing *energeia* either as activity or as actuality, then we seem to be forced into absurdity.

The problem recapitulates Aristotle’s own development. Aristotle seems to have first used the term ‘*energeia*’ in his early dialogue, *Protrepticus* (which survives only in fragments). The term was used to formulate and justify a claim about human happiness: happiness is not the mere possession of wisdom, but the exercise of wisdom in actively thinking about and understanding the world. In this case, an *energeia* is a certain doing: thinking (*noēsis*), exercising one’s wisdom (*theōria*).³

In later works, Aristotle uses the word ‘*energeia*’ to modify the verb ‘to be.’ In many such cases, it seems possible to give a sensible translation of ‘*energeia*’ by ‘actually,’ and in some such cases, it seems impossible to give a sensible translation by ‘actively.’ It is this use of ‘*energeia*,’ modifying the verb ‘to be,’ that concerns Aristotle in *Metaphysics* Theta.⁴ To that extent, *energeia* is, of course, associated with being. One might readily conclude that *energeia* is actuality (at least in this usage), since actuality, not activity, is a mode of being. But this would be hasty. It is an open question what kind or mode of being Aristotle is trying to name. Perhaps it is better characterized as activity than as actuality.

I will argue that neither term captures Aristotle’s meaning. But I will focus on the problems with the translation ‘actuality,’ precisely because it has certain advantages that make it attractive as a translation. For ‘actuality’ also has two unfortunate consequences, which have been overlooked. First, it obscures the nature of the analogy that unifies the enormously diverse cases of *energeia*. It makes central cases, such as building a house, into outliers. This is already misleading, and it is liable to make ‘*energeia*’ ambiguous

² *Physics* III.5 204a20–1 and III.6 206a14–18.

³ See fragments B38, B85–6, B93–6, among others. (The numbers refer to Düring’s edition [12]. The fragments can also be found, with the same numbers, in [17].)

⁴ Throughout, by ‘Book Theta,’ I will mean chapters 1 through 9 of that book. There is a tenth chapter, but it deals with a different topic: being as truth. Nothing in Book Theta suggests that the discussion of the new topic relies on or extends the discussion of *energeia* and capacity.

between actuality and activity. Second, the translation ‘actuality’ is liable to make the culmination of *Metaphysics* Theta seem superfluous. For actuality seems obviously to have priority over mere possibility (except on certain eccentric contemporary views). It would thus be very strange for Aristotle to justify this claim at length in the way he does. To make this argument superfluous is to lose the philosophical achievement of the work: the powerful reasons Aristotle gives for his claim that *energeia* has priority over capacity.⁵

It is no exaggeration to say that *energeia* and capacity are among the most important concepts in Aristotle’s philosophy. They occur in diverse contexts, and serve to solve crucial problems. Aristotle’s discussions of human happiness, of body and soul, and of the nature of God depend on these concepts, as do his treatments of perception, infinity, causation, pleasure, weakness of the will, the definition of change, the unity of sensible substance, and the generality of knowledge. *Metaphysics* Theta is the unique place where Aristotle focuses his discussion on being-in-capacity and being-in-*energeia* themselves.

While this makes *Metaphysics* Theta an exciting and important text, it also poses a problem. It is impossible to deal with everything Aristotle says on this topic. I hope this book will contribute to our understanding of Aristotle’s thought as a whole, but my main purpose is to explain the philosophical significance of *Metaphysics* Theta in its own right. It is important to work out an internally satisfying interpretation of *Metaphysics* Theta, before asking how it fits (or fails to fit) with other texts to form a coherent theory.

Yet our task is not simply to follow Aristotle’s train of thought from one page to the next, but to appreciate his philosophical achievement. The context of *Metaphysics* Theta makes that somewhat tricky. For *Metaphysics* Theta announces itself as a part of a much larger project. This larger project—the achievement of a science of being as being—is hard to understand. Rather than wading into general controversies about Aristotle’s *Metaphysics*, I begin by identifying a main problem that Aristotle is addressing in *Metaphysics* Theta, a problem articulated by Plato in a famous passage of the *Sophist*. This passage is the conceptual backdrop to Aristotle’s innovations of introducing the term ‘*energeia*,’ opposing it to ‘capacity,’ and treating both as ways of being. Like the problem of *energeia*, the problem from the *Sophist* turns on the relationship between being and doing.

⁵ Identifying *energeia* with activity, as I did when I finished my dissertation, is the less dangerous error. It is less seductive, because the problems with it are more glaring (as in the case of the infinite). And it is less damaging, because it avoids the second problem (although it does fall prey to the first).

1.2 THE BATTLE OF THE GODS AND GIANTS

In the *Sophist*, Plato makes the main speaker, the Eleatic Visitor, develop an impasse about being. An impasse is supposed to be more than simply a difficult question. An impasse is supposed to be a problem that must be solved, yet seems impossible to solve. The problem in question concerns what being is, and there are two sides to the dispute about it. “It seems that there’s something like a Battle of Gods and Giants among [people who think about what being is], because of their dispute with each other over being” (246a).⁶ The Battle of Gods and Giants is a metaphor drawn from Greek mythology.⁷ In the mythological story, the Giants—crude, ugly creatures of the earth—rebel against the hegemony of the Gods—refined, beautiful creatures of the heaven. The realms of earth and heaven correspond to the realms of bodily and non-bodily, changing and unchangeable, perceptible and intelligible.

At least, that is how the Gods and Giants see their positions at the outset. Each side in the battle is associated with an initial position, which is then subject to criticism. The Giants’ initial position is that all being is body:

One group [the Giants] drags everything down to earth from the heavenly region of the invisible, actually clutching rocks and trees with their hands. When they take hold of all these things they insist that only what offers tangible contact has being, since they define being as the same as body. And if any of the others say that something without a body is, they absolutely despise him and won’t listen to him any more. (246a–b)

The Giants *define* being as body.⁸ They do not merely think that, as it happens, all beings are bodies. They think that, to use Aristotle’s language, what it is to be at all is to be a body. They also have a view about our knowledge of being. We know about being by perception.

These two views are presumably intimately linked, although the Visitor does not spell this out. In perception, one body does something to another body. For instance, a brick strikes my foot, or a candle warms my hand. If all beings are bodies, there is presumably no way to acquire knowledge of beings other than by being acted on by them—in particular, by being acted on by them in such a way as to perceive them.⁹

The Eleatic Visitor goes on to present an argument against the Giants, forcing them to concede that not absolutely everything is a body. Wisdom,

⁶ Translations from the *Sophist* are from the version of Nicholas White in Cooper [72], with occasional modifications.

⁷ See, for instance, Hesiod, *Theogony*, ll. 675–715.

⁸ The Greek reads ταῦτόν σῶμα καὶ οὐσίαν ὀριζόμενοι (246b1).

⁹ Throughout, I use ‘action’ in a sense that is broader than ‘intentional action.’ Any case of something’s doing something is an action: the radiator heats the room; the water dissolves the salt; the flute-player plays a concerto. ‘Act’ and ‘be acted on’ translate *poiein* and *paskhein*.

for instance, is not a body. He then challenges the Giants to say what bodies have in common with non-bodily beings, and he offers this answer on the Giants' behalf:

VISITOR: I'm saying [on behalf of the Giants] that a thing really is if it has any capacity at all, either being by nature such as to do something to something else or to have even the smallest thing done to it by even the most trivial thing, even if it only happens once. I'll take it as a definition that *those which are* amount to nothing other than *capacity*. (247d8–e4)¹⁰

The Giants have given ground. They admit that some beings are not bodies. The new definition is less restrictive and more plausible than the definition of being as body.

But the new definition is not a complete abandonment of their position, as we can see from the fact that the battle, apparently, goes on. The Giants have not simply gone over to the side of the Gods. The new definition of being, formulated on their behalf by the Eleatic Visitor, is an attempt to articulate the spirit of their original position, in a way that accommodates the Visitor's counterargument.

How does this new definition maintain the spirit of the Giants' position? In at least three ways. First, the new definition explains why someone might have thought that all beings are bodies, as well as why bodies are the paradigm cases of being: it is because bodies have *capacities to do things and to have things done to them*. It is bodies that heat and cool; that are heated and cooled; that push and are pushed; that dissolve and are dissolved; that crush and are crushed. If one assumes that being is associated with capacity, and that bodies are the only things with capacities, then one might be led to define being as body. The second definition explains what is appealing about the first.

Second, the Giants continue to maintain that bodies house all capacities. The capacities in question are supposed to be particularly important ones, such as wisdom and other virtues as well as their opposites (246e–247a). They are not bodies, nor do they have bodies (247b). But they are present in souls (247a), which do have bodies (247b). If the Giants have been forced to admit some non-bodily beings, that is only because it has turned out that some capacities—capacities whose status as beings it would be shameful to deny (247b–c)—neither are nor have bodies. Yet these capacities make things happen only because of their presence in souls that, in turn, have bodies. Everything that happens, happens because of capacities that are in bodies. So the Giants are nowhere near admitting the heavenly realm of the non-bodily intelligible.

¹⁰ Trans. White in Cooper, modified: Λέγω δὴ τὸ καὶ ὁποιανοῦν τινα κεκτημένον δύναμιν εἴτ' εἰς τὸ ποιεῖν ἕτερον ὅτιοῦν πεφυκὸς εἴτ' εἰς τὸ παθεῖν καὶ σμικρότατον ὑπὸ τοῦ φαιλοτάτου, καὶ εἰ μόνον εἰς ἅπαξ, πᾶν τοῦτο ὄντως εἶναι· τίθεμαι γὰρ ὅρον ὀρίζειν <δεῖν>, τὰ ὄντα ὡς ἔστιν οὐκ ἄλλο τι πλὴν δύναμεις.

Third, the Giants continue to associate being with *change*. There are several reasons for thinking that their core intuition is to associate being with change. For instance, the Gods call *becoming* what the Giants call *being*: this suggests that the *being* of the Giants is in flux. And that is not surprising, since it is plausible to think that all bodies are involved in change. Moreover, the new definition speaks not of just any capacity, but of capacity for *bringing about* or *undergoing* change. In the Giants' modified position, we can already see hints of the position that Aristotle will espouse. While Aristotle does not define being in terms of body or capacity, he does think that there is a certain way of being associated with capacities: being-in-capacity.

Having wrested these concessions from the Giants, the Eleatic Visitor turns his critical attention to the Gods. They are, of course, the more attractive side in the dispute. Plato's rhetoric is by no means impartial: in Greek mythology, Gods are attractive, Giants are not. In the battle, the Gods, not the Giants, are victorious. But this side of the dispute is mostly called the Friends of the Forms, not the Gods. This perhaps reflects the Visitor's (and Plato's) modest reluctance to count himself among the Gods. The Friends of the Forms are, in any case, most unlike the Giants: they are heavenly and refined, where the Giants were crude and earthly. At the outset, the Friends of the Forms had rejected the equation of being and body.

They insist violently that true being is certain non-bodily forms that can be thought about. They take the bodies of the other group, and also what they call the truth, and they break them up verbally into little bits and call them a process of coming-to-be instead of being. (246b–c)

The view of the Friends of the Forms is directly opposed to that of the Giants. Where the Giants think that being is perceptible, the Friends of the Forms think that being is not perceptible, but rather grasped in thought. Where the Giants think that beings are bodies, the Friends of the Forms think that beings are non-bodily. The Friends of the Forms relegate the perceptible and bodily to the realm of *becoming*, not *being*.

But even the divine Friends of the divine Forms are not beyond the Visitor's criticism. His criticism focuses on the notion of change. While the Giants had welcomed change into being, the Gods try to exclude it. But this turns out to be problematic. On the one hand, the Gods think that *that which wholly is* is at rest (248e). On the other hand, there is compelling reason to insist that beings are changing:

But for heaven's sake, are we going to be convinced that it's true that change, life, soul, and intelligence are not present in *that which wholly is*, and that it neither lives nor thinks, but stays changeless, solemn, and holy, without any understanding?

(248e–249a)

The problem is not simply that the Friends of the Forms maintain that there are beings that are both at rest and changing. There is a deeper problem here, but it requires a bit of reflection to see.

Their original thought was that what makes the Forms paradigmatic cases of being is precisely their being at rest. This is what distinguishes the forms from things that are merely becoming. But the Visitor has now forced them to admit that certain modes of changing, in particular, certain modes of *doing*, are what make something a paradigmatic being. The Visitor gets the Friends of the Forms to agree that to think requires soul; that which has a soul is alive; and that which lives is changing (249a–b). The problem consists in the relationship between living and being for anything that is alive. For living things in particular, living seems to be being: if a living thing stops living, it also stops being. But living seems to be changing: breathing, moving, digesting, and so on. So for a living form, to be is both to be at rest, and to be changing in a certain way, namely living (249c–d).

The Friends of the Forms may also think something more daring: that, for some entities, to think is to be, such that for them to stop thinking is for them to stop being at all. But even if the Friends of the Forms are too circumspect to advance this view, they cannot maintain that the Forms' being consists in their being at rest, and that the Forms' being consists in their changing, namely living.

The Visitor goes on to present a theory of being. In presenting that theory, he is clearly more sympathetic to the Friends of the Forms than to the Giants. But he just as clearly wants his new theory to incorporate what was true in each of the previous two theories (251d). Neither is to be jettisoned. He relieves the tension within the view of the Friends of the Forms, by allowing that the Form of being participates both in change and in rest. This also connects the Form of being with the changes that capacities can bring about, and thus accommodates the Giants' view that being is capacity. This presumably relaxes the strict division between being and becoming. Perceptible bodies are allowed a qualified share in being.

Interestingly, the Visitor says nothing more about the Giants' revised definition of being, the definition in terms of capacity. I speculate that it is implicitly accepted, but only as an account of the being, such as it is, of perceptible things. At the very least, one can say that the dialogue suggests no revision in the Giants' account of perceptible being. So bodies participate in being, on the Visitor's considered view, through their *capacities* for being involved, either as agents or patients, in *change*.

The Visitor thus seems to present what we might call a two-state solution: the Gods and Giants cease their battle, and each holds sway on its own territory. Alongside the earthly realm of perceptible, changeable body, is the heavenly realm of intelligible Forms, where Being mixes both with Change and with Rest. This is presumably the solution—not identified as such—to

the problem with which the Visitor had confronted Gods: the problem of how the unchanging Forms can live and think, given that living and thinking are doings, and hence changes. The solution consists in this: the Forms associate with Change, and this association enables them to think and to live, but they also associate with Rest.¹¹

An aspect of the Giants' view is even adopted for the Forms. While Forms are not explicitly said to have capacities, they are said, over and over again, to be *capable* (*dunaton*) or incapable (*adunaton*) of associating or mixing with one another.¹² This is, presumably, a further way in which the Giants' linking of being and capacity is quietly incorporated into the Visitor's considered view. But the Forms, even if they do think and live, still seem to have a stability that is utterly alien to the bodily realm. And this is why the Forms continue, on the Visitor's considered view, to be the paradigmatic cases of being.

The Visitor achieves a coherent way of thinking about being on which the realms of the Gods and Giants, the earth and the heaven, can be assembled into a coherent cosmos. He provides a way of thinking about being on which the perceptible and intelligible realms both have a share in being. But they do so in radically different ways, since the intelligible realm does so through the presence in it of the Form of being, whereas the perceptible realm does so (if at all) by standing in some appropriate relation to the intelligible realm. The Giants seem to have surrendered much more than the Gods. But they and their domain have not been simply excluded from being. So the Visitor has ended the Battle of Gods and Giants, and he has devised a theory of the cosmos on which what it is to have being is different in the two main realms of the cosmos. The difference between the perceptible and the intelligible is that radical. They are not merely different kinds of being. What it is for each to have being differs.

In some sense, this noble struggle continues to the present day. In our modern milieu, the Giants are in ascendancy. Many philosophers and many non-philosophers are materialists. Even people who believe in an incorporeal God think of God's being as exemplified above all by his power (*dunamis*). A prominent philosopher conceives of science as a theory of *capacities*, understood as the basic causes of change [29]. The Giants, too, presumably connect their theory of being with the claim that all being is to be explained in terms of capacities. Some philosophers understand causation in terms of dispositions, which are at least very like capacities. While there are many different conceptions of causation, it is widely believed that things have being if and only if they are caught up in causal chains. (Consider, for instance, the

¹¹ It would be a consequence of this way of seeing things that Rest, unlike the other Forms, does not think and live.

¹² See 251d6, 251d8, 251e9, 253a8, 253c2, 253e1, 254c5.

thought that colors are not real because they have no causal efficacy.) This idea is a descendant of the Giants' thought that being is having a capacity to act or be acted on. Indeed, many philosophers and scientists are, without being aware of it, under the influence of the later Stoic elaboration of the Giants' view.

While no contemporary philosophers I know of represent the views of the Friends of the Forms, there are philosophers who maintain that minds, numbers, propositions, God, natural laws, and universals have being, but are not bodies. Of course, conceptions of all these things have been profoundly influenced by the history of philosophy between Plato and the present day. While few contemporary thinkers attribute *life* or *understanding* to these things (except minds and God), they do sometimes think of them as the ultimate basis for all perceptible being, or for some realm of perceptible being, such as human action. In this, they take up the flag of the Friends of the Forms.

Of course, these contemporary disputes are not carried on in Plato's terms. Plato wrote about body, not matter. Contemporary analytic philosophers mostly speak of existence and predication, rather than being. I think that these differences are important and interesting. For present purposes, however, I wish to emphasize that the dispute is open. And Plato's treatment of the dispute is of enduring value, among other things, because of his lack of complacency about the bodily and perceptible. Again and again in the dialogues, as here in the *Sophist*, he tries to unseat a natural tendency to give primacy to the perceptible. The perceptible, Plato wants us to think, is at least as perplexing as the intelligible. This is something we might well agree with him about, whatever our other views.

1.3 ARISTOTELIAN DÉTENTE

At first glance, Aristotle seems to have a position like the Eleatic Visitor's. Both admit both non-bodily and bodily beings, and both think that the non-bodily beings are non-perceptible, and are the causes of the bodily, perceptible beings. But this is misleading, because Aristotle has reworked the fundamental concepts in terms of which the dispute was couched: the concepts of change, rest, doing, agency, capacity, and being. This is the point of Aristotle's doctrine of being-in-capacity and being-in-*energeia*. Whatever else the distinction between these two ways of being might be, it is also an attempt to resolve, or rather to *undermine* the Battle. Aristotle asks us to conceive both positions—that of the Gods and that of the Giants—in a radically new way.

My full account of Aristotle's thought on this matter will occupy the rest of this book. In this section, I will sketch some of the main lines of

Metaphysics Theta, as a response to the Battle of Gods and Giants. This will enable us to discern the philosophical achievement of *Metaphysics* Theta, without attempting to resolve complex issues about Aristotle's *Metaphysics* as a whole.

1.3.1 Aristotle and the Giants

Aristotle advances a profoundly different conception of bodily being from the Giants'. But he nevertheless manages to incorporate part of the Giants' view into his own. One concession to the Giants is the very notion of *being-in-capacity*. With that, he concedes to the Giants that there is a mode of being associated with capacity. Moreover, Aristotle clearly agrees with the Giants, and with the Eleatic Visitor, that such being is specially associated with changing, bodily, perceptible things. For Aristotle thinks that all perceptible bodies (even eternal perceptible bodies such as the heavenly bodies) change, and he thinks that whatever changes has *being-in-capacity*.

But Aristotle has a more nuanced notion of capacity than the Giants, in several ways. The Giants speak of capacities to bring about or undergo change. Aristotle's first complication is to treat the capacities to bring about changes as prior to the capacities to undergo changes. Plato takes for granted that they are on a par.

Second, Aristotle recognizes capacities for change that are not capacities for being an agent or patient. These are natures, capacities in virtue of which, by Aristotle's lights, things change without being either agent or patient (in the normal sense). An example is a foetus's development into an adult human being. While this is a genuine change, it is not a case of one thing's doing something to something else. A foetus's development is not something that is done to it by other things. Of course, the foetus depends on other things—such as the womb—in order to develop. But for Aristotle these other things are conditions, not agents, of change.¹³ For our purposes here, the important issue is not how to understand a foetus's development, but the distinction that Aristotle recognizes, and Plato's *Sophist* does not, between changes that are one thing's doing something to another thing (*poiēsis*) and other changes. Correspondingly, Aristotle recognizes two corresponding groups of capacities: capacities for the one or the other sort of change.

Third, Aristotle recognizes cases of *doing* that are not *changes*. And it is precisely in order to cover these cases that Aristotle seems to have introduced the term *energeia* (activity). So some *energeiai* are not changes. It is surely no coincidence that living and thinking are two of his cardinal examples of *energeiai* that are not changes, examples that come straight from the Battle of

¹³ There are many complexities lurking here. See Sarah Waterlow Broadie [83, ch. 5] and the anthology edited by Gill and Lennox [46] for extensive further discussion.

the Gods and Giants.¹⁴ The reader unfamiliar with the proposal that thinking is not a change may find it perplexing. But not just any case of thinking counts. Aristotle seems primarily to have in mind the exercise of knowledge you already have in order to understand something: the geometer gazing on a diagram simply understands it, and attending to this understanding is not a change, even if it is something the geometer engages in doing. This notion of an activity (*energeia*) also has ramifications for the notion of a capacity. There are not only capacities for change, but also capacities for living, thinking, and other *energeiai* that are not changes. For instance, any body of theoretical knowledge constitutes such a capacity: it is the capacity to engage in the sort of thinking that is understanding the relevant objects—in the case of geometry, geometrical figures. In no case is such thinking changing.

There is yet a further way in which Aristotle's view departs from the Giants' view. For the Giants, the only relevant concept is that of a capacity, which something may have. In having a capacity, an object is presumably capable (*dunaton*) of something—for the Giants, capable of bringing about or undergoing a change. They define being in terms of the having of such capacities. But Aristotle speaks about a certain way of being. It is associated with the having of capacities, but is not simply the having of a capacity. For instance, having the capacity to see makes something a seeing thing in capacity. For the moment, it is important to see that Aristotle's conception of *being-in-capacity* is the concept of being a certain way, not the concept of having a capacity.

Aristotle ends up agreeing with the Giants that being—at least for perceptible, bodily things—is always connected with capacity. But rather than *defining* being as capacity, like the Giants, he introduces a way of being—a way of having a certain property, such as the property *seeing*. And, unlike the Giants, Aristotle contrasts this way of being with another one, the one associated with *energeia*.

Aristotle thinks of bodily, perceptible things as having being either in capacity, or in *energeia* (in activity or actuality). While the Giants defined being in terms of having (mere) capacities, Aristotle thinks of being—including perceptible bodies—in terms of two complementary ways of being, only one of which is associated with capacity. Perhaps most importantly, Aristotle insists that *energeia* has priority in being (*ousia*) over capacity. Later, I will discuss what this claim precisely means. But for the moment, as a first approximation, think of it as meaning this: while things can be *x* either in capacity or in *energeia*, being *x* in *energeia* is *really* and *fully* being *x* (what Plato might have called true being, *ontōs on*). To be *x* in capacity is genuinely

¹⁴ 248e6–249b7. Notably *phronein*, which is not generally a favorite Aristotelian example of an *energeia* that is not a change, is mentioned at 249a1, and in *Metaphysics* Theta at 1048b23.

a case of being *x*, but only in an attenuated way. Really and truly and fully being *x* is being *x* in *energeia*. This is a substantive claim, and not an obvious one. Aristotle thinks he has to argue for it, and he does so at length in Theta 8. His central idea is that being-in-capacity is *directed towards* full-fledged being-in-*energeia*. Being-in-*energeia* is, as it were, already implicit in the being-in-capacity, and for that reason being-in-capacity is posterior to being-in-*energeia*.

Whether or not we agree with Aristotle about the priority of *energeia* over capacity, his claim has an interesting bearing on the Battle of Gods and Giants. Aristotle accepts the association between (perishable) bodily being and capacity. But he insists that, even for bodies, their being consists, in the first instance, *not* in their being-in-capacity, but in their being-in-*energeia*. And this implicitly takes a position on a question that Plato's Eleatic Visitor did not even consider: whether the conception of bodily, perceptible being as capacity was correct. Aristotle acknowledges that there is something correct about it. Every instance of such being is somehow the exercise of capacities. But there is also something terribly wrong about it. Even for bodily, perceptible being, to be is, in the first instance, to be in *energeia*. Not capacity but *energeia* is primary.

1.3.2 Aristotle and the Gods

The notion of *energeia* enables Aristotle to respond to the Gods, too, in a way radically different from any hinted at in the *Sophist*. Aristotle, like the Gods, draws a sharp distinction between what is changeable and what is unchangeable. And he seems to agree with the Gods that it is the unchangeable beings—the movers of the heavenly spheres—that are most truly beings. It was this ascription of being to the unchangeable that got the Gods into trouble. While they insisted on being's being at rest, they also insisted that some cases of being consist in doing: living and thinking. But living and thinking seemed to be change. So being, as it turns out, consisted simultaneously in being at rest and in being changing.

Aristotle thinks that the Eleatic Visitor got things precisely wrong in saying that having life, soul, and intelligence requires changing. Living and thinking are, for Aristotle, *energeiai* but they are not changes.¹⁵ But Aristotle thinks that the Eleatic Visitor, despite this error, got something important right. He was right to think that true being is not inert. And he was right to attribute

¹⁵ See, for example, Θ.6 1048b23 ff. And he thinks something similar about the soul, as well, although he usually calls it an *entelekheia*, not an *energeia*. However, at *de Anima* III.4 429b6–7 and *Metaphysics* H.3 1043a35–6, he does call the soul an *energeia*.

living and thinking in particular to true being, which is the basis for the rest of reality.¹⁶

With this, Aristotle easily evades the argument that the Eleatic Visitor makes against the Gods. For Aristotle denies that what thinks and lives is, just in thinking or living, *changing*. But once again, Aristotle does not thereby reject the Eleatic Visitor's position wholesale. With the Visitor, he insists that the most lofty beings are active. They are engaged in living and thinking, but they are not, for that reason, *changing*.

To see how there can be a difference between activity and change, let's briefly consider a concrete case: a housebuilder engaged in building a house. Now the construction of a house seems to be a change. The house is what is brought about by the housebuilder, when he exercises the art of housebuilding. Nevertheless, it has intuitive appeal to say that the housebuilder is, on the one hand, active (since he or she is building), but, on the other hand, not undergoing a change, in building the house. Of course, this does not prove that living and thinking are not changes. But it does help, at least, to see how something might be active, without the activity constituting a change in it. For Aristotle, in paradigmatic cases, being active is precisely *not* being changed, but simply remaining what one already is: living, for instance, is simply going on being what one already is. The distinction brings a new nuance to the dispute. A question has arisen for which, in the *Sophist*, there was no room: whether living, given that it is an *energeia*, is a change.

Aristotle also introduces the notion of *being-in-energeia* (rather than in capacity). This notion of *being* has an affinity with the Gods' position. For the Gods thought that some cases of being *are* cases of thinking and living. So the Gods have already anticipated a connection between being and activity. But it is Aristotle who thinks to distinguish precisely two modes of being from one another, *being-in-energeia* and *being-in-capacity*, and to develop them systematically. The Giants associated body with capacity. Aristotle maintained that association, but complicated it by using the notion of *being-in-capacity*. The Gods associate being with thinking and living, and are therefore forced, by the Visitor's argument, to associate being with change. Aristotle, having substituted '*energeia*' for '*change*,' maintains this association, but complicates it by using the notion of *being-in-energeia*.

The Visitor was right to be attracted to the view of the Friends of the Forms that true being is stable and hence unchanged. But this also seemed to make true being *inert*. The Eleatic Visitor, sensing that true being could not be inert, ascribed life and thinking to it. But the Eleatic Visitor struggled to integrate these two lines of argument into a coherent view, because he had no concept for a state that was active but not changing, stable but not inert. He therefore

¹⁶ See A.7.

ascribed to true being the contradictory attributes of motion and rest, and worked out a theory to explain this. Aristotle replaces this whole construction with the single notion of *energeia*.

Aristotle also rejects a central part of the Visitor's own view. On that view, knowledge of the most basic of the eternal Forms is knowledge of which Forms are *able* (*dunaton*) to associate with one another, and which are not. The Eleatic Visitor repeatedly describes the five Greatest Forms—Being, Change, Rest, Same, and Different—as able or unable to associate with one another.¹⁷ As I noted above, this seems to be a way in which the Giants' view is quietly incorporated into the Eleatic Visitor's considered view.

Aristotle, however, denies that what eternally lives and thinks has capacities to live or think. It is not only that which eternally lives and thinks is active without changing. Such activities, by contrast with the passing activities of perishable things, are not the exercise of a capacity. In general, Aristotle denies that anything that is *eternally* a certain way, is that way in virtue of a certain capacity. For instance, if God eternally thinks, then God's thinking is not the exercise of a capacity to think. Of course, Aristotle would not, in that case, say that God cannot think. But God's capacity to think just *is* God's thinking. God's capacity to think is not any property of God over and above his thinking. A housebuilder's expertise, by contrast, is distinct from the activity of housebuilding in which the capable housebuilder sometimes engages. God has no capacity to think, in the sense that God's thinking is not the exercise of some capacity over and above the thinking itself.

This view of Aristotle's is another point of contrast with the views sketched by the Eleatic Visitor in the *Sophist*. Aristotle emphatically rejects the Visitor's thought that eternal things are *able* (*dunaton*) to associate with each other, or to do anything else. And a fortiori, he rejects the thought that knowledge of eternal things is knowledge of their powers to associate with one another. This whole line of argument is supposed to be ruled out by reflections on the relationship among being-in-capacity, being-in-*energeia*, being eternally, having powers, and possibility. It is one of the central tasks of *Metaphysics* Theta to prepare the ground for this seemingly difficult doctrine, which Theta 8 presents and argues for.

In conclusion, I reiterate the main points of contrast between Aristotle's views in *Metaphysics* Theta and the Eleatic Visitor's in the *Sophist*.

With the notion of *energeia*, Aristotle is able to conceive of entities that are not bodies in terms of *energeia*. The Eleatic Visitor was wrong to conceive them in terms of change.

¹⁷ See 251d6, 251d8, 251e9, 253a8, 253c2, 253e1, and 254c5. The comparison between the knowledge of forms and knowledge of musical notes or of phonemes makes this same point. All three are knowledge about what has the capacity to combine with what (253a8–9 and 253b1–4).

With the notion of *energeia*, Aristotle is able to introduce a new category of item, which played no role in the *Sophist*: eternal perceptible bodies, such as the heavenly bodies. These are bodies, but they are what they are without being-in-capacity. Their being what they are is not the exercise of any body's capacity to be that way. Rather, they are simply eternally actively what they are. Eternally active yet bodily entities fit neither the Giants' conception of bodies nor the Gods' conception of Forms.

With the notion of *energeia*, Aristotle undertakes, as the Visitor did not, to challenge the Giants' conception of bodily being. Aristotle thinks that the Giants have a radically false conception of ordinary perishable bodies, and he thinks that Plato failed to go far enough in rejecting it. The Giants think of *being able* as the basic condition of bodily being. Against them, Aristotle claims that *being-in-energeia* is the basic condition of bodily being, just as it is for non-bodily being.

Thus the notion of *energeia* allows Aristotle to achieve a 'one-state' resolution to the Battle. Plato, through the Eleatic Visitor, advocates a conception of the totality of being on which it is to this extent unified: one part—the heavenly, intelligible, non-bodily part—has being in its own right, and another part—the earthly, perceptible, bodily part—has being in virtue of the other part. The difference between them is radical. They are not only realms of different kinds of beings, but realms of different kinds of being—what it is to have being at all is different. Despite this radical difference, these realms are yoked into a single cosmos, and can be understood in a coherent fashion. Aristotle, like Plato, thinks that there are radically different kinds of beings. In one passage, for instance, he distinguishes between perceptible and perishable being, perceptible and eternal being, and imperceptible and eternal being.¹⁸ But, for Aristotle, the primary way of being, namely being-in-*energeia*, is the same through the totality of being: for perishable bodies as much as for imperceptible gods, being-in-*energeia* has priority. The whole of Aristotle's cosmos is, to that extent, alike.

¹⁸ See *Metaphysics* A.1 (1069a30–6).

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The Introduction to *Metaphysics* Theta (Theta 1)

Metaphysics Theta constitutes a significant philosophical achievement in its own right. I have tried to show/sketch what that achievement is, and what is interesting about it, by explaining the Battle of Gods and Giants from Plato's *Sophist*. I now turn to *Metaphysics* Theta, and how it presents its own project. Two topics are of special importance here. First, it has been thought that Book Theta is to be read as a continuation or completion of Book Eta, which immediately precedes it. I will argue that that is a mistake. Second, Aristotle sketches a complex and indirect strategy for his discussion, a strategy that he does in fact pursue. This strategy needs to be clearly understood.

2.1 THE PROJECT

Metaphysics Theta presents itself as part of a larger project, the search for the knowledge of being as such. At least some of the previous books of the *Metaphysics* have also contributed to that project. The very beginning of the *Metaphysics*, however, describes the task at hand in slightly different terms: namely to determine what knowledge would constitute wisdom (*sophia*), and to set about acquiring that knowledge. Aristotle is working on the assumption that wisdom would be the knowledge of being as such.

How does one pursue a science of being as such? In Book Epsilon, Aristotle had set out a framework for doing so. Four 'ways' in which being is said of things are distinguished from one another. This means, at least roughly, that sentences involving the verb 'to be' end up true in four different ways. Cases that fall under a single way are sufficiently similar that they can be considered together; cases that fall under distinct ways are sufficiently different that they require separate treatment. With this classification in hand, one can consider in turn each of the four ways in which being is said. But it would be wrong to think that the science of being as such will then consist in the consideration of all four ways in which being is said. Two of these ways (being incidentally and being true) are swiftly rejected, within Book Epsilon itself, as irrelevant for the science of being as such. This leaves two remaining ways to consider. They are being "in the figures of the categories," and being-in-capacity and

being-in-*energeia*. The latter is, of course, the topic of *Metaphysics* Theta. But let us briefly consider being in the figures of the categories.

The figures of the categories correspond to various questions one can ask about something: *what* it is (e.g., human being), *what-sort* it is (e.g., courageous), *how-much* it is (e.g., six feet tall), *what* it is doing (e.g., walking to the agora), and so on. As with being more generally, Aristotle finds both unity and diversity. While being falls into distinct categories, the various categories are all unified by their relationship to a single category: the category of substance (*ousia*), which corresponds to *what-is-it* questions. Moreover, this relationship to the category of substance is such that all of the other categories are to be understood in relation to the category of substance. In fact, Aristotle's discussion of being in the figures of the categories, in Books Zeta and Eta, amounts to a discussion of substance. Even without a fully detailed treatment of all the categories, Aristotle has thereby dealt with the nub of the matter.

This is the larger project with reference to which *Metaphysics* Theta opens. Aristotle pronounces the discussion of the categories closed, and says that we will now turn to being-in-capacity and being-in-*energeia*:

(1) Now we have discussed what primarily is, i.e., that to which all the other categories of being are referred: substance. (For all the other beings are predicated in accordance with the account of substance, since all of them will have the account of substance, just as we said in the first accounts.) (2) But since being is said [of something] not only by [saying] what [it is] or what [it is] like or how big, but also in accordance with capacity and fulfillment [*entelekheia*], i.e., in accordance with [something's] work, let us also make determinations about capacity and fulfillment. (Θ.1 1045b27–35)¹

In (1), he says that his discussion of substance is finished. This refers to Books Zeta and Eta. This beginning on its own suggests that the distinction between being-in-capacity and being-in-*energeia* is independent of the distinction among the various categories. Absent further discussion, we expect to find being-in-capacity and being-in-*energeia* in all of the categories. And indeed, we do. Absent further discussion, we do not expect any special connection between them and any one of the categories. In particular, we do not expect any exclusive or special connection between substantial being and *energeia*. And indeed, as Book Theta continues, substances will constitute only one sort of example of *energeia*.

In (2), Aristotle announces his next topic: being-in-capacity and being-in-*energeia*. Aristotle's way of identifying this topic already presses a question

¹ (1) Περὶ μὲν οὖν τοῦ πρώτως ὄντος καὶ πρὸς ὃ πᾶσαι αἱ ἄλλαι κατηγορίαι τοῦ ὄντος ἀναφέρονται εἴρηται, περὶ τῆς οὐσίας (κατὰ γὰρ τὸν τῆς οὐσίας λόγον λέγεται τᾶλλα ὄντα, τὸ τε ποσὸν καὶ τὸ ποιὸν καὶ τᾶλλα τὰ οὕτω λεγόμενα· πάντα γὰρ ἔξει τὸν τῆς οὐσίας λόγον, ὥσπερ εἵπομεν ἐν τοῖς πρώτοις λόγοις). (2) ἐπεὶ δὲ λέγεται τὸ ὄν τὸ μὲν τῷ τί ἢ ποιὸν ἢ ποσόν, τὸ δὲ κατὰ δύναμιν καὶ ἐντελεχείαν καὶ κατὰ τὸ ἔργον, διορίσωμεν καὶ περὶ δυνάμεως καὶ ἐντελεχείας.

upon us: while I have been speaking of being-in-*energeia*, Aristotle speaks of being-in-fulfillment (*entelekheia*). But subsequently in *Metaphysics* Theta, Aristotle speaks exclusively of *energeia*, except in three passages, two of which discuss the relationship between the two terms.² In other passages, too, Aristotle switches back and forth between the two, as if they were synonyms.³

Neither of these terms is an ordinary Greek word. They are both made-up, philosophical technical terms. They may have been coined by Aristotle, or perhaps they were current in discussions within Plato's Academy. Whether or not Aristotle coined the terms himself, it is surprising for him to switch back and forth between them. I will argue that Aristotle requires two terms in order to emphasize two aspects of one way of being, two aspects which are in tension with one another. For this way of being is supposed, on the one hand, to be a way of *being*, but it is also supposed to encompass doing and changing. The term 'fulfillment' (*entelekheia*) emphasizes the *stable* character of this way of being: emphasizes, that is, that it is a way of *being*. The term *energeia*, by contrast, picks up and emphasizes the connection with doing—rightly understood, however, it covers all the cases of (stable) fulfillment as well.

Aristotle also uses the term *ergon*, meaning work, job, or function. This word, unlike *energeia* and *entelekheia*, is ordinary Greek. And the word *ergon* is conspicuously connected with the term *energeia*. So Aristotle seems already to hint, here, that fulfillment (*entelekheia*) is connected with *energeia* by way of the notion of something's work, function, or job. *Energeia* is thus, from the outset, connected with the view that things have jobs or functions. There seems to be a fairly straightforward way to understand the connection between something's fulfillment and its function or job. Given that something has a function or job, it would seem to achieve fulfillment in carrying out its function or performing its job.

One might well connect the term *ergon* not only with fulfillment, but also with capacity. The job of a thing is presumably connected, in normal cases, with its capacities. A doctor—someone who has the capacity to heal the sick—has the job of healing the sick. Perhaps a human being's job is to exercise their capacity for living a virtuous life. Of course, normal objects have many, many capacities. It is unclear whether a thing has as many jobs as it has capacities. But presumably, whatever job it has, it has the capacity to carry out that job.⁴

It is important to bear in mind that, as Book Theta begins, it is an open question whether being-in-capacity and being-in-*energeia* will have any role to play in the science of being as such. In Book Epsilon, Aristotle dismissed two ways in which being is said as irrelevant. From this, we can see that

² Θ.3 1047a30 ff., Θ.8 1050a21 ff.; the other occurrence is in Θ.7, 1049a5–6.

³ Consider, for instance, the definition of motion from *Physics* III.1–3.

⁴ This claim will have to be qualified for eternal things.

simply being a ‘way’ in which being is said does not, in itself, make a way of being relevant to the science of being as such.

The overall course of the *Metaphysics* makes it obvious that Aristotle does not dismiss being-in-capacity and being-in-*energeia*. Unlike incidental being and being true, they do make a positive contribution to the science of being as such—indeed, their contribution appears to be central. In a way, this is already clear before *Metaphysics* Theta has begun, because being-in-capacity and being-in-*energeia* have already played an important role in Book Eta’s discussion of sensible substance. This is especially important for the solution, in Eta 6, of the problem developed in Zeta 17: how can the matter and the form in a generated composite possibly have the kind of unity that is required for substances? It is obvious that there is an important connection between Books Theta and Eta.

As we have seen, however, Book Theta announces itself as a new project, not a continuation of an old project. Moreover, Book Eta does not end on an inconclusive note. Rather, Eta concludes with the apparent solution to the problem of the unity of generated substance. To be sure, this solution deploys the concepts of being-in-capacity and being-in-*energeia*, which have not been separately introduced and explained. So Book Eta surely presupposes some grasp of these concepts, and perhaps it even presupposes that we grasp them in precisely the way they are presented in Book Theta. But it is beyond the scope of this essay to say whether that is so. Just the last chapter of Book Eta on its own, where the problem of the unity of sensible substance is addressed, would require a very complicated discussion, and this is not separable from the previous discussion in Eta, or from the presentation of the problem in Zeta 17, which, in turn, arises from the previous discussion in Zeta. All this makes it a major task to situate Theta in relation to Eta. And it would be a mistake to read Theta as if its very purpose were to extend or complete the discussion of Eta.⁵ That runs against the grain of both texts.

⁵ I have in mind L. A. Kosman’s influential work on *Metaphysics* Theta. Despite this disagreement with him, his work has been of great help to me. Mary Louise Gill agrees with Kosman about this (and some other important questions) [45]. She writes, “*Metaphysics* Θ continues the investigation that has claimed Aristotle’s attention since the beginning of *Metaphysics* Z, and to which he alludes in the opening lines of Book Θ” [45, p. 171]. On this issue, I am in agreement with Witt [86] and Makin [19]. I am in partial agreement with Burnyeat, who writes, “Even Θ does *no more* than prepare us for Aristotle’s own positive account of non-sensible substantial being” [25, p. 130; emphasis mine]. I agree with Burnyeat that Theta is preparation for the discussion of non-sensible substance in Λ. I also agree that H began a transition from the focus on form-matter in Z to a focus on *energeia*-capacity, which is further developed in Theta: “ZH is a unified treatise that expects Θ as its sequel” [25, p. 77]. (Burnyeat does not discuss whether H might presuppose Theta 6 and 7, a question about which I am agnostic. Theta 8 and 9 are surely not presupposed.) But I also think that *Metaphysics* Theta constitutes a major philosophical achievement in its own right, and the connection with Plato’s *Sophist* should bring this out. Burnyeat might actually agree, but his remarks do not bring this to the fore.

Furthermore, Theta offers its own independent answer to the question, what is the contribution of being-capacity and being-in-*energeia* to the science of being as such. We need only look to Aristotle's argument for the priority of *energeia* in being, and for the superiority of *energeia* to capacity, which comes in Theta 8 and 9.

This is not to diminish the importance of the connection between Theta and Eta. But any investigation of that relationship must rest on a sound reading of Theta on its own. That is the project I am undertaking here.

2.2 THE INDIRECT STRATEGY

Aristotle does not simply plunge into his discussion of being-in-capacity and being-in-*energeia*. Before discussing them at all, Aristotle will treat "capacities connected with change":

And first let us make determinations about capacity that is above all spoken of in the strict sense, although it is not useful⁶ for what we now wish to do. For capacity and *energeia* are more widely applicable than [capacity and *energeia*] said [of things] only in connection with change. But having spoken about it, we will also, in our determinations about *energeia*, get clear about the rest. (Θ.1 1045b35–46a4)⁷

The strategy has two main parts. First, there is the discussion of capacities connected with change. Second, Aristotle takes up being-in-*energeia*. But somehow through this second discussion, we are supposed to achieve clarity about the other capacities. It will turn out that the notion of a "capacity

⁶ Reading *χρησίμη* with the authoritative manuscripts E and J, against A^b and pseudo-Alexander's paraphrase, which have *χρησιμωτάτη* (the reading accepted by both Ross and Jaeger). *χρησίμη* is clearly the *lectio difficilior*, and it is easy to see why a scribe or editor would have written *χρησιμωτάτη* for it. The reverse corruption is more difficult to explain. The manuscript evidence clearly favors *χρησίμη*, and thus we should read *χρησίμη* if we can. But can *χρησίμη* be construed in a way that is remotely plausible? That depends on how we understand the phrase, "what we now wish to do." The phrase might refer to what Aristotle now plans to say in book Theta. Clearly the discussion of *dunamis kata kinēsin* is useful for that. If it were in no way useful, then it would not be there at all. On this construal of "what we now wish to do," *χρησιμωτάτη* is the only plausible reading. However, if "what we now wish to do" is establish a science of being, then *χρησίμη* is a plausible reading. The notion of *dunamis kata kinēsin* is not useful in the sense that it will play no role in the science of being. However, a special notion of *dunamis* will play a role in the science of being. The preliminary discussion of *dunamis kata kinēsin*, although it is not even a draft of a part of the science of being, is a helpful preliminary to the discussion of *dunamis* in the sense relevant to the science of being.

⁷ ... καὶ πρῶτον περὶ δυνάμεως ἥ λέγεται μὲν μάλιστα κυρίως, οὐ μὴν χρησίμη γέ ἐστι πρὸς τὸ βουλόμεθα νῦν· ἐπὶ πλεόν γάρ ἐστιν ἡ δύναμις καὶ ἡ ἐνέργεια τῶν μόνον λεγομένων κατὰ κίνησιν. ἀλλ' εἰπόντες περὶ ταύτης, ἐν τοῖς περὶ τῆς ἐνεργείας διορισμοῖς δηλώσομεν καὶ περὶ τῶν ἄλλων.

connected with change” is quite restricted. So our clarity “about the rest” will turn out to be clarity about an extensive class of further capacities.

There is a tempting misunderstanding of this passage. It is tempting to think that Aristotle first discusses one kind of capacity—namely capacities connected with change—and then discusses another kind of capacity—namely capacities connected with being (rather than change). These two kinds of capacity correspond to two translations of the term *dunamis*: power and potentiality. It is important to see that Aristotle has not said this here. The strategy that Aristotle describes leaves open whether the class of capacities referred to by ordinary Greek usage of the term ‘power’ and the class of capacities referred to by the phrase ‘being-in-capacity’ are the same or different or, as I will argue, overlap.

I will go on to argue that using these two translations garbles the intimate connection between doing and being that Aristotle wants to establish. He extends the notion of capacity from capacities connected with change to other capacities. All capacities whatsoever endow their bearers with being-in-capacity. Aristotle’s programmatic remarks here in Theta 1 do not establish this interpretation, but neither do they count against it in the least.

One of the great challenges for interpreters of *Metaphysics* Theta is to say why Aristotle begins with capacities connected with change before going on to discuss being-in-capacity. This is a problem that will occupy us for much of this book, and it does not have a straightforward answer. Part of the answer is that capacity and *energeia*, in the sense relevant to modes of being, are technical terms. They were not terms of ordinary Greek. They were not even terms of established philosophical Greek. *Energeia* is a neologism. And while the term ‘capacity’ was in widespread use, both in ordinary and in philosophical Greek, it was not used, prior to Aristotle, in the sense of ‘being-in-capacity.’ Because these terms are not familiar, even grasping what Aristotle means is a project in its own right.

However, because the term ‘capacity’ (*dunamis*) is a perfectly ordinary Greek word (unlike the word *energeia*), it can serve as a basis for understanding what Aristotle means by *being-in-capacity*, and even for the contrasting notion of *being-in-energeia*. When Aristotle refers to “capacities connected with change” (*dunamis kata kinēsin*), he is not invoking yet another technical term. He is invoking the ordinary Greek word and its normal usage (1045b35–46a2).

But the ordinary Greek term is itself unclear. Although capacities connected with change are relatively straightforward cases, Aristotle thinks there is a lot of work to do to make the notion of a capacity clearer and more precise. It will be difficult to use the ordinary term as the basis for understanding a

new technical usage if the ordinary usage is itself rather unclear. And that is precisely what Aristotle thinks.

This has ramifications for how we ought to see Plato's *Sophist* through Aristotle's eyes. When the Eleatic Visitor put forward the idea that one might think of being as having a capacity for action or passion, it was unclear what ought to count as having a capacity. Aristotle's phrase "capacity connected with change" picks up this idea of Plato's. His discussion of capacities connected with change develops and clarifies it further. For instance, Plato treats knowing as an action in the relevant sense, so that there are capacities for knowing and being known. Aristotle thinks there is something importantly correct about this proposal, but also that Plato's formulation of it requires important correction. On Aristotle's view, it seems that there will be capacities, but not "capacities connected with change," for knowing. For knowing is not a case of one thing's bringing about a change in another (*poiēsis*).

All this makes *Metaphysics Theta* a rare occasion in Aristotle's work. While Aristotle is not beholden to ordinary language, he usually develops technical terms by beginning with ordinary language, and allowing the more refined meaning of the term to emerge in the course of the argument. Consider, for instance, the way in which he regularly introduces the notions of form and matter with reference to a bronze statue. Here in *Metaphysics Theta*, unusually, the introduction of the terms already presents a problem. He wants to introduce technical terms that are not refinements or elaborations of ordinary usage. His indirect strategy is his response to the concomitant difficulties.

2.3 WHAT'S TO COME

Aristotle does, in fact, carry out the strategy he advertises here in the opening lines of *Theta 1*. In the remainder of *Theta 1*, through *Theta 5*, he discusses capacities connected with change. I spend Part II on that portion of *Metaphysics Theta*. *Theta 6* and the first part of *7* then explain the concepts of being-in-capacity and being-in-*energeia*, to which I devote Part III. In Part IV, I discuss the conclusions Aristotle goes on to draw in the latter part of *Theta 7* and in *Theta 8* and *9*.

Aristotle reminds us of his strategy when he begins its second stage. *Theta 6* begins by announcing that it is taking up the topic of being:

(1) Since we have spoken about capacity that is said [of something] in connection with change, let us make determinations about *energeia*, what it is and what it is

like.⁸ (2) Still⁹, the ‘capable,’ too, will at the same time be clear to us as we make distinctions [about *energeia*],¹⁰ that we call ‘able’ not only that which is naturally such as to change something else or to be changed by something else (whether simply or in a certain way), but also in another way. (3) It is because of this that, in making our inquiry, we discussed these [other senses of capacity] too. (Θ.6 1048a25–30)¹¹

Aristotle here reminds us of the overall strategy proposed in Theta 1. But he also gives us a morsel of further information about why the discussion takes the form it does. In (3), he says that it is because of the other way in which the term ‘capacity’ is applied to things that he discussed capacities connected with change.

This sentence sheds light on how *Metaphysics* Theta as a whole fits together. In particular, it bears on an interpretation that I have already mentioned and rejected. On that interpretation, in Theta 1 through 5, Aristotle introduces one kind of capacity—a power, i.e., a capacity to bring about or undergo change—which is then supposed to contrast with a *different kind* of capacity discussed in Theta 6 through 9—a potentiality, i.e., a capacity for being. On this reading, Aristotle is talking about one kind of thing in the first five chapters, and another kind of thing in the last four. One might call the first kind of thing a power, and the second kind of thing a potentiality. Presumably, if one thinks this, one also thinks that being-in-*energeia* corresponds only to potentiality—to capacities of the second kind. The other kind of capacities, when exercised, do not issue in (such) *energeia*, but in something else—perhaps in change.

I will reject this reading.¹² Rather, I think that Aristotle wants first to identify a way in which the term ‘capacity’ is used—namely to ascribe

⁸ This locution, coupling ‘what it is’ and ‘what it is like,’ is a standard one. In this set phrase, there is no special metaphysical point to the contrast between what something is and what it is like. It indicates simply that one should expect a fairly full treatment of the subject, something that goes beyond merely explaining the meaning of the term in question. Cf. *Metaphysics*, 1041a6, τί δὲ χρὴ λέγειν καὶ ὁποῖόν τι τὴν οὐσίαν; *EE*, 1234b18–21, περὶ φιλίας, τί ἐστὶ καὶ ποῖόν τι, . . . ἐπισκεπτέον; *PA*, 649a34–b1, Τὸ δὲ τί θερμὸν καὶ ποῖον θερμότερον, ἐπειδὴ λέγεται πλεοναχῶς, οὐ τὸν αὐτὸν τρόπον ὑπάρξει ἅσιν; *Politics*, 1053b8, τί ἕκαστον καὶ ποῖον δεῖ εἶναι; *Rhetoric*, 1356a23–4, τί τε ἕκαστόν ἐστιν τῶν παθῶν καὶ ποῖόν τι.

⁹ This non-standard translation of γάρ is perfectly within the word’s range of meaning [35, pp. 86–9]. See the main text just below for my explanation of the sentence.

¹⁰ This translation of διαροῦσιν is expansive, but it is clearly what Aristotle means. He has just said that we are going to “make determinations” about *energeia*, and we will presumably make determinations by making distinctions (διαρεῖν).

¹¹ ἐπεὶ δὲ περὶ τῆς κατὰ κίνησιν λεγομένης δυνάμεως εἴρηται, περὶ ἐνεργείας διορίσωμεν τί τέ ἐστιν ἡ ἐνέργεια καὶ ποῖόν τι. καὶ γὰρ τὸ δυνατόν ἅμα δῆλον ἐστὶν διαροῦσιν, ὅτι οὐ μόνον τοῦτο λέγομεν δυνατόν ὃ ἐφύκε κινεῖν ἄλλο ἢ κινεῖσθαι ὑπ’ ἄλλου ἢ ἀπλῶς ἢ τρόπον τινά, ἀλλὰ καὶ ἐτέρως, διὸ ζητοῦντες καὶ περὶ τούτων διηλθομεν.

¹² In this, I am following Michael Frede. See [41].

capacities for bringing about or undergoing change. But this use is itself in need of clarification, which he provides in Theta 1 through 5. Having clarified the strict use of ‘capacity,’ Aristotle extends that use in several ways. First, he recognizes some capacities over and above capacities connected with change. In particular, he recognizes capacities for change where the change in question does not have the usual agent-patient structure; for instance, the capacity for development into an adult that an immature animal has.¹³ And he recognizes capacities for doings that are not changes; for instance, for exercising one’s knowledge to understand a geometric diagram.

But the recognition of these further *kinds* of capacity is not the primary goal of *Metaphysics* Theta. If that had been the goal, Aristotle would have spoken, at the end of sentence (2) of the quotation above, of ‘other capacities’ or ‘other kinds of capacity.’ He speaks, in fact, of a way of using the term ‘capacity.’ The primary goal of *Metaphysics* Theta is to introduce a technical, and distinctively Aristotelian, way in which the term ‘capacity’ can be used: it can be used, and Aristotle shows us how to use it, to attribute a specific way of being to something. What way of being? Being-in-capacity. If this seems unclear, that only shows that Aristotle’s indirect strategy is warranted. The notion of being-in-capacity is no more a notion of ordinary English than it is a notion of ordinary Greek. So Aristotle begins with the ordinary notion, and uses it as a basis for introducing the technical notion. This is not the notion of a further kind of capacity, but of a further way of using the term ‘capacity,’ which covers both the old cases (in a new way) and many others as well.

Nothing in Aristotle’s two main statements of his strategy hints that the capacities relevant for being-in-capacity cannot be capacities connected with change. It is important to see this at the outset, so that the reading of other passages will not be skewed by a misreading of the strategy. Aristotle is indeed speaking about a new way of using the word ‘capacity,’ in the phrase ‘being-in-capacity.’ The ordinary use of the word does not equip us to understand it in that phrase. But this does not mean that we are dealing with a new kind of capacity, or with a new meaning of the word ‘capacity’ that would warrant a different translation. One might compare the use of the word ‘year’ in the phrase ‘dog years.’¹⁴ In order to understand the phrase, one does not need to grasp a new meaning of the word ‘year,’ but to understand the idea that a certain period of time in a dog’s life corresponds to a year in a human being’s life. I argue that any capacity whatsoever is qualified to serve as the basis for being-in-capacity, and this is easily compatible with what Aristotle’s says about the overall strategy of discussion in *Metaphysics* Theta.

¹³ See, for instance, the opening lines of Theta 8.

¹⁴ The example is due to Andreas Anagnostopoulos.

While the notion of capacity connected with change leads to the notion of being-in-capacity, it does not do so directly. Having discussed capacities connected with change, Aristotle first takes up not being-in-capacity, but being-in-*energeia*. Focusing on it, in Theta 6, is supposed to yield clarification of being-in-capacity as a by-product.

Theta 6 leaves open a question about being-in-capacity, which is then answered in Theta 7. In particular, it leaves open the question of *when* something has being-in-capacity. I will argue that this question is left open for the following reason. For determining when something is an *x* in *energeia*, it is enough to have grasped the notion of being-in-*energeia* and to know what an *x* is. By contrast, in order to determine when something is an *x* in capacity, one needs to know more: one needs to know which capacities are the relevant capacities to qualify something as having being-in-capacity. For instance, presumably Aristotelian physics suggests that there is some series of changes that a heap of earth, air, fire, and water could undergo, that would yield a human being. Those changes would exploit the capacities of earth, air, fire, and water. Is *that* enough to qualify the heap as being a human being in capacity? Aristotle will say no. But to understand that this is a reasoned answer, and not a stipulation, we will need to draw on the clarification of capacities connected with change in Theta 1 through 5.

At this point, midway through Theta 7, Aristotle has completed the strategy announced in the opening lines of Theta 1, and reiterated in Theta 6. Having discussed capacity in its strict sense, which he claims is capacity connected with change, he has gone on to introduce and clarify the technical notions of being-in-*energeia* and being-in-capacity. All this, however complicated and masterful, is only preliminary to the real work of figuring out how the notions of being-in-*energeia* and being-in-capacity might contribute to wisdom, the science of being as such. The second half of Theta 7, and Theta 8 and 9, do this. They *use* the notions introduced and explained in Theta 6 and 7 to argue for claims about the principles of being. I discuss this material in Part IV.

Theta 7 uses the notion of being-in-capacity to clarify the notion of ultimate matter. This is because there is a plausible argument that there is some neutral, non-perceptible ultimate matter of all perceptible substances. Plato, I think, puts such an argument in the mouth of Timaeus. Such ultimate matter would be a universal principle of sensible substance, and thus fall within the purview of the science of being as such. Aristotle rejects the claim that there is any such matter which would fall within the purview of the science of being. He blocks Plato's argument by offering a new definition of ultimate matter, which relies on the distinctively Aristotelian notion of being-in-capacity.

Theta 8, the most important of these chapters, argues for the priority of *energeia* over capacity in three senses: in account, in time (although this is qualified), and in being (*ousia*). The priority of *energeia* in being is

the culminating claim of *Metaphysics* Theta. It is this claim that constitutes a central part of Aristotle's response to the Battle of the Gods and Giants. Because being-in-*energeia* has priority both among eternal things and among perishable things, Aristotle's world is unified in a way that Plato's is not. For everything in Aristotle's world, being is first and foremost *energeia*.

Theta 9 extends the arguments of Theta 8 to conclude that *energeia* is not only prior to but better than capacity. Aristotle deals, amazingly briefly, with the large question of why there is bad in the world. He claims that we need not, in order to account for badness, postulate some ultimate principle that fails to be oriented towards a good end—either because it is oriented towards something bad or because it fails to be oriented towards anything at all. Aristotle gives a sketch of a sketch of an answer to the question why there is badness. Roughly, it is because capacities do not infallibly achieve their proper ends. But it also turns out that some capacities can be 'perverted,' so that they come to acquire a secondary end. A vicious state of character is such a capacity, at least on certain views about vice. It is a capacity that serves a bad end. But it is a 'wrong' development of a capacity that serves a good end, namely the capacity of a baby to develop into a virtuous adult. Thus the basic reason why there is badness is the world is not that some things seek to avoid the good, but that, given the way in which everything seeks its own good, some things end up bad. This has immediate consequences for the ultimate causes of being: they could not possibly be in any way bad or defective.

In sum, two major positive contributions to wisdom emerge from *Metaphysics* Theta: the priority in being of *energeia*, and the goodness of *energeia*. Wisdom was said in *Metaphysics* A.2 to concern itself with the way in which the good is a cause. Theta 9 thus carries out part of the project Aristotle specified there. And the priority of *energeia* over capacity constitutes a constraint on the first principles of being. If capacity is *posterior* to *energeia*, then presumably no capacities will be among those first principles. The science of being as such will concern itself with such principles, and an insight about them is a direct contribution to that science. This crucial result is the contribution of *Metaphysics* Theta to the larger project of achieving wisdom, the science of being as such.

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PART II

POWERS FOR ACTION
AND PASSION

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3

Powers (Theta 1)

The program Aristotle has set out for *Metaphysics* Theta begins with ordinary Greek. *Energeia* is set to one side, not being an ordinary Greek word, but a made-up philosophical term. Another term, ‘*dunamis*,’ takes center stage, but only as it is used ‘in the preeminently strict sense’ (*malista kuriōs*, 1045b35–6). This ordinary and strict usage of the term ‘capacity’ is that connected with change (*dunamis kata kinēsin*). I will call a capacity connected with change a *power*. So, when I speak of powers, I mean to be speaking of ‘capacities’ (*dunameis*) in the strict and ordinary Greek sense (or at least, what Aristotle takes to be that sense). But it turns out that even the usage of the term ‘power’ in ordinary Greek is, according to Aristotle, rather complicated. Aristotle begins by trying to sort out these complications.

3.1 ‘POWER’ IS SAID IN MANY WAYS

Aristotle begins his discussion of the term ‘power’ (*dunamis*) in ordinary Greek by reminding the reader, “We have already determined elsewhere that ‘power’ (*dunamis*) and *to be able* are said in many ways” (1046a4–6).¹ This was “already determined” in the discussion of powers in *Metaphysics* Delta 12. I will make repeated reference to that earlier discussion, which Theta 1 in part recapitulates.

It is a delicate question how we are to understand the claim that ‘power’ is said in many ways. (This issue will again play a central role in my discussion of *energeia* as a way of being in Theta 6.) In the background is, I think, an assumption about kinds and words. The assumption is that, in standard cases, a single common term applies to a multitude of things, because those things all belong to the same kind. The word ‘butterfly’ applies to all butterflies in that they all belong to one kind. What it is about each butterfly, in virtue of which it counts as a butterfly, is the same. When you specify what it is to be butterfly, you specify the same thing for all the butterflies. There is the same “account of being” for every one (*Categories* 1 1a1–6).

This is to be contrasted with cases in which one name applies to a multitude of things that do *not* constitute a kind. In such a case, the term is “said in

¹ ὅτι μὲν οὖν λέγεται πολλαχῶς ἡ δύναμις καὶ τὸ δύνασθαι, διῶρισται ἡμῖν ἐν ἄλλοις.

many ways.” This phrase means that the term is said of some things, where those things do not belong to the same kind. In some cases, there is no reason whatsoever why the same term should be applied in all the relevant cases. For instance, the point of using ‘pot’ for cooking vessels and ready-to-smoke marijuana is not to group those things into a single kind.

But Aristotle does not think that every case of being said in many ways is a case of mere chance sameness of name (homonymy). In some cases, it is not chance that I use the same term for many things—but those things nevertheless fail to belong to one kind in the simple and straightforward way butterflies do. It would be very nice to have a clearer grasp of what the ‘simple and straightforward’ way of belonging to a single kind is.² But clearly a necessary condition on the ‘simple and straightforward way’ is this: if you specify with a definition what it is to belong to the relevant kind, the same definition applies to all the members of the kind. This is enough to enable us to see that, in some cases, a single term fails to group together members of a kind.

When there is no corresponding kind, this may be because the point of the term is not to group together the various things into a kind. This is the case, I suggested, with ‘pot.’ Another reason may be that the things in question do not, in fact, belong together, although they are mistakenly thought to belong together. For instance, it is such a mistake to apply the name ‘fish’ to whales. Philosophers who mark terms with subscripts (e.g., ‘explanation₁’ vs. explanation₂’) seem to be saying about the unmarked term that it has failed to distinguish distinct kinds. And there are various mistakes one might make (one might take there to be a kind, where there is none; one might mistake one kind for another; one might have a name for a kind, but include things that do not belong).

Aristotle held the view that there are interesting intermediate cases, where a single term does appropriately group together a variety of things, and yet those things do not belong together in the way that butterflies do. The accounts of a way a single term applies to two things might be simply the same, or simply different. But they might, instead, be systematically interconnected; they might overlap. In many cases, Aristotle thinks that there is a family of connected usages of a term, that cluster around a single, primary usage to which all the others make reference. Whenever such a term is said (correctly) of anything, it is said with reference to some one primary case (*pros hen legomenon*). I will call this ‘core-dependent homonymy,’ following Christopher Shields [77], to whose book on this topic I am indebted.

Plato had introduced the thought that using language well is like being a good butcher: a good speaker cuts at the joints (*Phaedrus* 265d–266a). The

² See David Charles, *Aristotle on Meaning and Essence* [31] for a very helpful discussion of kinds in Aristotle, in the light of Aristotle’s views about language.

point of language is grouping-and-dividing, and this is something that one can do well (by grouping similar things into kinds, allotting distinct kinds to dissimilar things) or badly. Aristotle accepts this basic thought, but rejects the view that the relationship of kind and sub-kind exhausts the ways in which things belong together. Of course, on the Platonic picture, one can also say that a certain multitude of things both do and do not belong together. Mice and moles are different kinds of thing, but they are both rodents. By contrast, in core-dependent homonymy, various things do belong together, but they are not all equally members of some further kind to which they belong. Some of the things have a primary status that the others do not share.

This is not only a noteworthy thesis in the philosophy of language, but a crucial part of Aristotle's metaphysical and ethical theories. Even 'being' itself is said in many ways.³ It is important to see that Aristotle's view is simultaneously one about language and one about the world. Thus some cases of being said in many ways derive from arbitrary features of language. But in some cases, complexity of usage is our way of recognizing that various phenomena belong together in a more complicated way than butterflies do.

The term 'power' is, according to Aristotle, such a case. Or rather, it is such a case once we have set aside a certain homonymous usage of the term in geometry. The diversity in the uses of 'power' presses on us the problem of finding coherence in the diversity of uses. Of course, it may be mere coincidence that the same term is used in all these cases. But, in this case, Aristotle thinks that it is no coincidence at all. He seems to think that this will be obvious to us, once we have heard his account of the various ways in which things are said to be capable.

The issue is not whether 'power' has many meanings or whether powers come in several kinds. The issue is whether powers are a single kind, such that all the members of the kind count as members for the same reason. This is what Aristotle denies. The grounds for calling some things 'powers' are radically different from the grounds for calling some other things 'powers.' This insight does not require, or even encourage, us to think that there are different senses of the word 'power' or different kinds of powers. What

³ Here are some passages in which Aristotle adopts this strategy (partly borrowed from [19]): *Metaphysics* Γ.2 1003a33–34, 1003b5–10 (being); *Metaphysics* Γ.2 1003b1–3, Z.4 1030a35–1030b3, *Magna Moralia* 2.11 1209a24–7 and *Eudemian Ethics* 7.2 1236a18–23 (medical); *Metaphysics* Γ.2 1003b4 (unspecified reference to other cases); *Metaphysics* Delta 6 1016b6–11 (one); *Metaphysics* Delta 16 1022a1–3 (complete, final); *Nicomachean Ethics* 1.6 1096b26–9 (conjectured for good); *Magna Moralia* 2.11 1209a21–31, *Eudemian Ethics* 7.2 1236a16–18, 23–33, 1236b23–6 (friendship). G.E.L. Owen gave an influential discussion of this structure, in connection with Aristotle's theory of being, in his paper, "Aristotle on the Snares of Ontology." Owen calls this "focal meaning," as have many others following him. This label presupposes that the issue is one of meaning. I prefer Shields's 'core-dependent homonymy' because it is neutral as to whether the issue is one of meaning or of being.

Aristotle emphasizes is that all the powers (except for the homonymous usage of power in mathematics) are all specially related to a primary case. Thus *despite* these various grounds, all the powers have a unity that makes them a sort of kind.

It seems to me best to understand Aristotle's claim about power in this way for several reasons. First, Aristotle does not speak about the meanings of words (either here or elsewhere). He does sometimes speak of what a word signifies (*sēmainei*), but signifying and meaning are not simply the same. 'Human being,' for instance, sometimes signifies Socrates, but does not mean Socrates. Aristotle sometimes seems to think of homonymy as applying to things⁴ and sometimes as applying to words⁵, and it is far from clear what the upshot of this should be for our understanding of being said in many ways. It would be rash to leap to the conclusion that, insofar as being said in many ways pertains to words, it is a doctrine about meaning. For a word to be said homonymously might well be no more than for things to be homonymously (truly) called by that name.⁶

Second, Aristotle's own language suggests that the various ways in which power is said are connected with the various grounds for things being able. Both in *Theta 1* and in *Delta 12*, he regularly explains why something is said to be able by using articular infinitives in the dative case.⁷ Thus the various ways in which 'power' is said correspond to different ways in which things are able, and not merely to meanings of the word 'power.' But this is not yet to say there are different kinds of powers.

Third, my interpretation of the connected usages of 'power' will rely neither on the notion of a meaning of 'power' nor on the notion of a kind of power. I will do without those notions, and will not replace them with any similarly robust and controversial concept. We are left without any reason to interpret the doctrine that power is said in many ways in terms of either various meanings or of various kinds.

⁴ e.g., the first sentence of *Categories* 1.

⁵ e.g., *GC* 322b30.

⁶ See Chapter 3, "Homonymy and Signification," of Shields [77] for helpful discussion of these issues. I am in broad agreement with the view for which he argues. We both want to leave room for cases in which homonymy is a matter of ordinary linguistic usage (what Shields calls 'shallow meaning') and for other cases in which homonymy is a matter of facts about kinds or properties (what Shields calls 'deep meaning') [77, p. 100]. I am not entirely convinced by Shields that Aristotelian signification is a meaning-relation. This is because I am unclear about what (for us) a meaning-relation is. I prefer to bypass the notion of meaning altogether, by considering simply a name, used for many things, and the way in which those things do or do not belong together in a kind. (I prefer to speak of kinds, where Shields speaks of properties, because the notion of a kind seems to me to be more supple, allowing Aristotle to count, say, the beings as belonging to a single, loosely unified kind.)

⁷ See *Theta 1* 1046a20–1 and, especially, *Delta 12* 1019b5–13.

I do think that there are (at least) three kinds of power corresponding to the three usages of ‘power’ we will discuss. However, I do not think that this is what Aristotle here says. He simply asserts that ‘power’ is said in many ways. This claim, on its own, is neutral as to whether those ways correspond to kinds of power or meanings of ‘power.’ Some cases of being said in many ways are chance homonyms; those cases we would describe in terms of meaning. Others, such as ‘power,’ are not chance homonyms. It seems to me that the safest approach to the issue, both interpretively and philosophically, is to eschew talk both about kinds and about meanings, pending some further reason to conclude that Aristotle believes in kinds of power. The argument that active and passive powers are different, for instance, constitutes a reason to treat them as belonging to different kinds.

Aristotle wants us to appreciate the diversity of ways in which power is said, but also that the various powers constitute a single kind. This is what is meant by saying that everything called a power is so called with respect to a single form of power (namely, active powers to do something to something else). But, on Aristotle’s view, they do not belong together in a kind in the relatively straightforward way that pines, firs, and cedars belong in the kind *conifers*. The various powers belong together in a kind in a more complicated way: all the (non-homonymous) powers either are powers according to the primary usage or are referred to powers in this primary usage. Thus the term ‘power’ does cover a kind of thing, despite the fact that there is no one what-it-is-to-be-a-capacity shared by all powers.⁸

I will call the non-homonymous uses of the term ‘power’ the basic usage. In its basic usage, Aristotle holds, a power is a capacity connected with change (*dunamis kata kinēsin*). The first step towards finding coherence in the usage of ‘power’ is to set aside an irrelevant use of ‘power,’ in order to focus on the primary usage, that in which a power is a certain sort of principle of change.

3.1.1 Why Think ‘Power’ is Said in Many Ways?

With this clarification of being said in many ways, we can understand better why Aristotle thinks that capacity (*dunamis*) is said in many ways.

Aristotle starts with the ordinary observation that, of many things, we say that they are able to do things (*dunaton*). Fire is able to heat; stones are able to be heated; certain human beings are able to withstand extreme heat. Being able is a matter of having a power (*dunamis*).⁹ Thus, corresponding to our sentences about being able, there are sentences about having powers: fire has

⁸ I discuss this issues at somewhat more length in connection with analogy as a semantic notion in §9.3 on p. 178.

⁹ See the quotation from Delta 12 on page 47 for confirmation that Aristotle draws inferences about *dunamis* based on truths about what is *dunaton*.

the power to heat; stones have the power to be heated; certain human beings have the power to withstand extreme heat. Here we have three powers. Yet there seem to be important differences in the grounds on which a power is attributed to these things: the fire is able to *act on* something else, the stones are able to *be acted on by* something else, and certain human beings are able to *endure* even in specially adverse circumstances. There is a tension between the diversity and similarity among these cases, and we should do justice to both the diversity and the similarity. Aristotle's thought is that the best way to capture the similarity and diversity at once is by saying that "power and *to be able* are said in many ways" (*Theta 1* 1046a4–5). It is not that there are three properties, being able₁, being able₂, and being able₃. Rather, there are three ways of *being able*, which is a single 'thing.'¹⁰

Why not say, instead, that the fire, the stones, and the human being simply have powers to do three different things, namely to heat, to be heated, and to endure heat? It seems that Aristotle has started down a slippery slope, leading to the conclusion that active power, too, is said in many ways, on the grounds that fire has the power to *heat*, ice has the power to *cool*, and acid has the power to *dissolve*. We need a way to understand the diversity of powers that will not entail that active power, too, is said in many ways. Consider a doctor and a patient: why should we think of them as being able *in different ways*? The reason for this cannot simply be that the doctor is able to treat, while the patient is able to be treated—if that is understood to mean simply that the doctor can ϕ , while the patient can χ , and ϕ -ing and χ -ing are different. If that were the reason, then fire and snow would be able in different ways—the one to heat, the other to cool.

3.1.2 Homonymous Powers

To grasp the basic usage of 'power,' we need first to set aside a homonymous usage of the term in geometry.

Those things that are called powers homonymously let us leave aside (for some things are called powers by a certain similarity; accordingly, in geometry we call [certain lines] able or unable by their being or not being a certain way). (*Theta 1* 1046a6–8)¹¹

This usage is irrelevant to our undertaking; that is why we set it aside. But that is not Aristotle's reason for calling it a homonymous usage. It is homonymous because it is not part of the strict meaning of the Greek term power.

¹⁰ One might make the parallel remark: it is not (at least, not in the first instance) that there are several kinds of beings, but that there are several ways of having being.

¹¹ τούτων δ' ὅσαι μὲν ὁμωνύμως λέγονται δυνάμεις ἀφείσθωσαν (ἐναι γὰρ ὁμοιότητι τινι λέγονται, καθάπερ ἐν γεωμετρίας καὶ δυνατὰ καὶ ἀδύνατα λέγομεν τῷ εἶναι πως ἢ μὴ εἶναι)...

This usage of ‘power’ and related terms persists throughout the history of Greek mathematics, and it is the ancestor of the modern term, ‘power,’ for exponents (as in, ‘three to the fourth power is eighty one’).¹² The first recorded use of ‘power’ in geometry occurs in Plato’s *Theaetetus*, when Theaetetus explains to Socrates an insight that he has just had about incommensurable lines (147c–148b). Significantly, Theaetetus himself presents this usage of the term, ‘power,’ as an extension of its usual usage. This signals his, and presumably Plato’s, agreement that Theaetetus has gone beyond the normal usage of the term. According to Theaetetus’s new usage, a line is a power if the square on it is an oblong number, i.e., not a square number such as 4, 9, 16, 25, . . .¹³

We can see why someone would say that such a line has a power: it has the power to produce a certain square. And this is just the explanation that Theaetetus gives: those lines are powers “because, while in length they are not commensurable with the other lines, the plane figures they are capable of [producing] are commensurable with the plane figures [produced by the other lines]” (148a–b).¹⁴

This makes sense because there is only *one* square that can be constructed on a given line. The line alone fully determines the square. This is why it makes sense to speak of “*the* square on $\overline{AB}$.” Rectangles, by contrast, require two lines to determine them, and thus one would not speak of a line’s power

¹² Aristotle speaks as if the adjectives *dunaton* and *adunaton* are used in mathematics. However, as far as I can discover, they are not found, in this sense, in extant mathematical texts. But it is easy to understand how they might have been used in the way Aristotle indicates. There is ample evidence for the use of the noun, ‘*dunamis*,’ in mathematical texts. See, for instance, Euclid’s *Elements*, Book X, definition 2: “Straight lines are commensurable in power [*dunamei*] when the squares on them are measured by the same area.” For a more general discussion, see *Theaetetus* 147c–148b and Knorr’s discussion of it in [53, pp. 65–9]. The verb, *dunasthai*, can also be used in this way, as shown by a remarkable formulation of the Pythagorean theorem: “The theorem concerning the hypotenuse, that it is able to equal the lines enclosing the right angle” (Plutarch, *Non posse suaviter vivi secundum Epicurum* 11, 1094b; cited by Knorr in [53]; περί τῆς ὑποτείνουσας ὡς ἴσων δύνανται ταῖς περιεχούσαις τὴν ὀρθήν).

¹³ This makes sense only given some reference line, the square on which is taken as a unit. Relative to this line, a power is a line such that the square on it is a non-square numerical multiple of the reference square. For instance, given some reference line, R , the side of the square twice as large as the square on R is a power. But the side of the cube twice as large as the cube on R is not a power, since the square on that line (= a face of the cube) is not in a ratio of counting numbers to the original square. (The reasons for these things correspond to the fact that $(\sqrt{2})^2$ is an integer, whereas $(\sqrt[3]{2})^2$ is not.)

¹⁴ ὅσαι δὲ τὸν ἑτερομήκη, δυνάμεις, ὡς μήκει μὲν οὐ συμμετρους ἔχειναις, τοῖς δ’ ἐπιπέδοις ἃ δύνανται. The meticulous reader will have noticed that Theaetetus says that the lines are powers, while I, following Aristotle, say that they *have* powers. But the roots of this difference are already present in Theaetetus’ remark. He seems to assume that the lines have powers, for he says that the lines are able (δύνανται).

to produce such and such a rectangle. One might, however, speak of the power held jointly by a pair of lines to produce a rectangle.¹⁵

However, this way of speaking is merely transferred from the primary usage. As Aristotle says in *Delta 12*, lines are called powers “by transference” (κατὰ μεταφοράν; 1019b33). This does not mean that lines are called powers metaphorically. Rather, there is a fully literal, non-metaphorical usage of ‘power’ for lines, but it is a usage that is transferred from the primary usage.

Why insist, then, that the word ‘power’ applies to lines only in a transferred sense? Because a line has a power simply in virtue of its being a certain way; it is neither the agent nor the patient of any change in virtue of its power. The construction of a square on a line is not a change in the line. This is what Aristotle means by his explanation of why the geometrical usage of power is homonymous: “in geometry we call [certain lines] able or unable by their *being or not being* a certain way” (emphasis mine). In this geometrical usage, being a power is having a certain size.

This claim is independent of the general thesis that the objects of geometry are not subject to change. Even someone who held that the objects of geometry are subject to change should agree with Aristotle that being a power is not a matter of being changed, or of causing change, or even of being able to be changed or to cause change. One mentions the square on the line simply as a way of specifying its size.

3.1.3 The Primary Usage: Power

‘Capacity’ (*dunamis*) in its primary usage, by contrast, is intimately connected with change. It is precisely the capacity for agency: the power to bring about a change in another thing (or in oneself as another thing).¹⁶ I quote here the passage in which this primary sense is introduced, together with a bit of context:

(1) However, whatever powers [are so called] with respect to the same form [of power], they all are principles of a certain sort, and are called [capacity] with respect to a single primary [sort of power], namely a principle of change in another thing or as another thing. (2a) For there is, first, a power to be acted on, namely the principle, in the very thing acted on, of passive change, either because of something else or as something else; (2b) and there is also the state of not being affected for the worse

¹⁵ These facts were well understood by Euclid, and surely already by the time of Plato. *Elements* I.46, the construction of the square on a given straight line, legitimates speaking of the square on a line. Starting in Book II (Definition 1), Euclid speaks of any two straight lines enclosing a rectangle.

¹⁶ Again, we find the same formulation in *Delta 12*. See 1019a15f., 1020a4–6, and *passim*.

and towards destruction by something else, or as something else, by a principle of change. (1046a4–15)¹⁷

I will call powers to bring about change *active* powers. The contrast is with *passive* powers, which I will discuss below. Some examples of active powers: fire's power to heat something, a housebuilder's power to build a house out of something, an acid's power to dissolve something, a teacher's power to get someone to understand something.

Because of its special relevance to change, Aristotle calls a capacity in this basic usage "a capacity connected with change." Of course, not only active powers but also passive powers, as well as other powers in derivative senses, are connected with change. They are connected with change because they are connected with powers in the primary sense, namely active powers, which are themselves connected with change.

Active powers are connected with change by way of the notion of *agency*. They are powers to do something to something (*poiein*), to make something be a certain way. They are to be distinguished from properties that are, as we might put it, 'mere triggers' for change. For instance, I gave, as an example of a power, an acid's power to dissolve something. I meant that, during the dissolving, the acid is exercising its power to dissolve a certain stuff and it is thereby *doing* something to that stuff. It is the acid that is engaged in dissolving. The acid is the agent as I am an agent in the actions of which we would ordinarily say that I perform them.

This is to be contrasted with another way of thinking about the same event. On the other way of thinking, the acid does not really do anything at all, nor does the solute get something done to it. Rather, the properties of the acid and the solute are such that, when they are brought together under certain circumstances, the solute ends up dissolved. There is, on this picture, change, but no *doing*. The solute goes from one state to another, and we might well describe this with a verb, but it would be wrong to think that this verb corresponds to an agent's action in any sense. We might well think that the acid and the solute have dispositions, but they do not have Aristotelian powers.¹⁸ There are, similarly, two ways to see the collisions of billiard balls

¹⁷ ... (1) ὅσαι δὲ πρὸς τὸ αὐτὸ εἶδος, πᾶσαι ἀρχαὶ τινὲς εἰσι, καὶ πρὸς πρῶτην μίαν λέγονται, ἥ ἐστιν ἀρχὴ μεταβολῆς ἐν ἄλλῳ ἢ ἡ ἄλλο. (2a) ἡ μὲν γὰρ τοῦ παθεῖν ἐστὶ δύναμις, ἡ ἐν αὐτῷ τῷ πάσχοντι ἀρχὴ μεταβολῆς παθητικῆς ὑπ' ἄλλου ἢ ἡ ἄλλο. (2b) ἡ δ' ἕξις ἀπαθείας τῆς ἐπὶ τὸ χεῖρον καὶ φθορᾶς τῆς ὑπ' ἄλλου ἢ ἡ ἄλλο ὑπ' ἀρχῆς μεταβλητικῆς. Note the elegant two-level structure: the opening ὅτι μὲν in 1064a4 (quoted above) is answered by τούτων δ' (quoted here), subordinate to which we find, again, ὅσαι μὲν and ὅσαι δὲ. This rhetorical symmetry extends into the sentence introduced by γὰρ: ἡ μὲν γὰρ τοῦ παθεῖν is answered by ἡ δ' ἕξις.

¹⁸ For this reason, I think that Michael-Thomas Liske is wrong to conclude that powers are dispositions in his paper, "Inwieweit sind Vermögen intrinsische dispositionelle Eigenschaften?" [63, p. 256]. I agree firmly that powers (*dunamis*) are not possibilities, and that they are intrinsic properties of things. But Liske does not have clearly in focus the

on a pool table. When a ball starts moving, that might be because another ball did something to it—knocked it, pushed it, moved it—or merely because billiard balls move in certain ways when in contact with other billiard balls that have a certain momentum. For Aristotle, powers are not mere triggers, they are capacities for action. The thing that does something (*poiei*) is the agent (*to poioun*). The thing that gets something done to it (*paskhei*) is the patient (*to paskhon*). Except for changes that occur by nature, in which something changes because of itself, all changes involve an agent and a patient, where the agent has an active power and the patient a passive one.

Of course, the agent and the patient might in some cases be identical. This is why Aristotle refers not only to a change “in another thing” but also “in oneself as another thing.” He explains this in Delta 12: “Medicine, which is a power [*dunamis*], might belong to someone who is being medically treated, but not insofar as he is the one being medically treated” (1019a17–18).¹⁹ The art of medicine is a power, a principle of bringing about a change in another person. Of course, a doctor could well treat herself. But when she treats herself, it is irrelevant to her power to do so that she, the agent, is the same as the patient. Her active power is not a power to bring about changes in herself, except insofar as she has properties—being sick in a way that admits of treatment—that a distinct person might well also have. The doctor’s treatment of herself is an application of her power to treat people of a certain sort, of which she happens to be an instance. It is merely incidental to the power that the doctor is an instance of the relevant kind.

This same example is turned to a reverse use in *Physics* II, where the operation of nature is contrasted with a doctor’s treating herself (192b23 ff.). It is *not* incidental to a lion’s power to move itself across the steppes that the lion himself is moved when the power is exercised. Natures, unlike the art of medicine, are essentially self-oriented, and thus they are not in this sense capacities connected with change. They may be capacities of a sort, and they certainly are sometimes, somehow or other, connected with change—as with a lion’s self-motion—but, nevertheless, they do not qualify as capacities connected with change in this sense.

3.1.4 The Derivative Usages

Against the background of this primary case, Aristotle introduces several derivative usages of ‘capacity’ (*dunamis*). I call these usages ‘passive power,’ ‘resistance to deterioration,’ and ‘powers to do well and to be improved.’ Passive powers have special importance, because they are the correlates of

connection between powers and agency, nor the lack of connection between dispositions and agency.

¹⁹ ἡ ἱατρικὴ δύναμις οὕσα ὑπάρχοι ἀν ἐν τῷ ἱατρευομένῳ, ἀλλ’ οὐχ ἡ ἱατρεύμενος.

active powers. They are crucial for Aristotelian natural science, because such powers are responsible for many changes. Every change occurs either due to something's nature, or due to the conjunction of two such powers.

Passive power

When something with an active power acts on another thing, it brings about a change in it. But not just anything will be suited to be acted on in the relevant way. Those things that are suited to be acted on have a capacity in the first derivative usage: "(2a) For there is a capacity to be acted on, namely the principle, in the very thing acted on, of passive change, either because of something else or as something else" (1046a11–13, quoted above, page 40).

Some examples: a stone's power to be heated, bricks' power to be built into a house, salt's power to be dissolved, a student's power to be taught. Only things that have the relevant passive power can be acted on in the relevant way. Things that lack the passive power to be φ -ed cannot be φ -ed. Newborn infants, for instance, cannot be taught arithmetic. Stones cannot be dissolved in water. Salt cannot be boiled. There is a lengthy list of passive powers at *Meteorology* IV.8:

Let us begin by enumerating the qualities that are attributed in virtue of power or inability. They are: solidifiable or non-solidifiable, meltable or unmeltable, softenable by heat or non-softenable by heat, softenable by water or non-softenable by water, bendable or non-bendable, breakable or unbreakable, fragmentable or unfragmentable, impressionable or non-impressionable, mouldable or non-mouldable, squeezable or non-squeezable, tractile or intractile, malleable or unmalleable, splittable or non-splittable, cuttable or uncuttable, cohesive or crumbly, compressible or incompressible, combustible or incombustible, able to be heated so as to smoke or not. These properties differentiate most bodies from one another. (385a10–20)²⁰

Like powers in the primary usage, these are powers to be acted on by *something else*. At least two powers, one active and one passive, are involved whenever one thing produces a change by acting on another thing. However, the passive powers are not capacities in the primary usage, but in the first derivative usage.

This is a point on which Aristotle takes issue with Plato. In the *Sophist* (247c–e), Plato, too, distinguishes between capacities to act and to be acted on, but he treats the two sorts of capacity as if they were on a par: neither is

²⁰ Trans. Webster in Barnes, modified. εἰπωμεν δὲ πρῶτον τὸν ἀριθμὸν αὐτῶν, ὅσα κατὰ δύναμιν καὶ ἀδυναμίαν λέγεται. ἔστιν δὲ τάδε, πηκτὸν ἀπηκτὸν, τηκτὸν ἀτηκτὸν, μαλακτὸν ἀμάλακτον, τεγκτὸν ἀτεγκτὸν, καμπτὸν ἀκαμπτὸν, κατακτὸν ἀκάτακτον, θραυστὸν ἀθραυστὸν, θλαστὸν ἀθλαστὸν, πλαστὸν ἀπλαστὸν, πιεστὸν ἀπίεστὸν, ἐλκτὸν ἀνελκτὸν, ἐλατὸν ἀνήλατον, σχιστὸν ἀσχιστὸν, τμητὸν ἀτμητὸν, γλίσχρον φαθυρόν, πηλὸν ἀπλητὸν, καυστὸν ἀκαυστὸν, θυμιατὸν ἀθυμιατὸν. τὰ μὲν οὖν πλεῖστα σχεδὸν τῶν σωμάτων τούτοις διαφέρει τοῖς πάθεσιν.

primary. Why Aristotle differs from Plato in this regard is a question I will take up in §3.2.

Active and passive powers are closely connected with one another. And this connection is reflected in linguistic regularity. Consider a case of *heating*: one item has the power to *heat* and another the power to *be heated*: during the process of heating, the one item *heats* and the other item *is heated*. In general, given some process, φ -ing, one expects there to be an active power to φ and a passive power to be φ -ed. In the process of φ -ing, the thing with the active power to φ is what φ -s, and the thing with the passive power to be φ -ed is what is φ -ed: in housebuilding, what has the power to build is what builds, and what has the power to be built is what is built.²¹

Passive powers are powers not because we use the word ‘power’ in speaking of them, but rather because of their intimate connection with active powers. It is perfectly possible for us to use one word to speak of two distinct kinds of items, when those items are in some way correlated with one another. The word ‘plug’ is perhaps an example: it refers both to the receptacle in the wall and to what is inserted into the receptacle. By contrast, passive powers are powers connected with change because they are defined in terms of powers in the primary sense.

Resistance to deterioration

In its second derivative usage, a capacity is “(2b) the state of not being affected for the worse and towards destruction by something else, or as something else, by a principle of change” (1046a13–15, quoted above page 40). For example: trees that can withstand strong winds, human beings who can walk unharmed over hot coals, armor that can absorb mighty blows, virtuous souls that can endure pernicious influences. Such things have powers in the second derivative usage.

But why would one think that such things have powers at all? In general, things that cannot be changed *lack* powers; for instance, rocks lack the power to be lit on fire. Does Aristotle’s theory imply that a rock has a power to resist being lit on fire, in the second derivative usage? No: not just any privation of passive power counts as a power in this usage. The powers in question are constituted by something’s being in a *good* condition, in such a way that it

²¹ There are, however, cases in which it is unclear whether this is true or not, namely, in cases of perception (and perhaps knowledge as well). Aristotle’s account of perception in *de Anima* II.5 wrestles precisely with the problem that seeing is “either not an alteration . . . or is another kind of alteration” (*de Anima* II.5 417b6–8). Part of the problem seems to be that, when seeing occurs, it is the thing that is active—that engages in seeing—that is acted on by the object seen. One task of *de Anima* II.5 is to clarify the role of agent and patient in perception, but unfortunately, it is hard to say what the upshot of the chapter is.

cannot be changed *for the worse*. And rocks would not, as such, be changed for the worse or be destroyed by bursting into flame.

The Greek words have connotations that are lost in translation. The adjective, ‘*dunaton*,’ has connotations of ‘powerful.’ Hard-to-damage trees, human beings, armor, and souls are powerful. The opposite sorts of things are not. The idea is that the ‘powerful’ things *have* something that the other things lack:

For things get broken and worn down and bent and generally are destroyed not because they can do something, but because they cannot do something and they lack something. In contrast, the things that are unaffected by such [processes] are the things that are hardly or slightly affected on account of a power, i.e., because they can do something and because they are a certain way. (Delta 12 1019a28–32)²²

Things resist change for the worse because they *have* certain powers, not because they lack them. Especially when an item of some kind cannot be changed for the worse, by forces that regularly do damage items of that kind, then we think of the item as powerful, as having some power or other. And this is a power to resist being changed. So rocks do not have, in Aristotle’s second derivative sense of the term, a power not to be set on fire. But trees that withstand strong winds do have a power not to be thereby damaged.

Book Delta gives a slightly different definition. There Aristotle writes, “states, in virtue of which changeable things are not affected at all, or [at least] are not changed [for the worse] or, being such as to be easily changed, are not easily changed for the worse, are called powers” (1019a26–8).²³ On this definition, something has a power not to be φ -ed in this sense if (1) it belongs to a kind, of which it is characteristic to be φ -able and (2) at least one of the following holds: (a) it is not *in any way* affected by processes of φ -ing; (b) it is not affected *for the worse* by processes of φ -ing; or (c) it is not *easily* affected for the worse by processes of φ -ing.

According to this definition, rocks fail to have a power not to be lit on fire because condition (1) fails: they are not members of a kind of which it is characteristic to be able to be lit on fire. By contrast, a fabric that was impossible to tear would fulfill condition (1). If trying to tear the fabric left it completely unaffected, then the fabric would also fulfill condition (2a), and it would thus have a power in this sense. But it would also have a power in this

²² κλᾶται μὲν γὰρ καὶ συντρίβεται καὶ κάμπτεται καὶ ὅλως φθείρεται οὐ τῷ δύνασθαι ἀλλὰ τῷ μὴ δύνασθαι καὶ ἐλλείπειν τινός· ἀπαθὴ δὲ τῶν τοιούτων ἃ μόνις καὶ ἡρέμα πάσχει διὰ δύναμιν καὶ τῷ δύνασθαι καὶ τῷ ἔχειν πῶς.

²³ ἔτι ὅσαι ἔξεις καθ’ ἃς ἀπαθὴ ὅλως ἢ ἀμετάβλητα ἢ μὴ ῥαδίως ἐπὶ τὸ χεῖρον εὐμετακίνητα, δυνάμεις λέγονται. I think there must be some problem with the text here, although the manuscript tradition, as recorded in Jaeger’s and Ross’s apparatuses, is entirely unanimous. My awkward translation is an attempt to elicit good sense from the text without altering it.

sense if it fulfilled condition (2b): suppose trying to tear the fabric wrinkled it, and thus affected it in *some* way, although without causing it to deteriorate at all. Or the fabric might fulfill condition (2c), simply by being exceedingly difficult to tear (like ballistic nylon).

The definition in Theta is simpler than that in Delta. In Delta, the definition is explicitly restricted to things that are easily changed, and it also makes explicit the various sub-cases (not being changed at all, being hard to change). In Theta, Aristotle speaks simply of a state in which something is hard to change for the worse or to destroy. He omits to mention that the thing in question be capable of being changed for the worse, and he does not mention any sub-cases.

Why does Aristotle give a simpler definition in book Theta than he gave in book Delta? I think because book Theta is about being—being-in-capacity and being-in-*energeia*—rather than about capacities or powers. The discussion of power is not important in its own right. The notions of active and passive power are the keys for preparing the discussion of being. Other issues are on the sidelines, and receive less nuanced discussion than in book Delta, where the focus is on the notion of capacity (*dunamis*) itself. This will also be important in explaining why book Delta apparently lists more usages of ‘power’ than Theta (3.1.4).

But how are powers in this sense connected with *change*? This usage of ‘power,’ like ‘passive power,’ is supposed to be derivative from the primary usage. All powers in the usage relevant to change are predicated, according to Aristotle, “with reference to a single primary case of power” (*pros prōtēn mian* [sc. *dunamin*]; Theta 1 1046a10). He further explains, “in the accounts of these [derivative powers] inhere somehow the accounts of the prior powers” (Theta 1 1046a18–19).²⁴ In what sense are powers to endure adversity predicated with reference to powers to bring about changes in other things? In the sense that a power to resist deterioration is a power to resist the action of a power in the primary usage. For instance, Achilles’ shield is a powerful one; it has the power to resist even a mighty warrior’s power (in the primary sense) to pierce a shield with a spear.²⁵ It is in this sense that the shield’s power (in the second derivative usage) is a power with reference to a warrior’s

²⁴ ἐν τοῖς τούτων λόγοις ἐνυπάρχουσί πως οἱ τῶν προτέρων δυνάμεων λόγοι. How does one account inhere in another? Roughly, the idea seems to be that the account of *y* inheres in the account of *x* if one necessarily mentions *y* in giving a full account of *x*. One might then think that the full account of *x* will include the account of *y* (and not merely mention *y*). I incline, however, to think that *y* will merely be mentioned. However, the (full and proper) account of *y* will thus be linked to the account of *x* and hence *knowledge* of *x* will require the account of *y* as well as the account of *x*. There are parallel usages of ἐνυπάρχειν at Z.1 1028a35–6 and Z.10 1034b23, among other passages.

²⁵ One might be tempted, wrongly, to attribute the power not to the warrior but to the spear. It is true that the spear is constructed so as to be suitable for piercing. But the spear, as such, does not have in itself an active principle of change of any kind. This is why the

power (in the primary usage). This also explains the sense in which resistance to deterioration is a power connected with change: resisting deterioration is enduring unchanged despite the exercise of a power that would bring about a change. Hence, even though resistances to change are not themselves involved in the causal processes of change, they are nonetheless powers connected with change because their definition refers to a power connected with change in the primary sense.

Doing well, being improved

Two further usages of power are identified in chapter 12 of book Delta, but they have an uncertain standing in book Theta. One of them is a power to perform well:

Moreover, there is the power to accomplish this [i.e., the end in question] well, or in the way one chooses. For sometimes we do not say that people who can merely walk or speak, but not well or not as they choose, can speak or walk. And likewise for being acted on. (1019a23–6)²⁶

This observation about Greek holds equally for contemporary English. For instance, the sentences, ‘I can’t do mathematics,’ or ‘I can’t sing,’ are often used in this sense to mean, ‘I can’t do mathematics well,’ or, ‘I can’t sing well.’ Having a power in this sense is not having a power to do something in a certain way (e.g., loudly). The question is not *how* a person, who can in any case φ , can φ , but rather what counts as being able to φ at all. Sometimes, we speak as if being able to φ at all required being able to φ *well* or as *one chooses*.

The equation between being able to do something well and being able to do it as one chooses is reasonable. Being able to φ well is not only recognizing what would count as φ -ing well, but being able to adapt one’s φ -ing to the situation in the way one chooses. Presumably, this will normally involve φ -ing well, but it might sometimes involve φ -ing poorly. One can rely on an expert doctor, who intends not to cure a patient, not to do something unintentionally that would cure the patient.

Plato had already made this equation explicit in the *Hippias Minor*, where Socrates secures Hippias’ agreement that the better runner runs slowly voluntarily (373d), and, in general, “whenever [someone] accomplishes worthless physical results, the one who is physically better does them voluntarily,

Achaeans were afraid of (say) Hector armed with his spear and not of the spear lying on the ground.

²⁶ ἔτι ἡ τοῦ καλῶς τοῦτ’ ἐπιτελεῖν ἢ κατὰ προαίρεσιν· ἐνίοτε γὰρ τοὺς μόνον ἂν πορευθέντας ἢ εἰπόντας, μὴ καλῶς δὲ ἢ μὴ ὡς προείλοντο, οὐ φαμεν δύνασθαι λέγειν ἢ βαδίζειν· ὁμοίως δὲ καὶ ἐπὶ τοῦ πάσχειν.

whereas the one who is worse does them involuntarily” (374b; trans. Smith in Cooper).²⁷

Although this usage of ‘power’ is not mentioned in *Metaphysics* Theta, it is implicit in the brief subsequent discussion of inability (see next section below). There Aristotle says that there are usages of inability corresponding to all of the usages of power. And he mentions, among other senses of being unable, being unable “in some particular way (for instance, completely [παντελῶς]).” Since “completely” is mentioned merely as one example, there are presumably other cases too. What other adverbial modifiers might take the place of “completely”? The most attractive idea is the one Aristotle had already articulated in the passage quoted from Delta: one might be unable to dance, not in that one is completely unable to dance, but in that one is unable to dance well or in the way one chooses.

Passive powers, too, may be qualified in this way, as Aristotle says (1019a26), although that is perhaps less common. Clay of a certain kind, for instance, might be kneadable in the sense that it is able to be kneaded well, whereas other kinds are not, in this sense, kneadable (even if they can be kneaded).

A further sort of passive power is also identified in Delta, but there is no indication that it plays a role in Theta. This is the passive power to be changed for the better. Aristotle says that, in some cases, we say that something is able “not in virtue of just any affection, but in virtue of being affected for the better” (1019a22–3).²⁸ An example would be a human being’s power to be taught. Every normal human being is able to be taught (say) elementary arithmetic; and thus every normal human being is, in this sense, passively able to be changed for the better.

Again, why this difference between books Delta and Theta? Again, the reason is that book Theta focuses not on the word but on the world: given that things that are able to φ but not well, are able to φ , Aristotle emphasizes, here in Theta, that these things have powers.

This enables us to understand an otherwise perplexing observation:

It is also evident that the power just to act or be acted on follows that [to act or be acted on] well, but that that power does not always follow this one. For necessarily, someone who acts well also acts, but someone who just acts does not necessarily also act well. (Theta 2 1046b24–8)²⁹

It is unclear from the context why Aristotle makes this remark at all. And worse, it seems to be in tension with the view advanced in book Delta. According

²⁷ For further discussion of bivalent powers, see Ch. 4.

²⁸ ὅτε δ’ οὐ κατὰ πᾶν πάθος, ἀλλ’ ἂν ἐπὶ τὸ βέλτιον.

²⁹ φανερόν δὲ καὶ ὅτι τῇ μὲν τοῦ εὖ δυνάμει ἀκολουθεῖ ἡ τοῦ μόνον ποιῆσαι ἢ παθεῖν δύναμις, ταύτῃ δ’ ἐκείνη οὐκ ἀεί· ἀνάγκη γὰρ τὸν εὖ ποιοῦντα καὶ ποιεῖν, τὸν δὲ μόνον ποιοῦντα οὐκ ἀνάγκη καὶ εὖ ποιεῖν.

to book Delta, if Billie Holiday can sing well, then there are two senses in which she is able to sing—for she can sing in the sense in which even I can sing, and she can also sing in a sense in which I cannot sing. In book Delta, the emphasis is all on the way in which ‘ φ -ing well’ constitutes a distinctive way of *being able*. Book Theta, by contrast, lays all the emphasis on the (strictly speaking compatible) point that φ -ing well involves φ -ing and hence that the power to φ well requires the power to φ at all. In book Theta, we ignore the additional usage of the word ‘*dunamis*’ because we are focusing on the real capacities. Billie Holiday does not have two capacities, one to sing and another to sing well, but one capacity, to sing, a capacity developed to an extraordinary degree, to be sure, but only one.

3.1.5 Inability

I now take a section of text out of order. After treating the various notions of power, discussed in the previous subsection, Aristotle turns to the relationship between active and passive power, a topic I discuss in §3.2 on page 53 below. But following this, Aristotle concludes the first chapter of Theta with fairly straightforward remarks about inability. These remarks can be most naturally discussed here, because there is a family of ways of being unable, correlative with the ways of being able that we have just discussed.

According to Aristotle, to be unable is to lack a power. Inability is the privation of a power. But this privation might be understood in various ways: for instance, as the absence of a power from something that naturally has the power in question:

Inability, i.e., being unable, is the lack opposed to such power. And thus every power [to do something, in some way] is opposite to an inability to do that same thing in that same way. But lack is said in many ways. For [there is lack of *A* in the case of] (1) something that does not have *A*, and (2) [in the case of] something that is by nature such as to have *A*, if it does not have it, either (a) generally or (b) *when* it is natural to have *A*, and this (c) either in some particular way (for instance, completely) or even (d) in no particular way. And (3) in some cases, if things are by nature such as to have *A* and yet do not have it because of force, we say that these things are deprived of *A*.³⁰
(Theta 1 1046a29–35)

The various sorts of privation seem to correspond to the following cases: (1) a rock is unable to speak (it is not such as to speak, no matter what might happen to it); (2a, 2d) a human being is unable to speak (it is such as to be able to

³⁰ καὶ ἡ ἀδυναμία καὶ τὸ ἀδύνατον ἢ τῇ τοιαύτῃ δυνάμει ἐναντία στέρησις ἐστίν, ὥστε τοῦ αὐτοῦ καὶ κατὰ τὸ αὐτὸ πᾶσα δύναμις ἀδυναμία. ἢ δὲ στέρησις λέγεται πολλαχῶς· καὶ γὰρ τὸ μὴ ἔχον καὶ τὸ πεφυκὸς ἂν μὴ ἔχῃ, ἢ ὅλως ἢ ὅτε πέφυκεν, καὶ ἢ ὥδι ὅλον παντελῶς, ἢ ἂν ὀπωσοῦν. ἐπ’ ἐνίων, ἂν πεφυκὸς ἔχειν μὴ ἔχῃ βίᾳ, ἐστέρησθαι ταῦτα λέγομεν.

Speak, even if it cannot speak at the moment, being, for instance, a new-born); (2b) an adult human being is unable to speak (an adult human being is so developed that it normally would be able to speak); (2c) a human being is unable to speak without stuttering (a human being is unable to speak in the normal way); (3) a human being is unable to speak because his jaw is broken, or because he has suffered brain damage (a human being, while normally developed, is unable to speak because they were forcibly harmed in some way).

We should distinguish between inability and impossibility (*to adunaton*).³¹ Naturally, while inability and impossibility are not the same, there are cases in which they come together. For instance, it is impossible that Theaetetus flies. And this is connected with Theaetetus' 'having' the inability to fly. It is not just that Theaetetus does not *now* have the power to fly. No matter what changes Theaetetus undergoes, he could never acquire the power to fly.

On the other hand, inability and impossibility also sometimes come apart: (1) something may be possible, despite there being an inability for it to occur; and (2) conversely, something may be impossible, although there is a correlative power. For instance, (1) Theaetetus is (at the beginning of the *Theaetetus*) unable to give a satisfactory definition of knowledge; but it is not impossible that he give a satisfactory definition of knowledge, and, indeed, Socrates hopes that he will one day be able to do so. An example of (2) would be something like this: in a heated battle, an arrow is speeding directly towards Theaetetus' throat, so that it will strike him instantly; there is perhaps a moment, just before the arrow strikes him, when it is true both that it is impossible that he ever sit down again and that he is able to sit down.³²

3.1.6 Ordinary Greek

Aristotle's views about powers are, in part, views about causation. They are also views about ordinary Greek. For Aristotle thinks that this sense of 'power' is the strict sense of the term in ordinary Greek. This is the first step towards clarifying 'can' (*dunasthai*), 'able' (*dunaton*), and 'power' or 'ability' (*dunamis*). I will argue that Aristotle is concerned, in *Theta 1* through 5, to deal with a pervasive ambiguity in the use of these terms. In saying that 'power' is the strict sense of the term in ordinary Greek, Aristotle is not attempting to give an account of all the uses of the word 'power' (*dunamis*) or the associated verb and adjective. Rather, he is picking out one ordinary use among many ordinary, and claiming that it is the strict ordinary use.

³¹ Aristotle never uses ἀδυναμία to mean impossibility, but only inability.

³² See Ch. 5, especially §6.1 and §6.2, for further discussion of the relationship between possibility and power.

I wish to consider a few uses of these words in Homer, in order to justify two claims. First, Aristotle's claim about ordinary Greek is a plausible one. Second, ordinary Greek exhibits a range in its use of these words that roughly corresponds to English. I consider only Homer because there is no space here for a thorough survey of *dunamis* and related words in Greek from Homer to Aristotle. That would require a book in its own right. But a few usages from Homer will, I think, be enough to support my two claims.

In Homer, we find *dunasthai* being used for a whole range of cases like the English word 'can.' It is normally used with an infinitive.

... it went the worse for the Kourentes, and they could not even [οὐδὲ δύναντο] hold their ground outside the wall, though they were so many.

(*Iliad* 9, l. 551, trans. Lattimore)

... only he [Patroclus] did not take the spear of blameless Aiakides, huge, heavy, think, which no one else of all the Achaians could handle [τὸ μὲν δύναντ' ἄλλος' Ἀχαιῶν πάλλειν], but Achilleus alone knew [ἐπίστατο] how to wield it.

(*Iliad* 16, l. 141, trans. Lattimore)

... Would to god I [Odysseus] could [δυναίμην] strip you [the Cyclops] of life and breath and ship you down to the House of Death as surely as no one will ever heal your eye, not even the earthquake god himself. (*Odyssey* 9, l. 523, trans. Fagles)

... But the moment he [Odysseus' old dog Argos] sensed Odysseus standing by, he thumped his tail, nuzzling low, and his ears dropped though he could not [δυνήσατο] drag himself an inch toward his master. (*Odyssey* 17, l. 303, trans. Fagles, modified)

Sometimes, someone cannot do something due to circumstances. In the games near the end of the *Iliad*, there is a horse race. Idomeneus cannot see the mares of Eumelos because they are too far away:

... for those [Eumelos' mares] I saw running out in front as they made the turn post, I can no longer see anywhere [οὐπὴ δύναμαι ἰδέειν], though I watch and though my eyes look everywhere about the plain of Troy. (*Iliad* 23, l. 463, trans. Lattimore)

This sort of case will be especially important for Aristotle's rebuttal of the Megarics in *Theta 3*.

As in English, 'cannot' sometimes expresses something like 'intolerable':

Amphion and Zethus [were] the first to build the footings of seven-gated Thebes, her bastions too, for lacking ramparts none could [ἐδύναντο] live in a place so vast, so open. (*Odyssey* 11, l. 264)

After Penelope has discovered that her visitor is her husband, she says to Telemachus:

I'm stunned with wonder, powerless. Cannot [δύναμαι] speak to him, ask him questions, look him in the eye. (*Odyssey* 23, l. 105–7)

Penelope does not mean that she has lost her power to speak—after all, she is speaking to her son. She means that speaking to her husband is too difficult to do.

It is remarkable that, in the *Iliad*, no human being is ever simply said to be able to do anything, or to have a power, except once. It is Achilles, who says of himself, *by contrast with the gods*, that he will do all he can:

It's hard for me, strong as I am, single-handed
to make for such a force and fight them all.
Why, not even Ares the deathless god of war,
not even Athena—for all their heavy labor—
could³³ hack a passage through such jaws of battle.
But I—whatever fists and feet and strength can do,
that I will do, I swear, not hang back, not one inch.³⁴

(*Iliad* 20, ll. 356–61)

Even this usage is, to an extent, conditional. (Achilles will do all he can, but what if he can do nothing?) But he goes on in the immediately following lines to insist that he will achieve a great deal.

Often, the word ‘power’ (*dunamis*) in Homer refers to someone’s strength. Correspondingly, the verb *dunasthai* sometimes seems to mean something more like, ‘to be strong enough,’ as in the quotation about Odysseus’ dog above. But *dunasthai* regularly means ‘can’ in the sense of ‘being able,’ and has enough independence from the noun ‘*dunamis*’ that it can be juxtaposed with it even in this latter usage. The archer, Teucer, says, “I have not stopped [fighting] insofar as the power is in me” (*Iliad* 8, l. 294–5, trans. Lattimore, modified; οὐ μὲν τοι ὄση δύναμις γε πάρεστι/παύομαι). A moment later, he says that, nevertheless, “I cannot hit that mad dog [Hector]” (l. 299; τοῦτον δ’ οὐ δύναμαι βάλειν κύνα λυσσητῆρα).

A few times, Homer uses an idiom that seems to anticipate the philosophical idea that there are two sides to the question of whether something can happen: whether the agent is equipped to carry out the action in question, and whether circumstances permit the action to be carried out. This idea is behind the phrase, “Say what you are thinking. My heart urges me on to accomplish it, if I can accomplish it and if it is accomplishable” (*Iliad* 14, l. 196 and 18, l. 427, *Odyssey* 5, l. 90, my translation; εἰ δύναμαι τελέσαι γε καὶ εἰ τετελεσμένον ἔστίν). Fagles translates, “tell me what’s on your mind. I am eager to do it—/whatever I can do... whatever can be done.” This phrase occurs in scenes of pleading, where one figure asks another to do something. Before knowing the request, the figure who is being asked expresses a predisposition in favor of fulfilling the request, but gives two

³³ ‘Could’ translates an optative, not a form of *dunasthai*.

³⁴ ἄλλ’ ὅσπον μὲν ἐγὼ δύναμαι χερσὶν τε ποσὶν τε/καὶ σθένει, οὐ μ’ ἔτι φημὶ μεθησέμεν οὐδ’ ἡβαιόν

qualifications, one pertaining to what they themselves can do, and the other pertaining to what can be done at all.

This is not to deny that there are other senses. For instance, power (*dunamis*) is sometimes political or military power. A related idiom, *dunasthai mega*, refers to great political power.³⁵ The existence of these other usages is in no way problematic for Aristotle's account of '*dunamis*.' Aristotle was not trying to give a comprehensive account of all the word's usages, in all contexts. He is making a claim about what the strict usage of '*dunamis*' is, but that claim is perfectly compatible with the word's having many other usages, some of which Aristotle mentions and some of which he does not.

3.2 CORRELATIVE POWERS

Aristotle considers obvious a claim that, to us, seems startling: correlative active and passive powers are in a way the same. For instance, if the change is *healing*, then the relevant power, which both doctor and patient have, is the power for healing. Not only do all doctors have the same power, and all patients, but all doctors and patients have one and the same power.³⁶ But Aristotle also maintains that these are in a way different powers:

Now it is evident that (1) in a way, there is a single power to act and be acted on (for a thing is able either because it has the power to be acted on or because something else has the power to be acted on by it) and (2) in a way, they are different powers.³⁷

(Θ.1 1046a19–22)

³⁵ This phrase occurs repeatedly in Plato's *Gorgias*, in the discussion between Socrates and Polus of whether tyrants do or do not have power. See 466b, e, 467a, and 469e; *dunamis* is introduced without comment as a synonym in 469d and 470a.

³⁶ I assume that Aristotle has in mind sameness of type, not sameness of token. That correlative active and passive powers are the same is a provocative thesis at the level of types. At the level of tokens, it is simply absurd. Just one of many difficult questions it faces is this: are the power-tokens the same only during the relevant change? That is, suppose that *X* has the power to φ and *Y* has the power to be φ -ed. Is *X*'s power to φ identical with *Y*'s power to be φ -ed only while *X* is φ -ing *Y*? Neither answer seems acceptable. If their powers are identical only during the φ -ing, why only then and not as long as they exist? What difference should the exercise of the powers make for their identity with or distinctness from one another? But if the two powers are identical before being exercised, why are they identical only with one another, and not with the powers of other things to φ and be φ -ed? Allowing that they are identical with the powers of other things to φ and be φ -ed collapses this thesis back into the thesis of type-identity.

³⁷ φανερόν οὖν ὅτι (1) ἔστι μὲν ὡς μία δύναμις τοῦ ποιεῖν καὶ πάσχειν (δυνατὸν γάρ ἐστι καὶ τῷ ἔχειν αὐτὸ δύναμιν τοῦ παθεῖν καὶ τῷ ἄλλο ὑπ' αὐτοῦ), (2) ἔστι δὲ ὡς ἄλλη. My translation of the parenthesis in (1) may need some explanation. The elliptical grammar of the phrase is to be filled in as follows: δυνατὸν γάρ ἐστι καὶ τῷ ἔχειν αὐτὸ δύναμιν τοῦ παθεῖν καὶ τῷ ἄλλο [sc. ἔχειν δύναμιν τοῦ παθεῖν] ὑπ' αὐτοῦ. And my translation is a natural way of taking that complete Greek sentence. See the main text below for further discussion.

Aristotle's reasons for these claims are not entirely perspicuous. Here is what he says:

(3a) For the one is in the thing acted on (for it is because of having a certain principle, and because matter, too, is a principle of a sort, that what is acted on is acted on, various things by various things; for the oily is flammable, and what yields in *this* way is crushable, and likewise also in the other cases); (3b) while the other is in what acts, for instance the hot and the art of housebuilding, the one in what can heat, and the other in what can build. (4) Therefore, to the extent that something is naturally unified,³⁸ it itself is not acted on by itself, because it is one thing and not different.

(Θ.1 1046a22–9)³⁹

It will take some work to elicit an argument from these claims. But this will be worthwhile, because it will illuminate the intimate connection between active and passive power. Even more important, it will illuminate the priority of active powers over passive, and thereby also Aristotle's conception of agency.

3.2.1 Sameness

The crux of Aristotle's view is that things have passive powers because *other* things have active powers, but not vice versa. As he says in Δ.12:

Given that *able* is said in so many ways, that, indeed, will in one way be called able which has a principle of motion or change . . . in another thing or as another thing. And, in another way, something will be called able if another thing has over it a power of the first sort. (Δ.12 1019a32–b1)⁴⁰

Something has a passive power in virtue of something *else* having the power to act on it. But with this we can also see why Aristotle thinks that active and passive powers are in a way the same: the change that a passive power is the causal basis for is the same change that the correlative active power is the causal basis for.

This is the point that Aristotle is trying to make with the rather confusing phrase just quoted, "(1) . . . for a thing is able either because it has the power

³⁸ The root meaning of the word translated "naturally unified" is "grown together." Aristotle regularly contrasts being naturally unified (συμπεφυκέναι) with merely being in contact (ἄπτεσθαι). For instance, in *On the Generation of Animals*, it is said that teeth fall out because they are merely in contact with the bones of the jaw, without being integrated ("grown together") with it (745b6).

³⁹ (3a) ἡ μὲν γὰρ ἐν τῷ πάσχοντι (διὰ γὰρ τὸ ἔχειν τινὰ ἀρχήν, καὶ εἶναι καὶ τὴν ὕλην ἀρχὴν τινα, πάσχει τὸ πάσχον, καὶ ἄλλο ὑπ' ἄλλου· τὸ λιπαρὸν μὲν γὰρ καυστὸν τὸ δ' ὑπέικον ὡδι θλαστόν, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων), (3b) ἡ δ' ἐν τῷ ποιοῦντι, οἷον τὸ θερμὸν καὶ ἡ οἰκοδομική, ἡ μὲν ἐν τῷ θερμαντικῷ ἡ δ' ἐν τῷ οἰκοδομικῷ· (4) διὸ ἡ συμπεφυκεν, οὐθὲν πάσχει αὐτὸ ὑφ' ἑαυτοῦ· ἐν γὰρ καὶ οὐκ ἄλλο.

⁴⁰ λεγομένης δὲ τῆς δυνάμεως τοσαυταχῶς, καὶ τὸ δυνατόν ἕνα μὲν τρόπον λεχθήσεται τὸ ἔχον κινήσεως ἀρχὴν ἢ μεταβολῆς . . . ἐν ἐτέρῳ ἢ ἢ ἕτερον, ἕνα δ' ἐὰν ἔχη τι αὐτοῦ ἄλλο δύναιμι τοιαύτην.

to be acted on or because something else has the power to be acted on by it.” Let’s consider an example, say the power for medical treatment:

A person is capable of medical treatment, either in virtue of having the power to be treated medically, or in virtue of someone else having the power to be medically treated by him.

Let’s now consider Agamemnon’s power to be treated and Machaon’s power to treat. We can apply the principle in question both to Agamemnon and to Machaon. In the case of Agamemnon, it says that Agamemnon is able to be treated, in virtue of having the power to be treated by an appropriate doctor (such as Machaon). In the case of Machaon, it says that Machaon is able to treat, in virtue of there being something else, an appropriate patient (such as Agamemnon), that has the power to be treated by him. Both powers are equally the power for an appropriately qualified doctor (such as Machaon) to treat an appropriate patient (such as Agamemnon). Equivalently, in passive terms, both powers are equally the power for an appropriate patient (such as Agamemnon) to be treated by an appropriately qualified doctor (such as Machaon).

Either way, Agamemnon and Machaon have powers for one and the same thing: medical treatment. It is natural to conclude that Agamemnon and Machaon have the same power, just as much as Machaon and any other doctor have the same power. Not only do all doctors have the same power (to treat) and all patients the same power (to be treated), but all doctors and patients share, in some sense, the same power (the power exercised in treating). And, quite generally, the correlative active and passive powers for ϕ -ing and being ϕ -ed reduce, in a way, to the same single power.

Aristotle is assuming here, rightly, that powers are identified by what they are powers for—by what happens when the power in question is exercised. It is for this reason that active and passive powers are, in a way, the same. This assumption is not, to my knowledge, made explicit by Aristotle, but that is perhaps because it had already been made explicit by Plato in the *Republic*:

A power has neither color nor shape nor any feature of the sort that many other things have and that I use to distinguish those things from one another. In the case of a power, I use only what it is set over and what it effects, by reference to these I call each the power it is: what is set over the same things and does the same I call the same power; what is set over something different and does something different I call a different one. (477c6–d5; trans. Grube in Cooper, modified)⁴¹

⁴¹ δυνάμειος γὰρ ἐγὼ οὔτε τινὰ χροάν ὁρῶ οὔτε σχῆμα οὔτε τι τῶν τοιούτων οἶον καὶ ἄλλων πολλῶν, πρὸς ᾧ ἀποβλέπων ἓνια διορίζομαι παρ’ ἐμαυτῶ τὰ μὲν ἄλλα εἶναι, τὰ δὲ ἄλλα· δυνάμειος δ’ εἰς ἐκεῖνο μόνον βλέπω ἐφ’ ᾧ τε ἔστι καὶ ὃ ἀπεργάζεται, καὶ ταύτῃ ἐκάστην αὐτῶν δύναμιν ἐκάλεσσα, καὶ τὴν μὲν ἐπὶ τῷ αὐτῷ τεταγμένην καὶ τὸ αὐτὸ ἀπεργαζομένην τὴν αὐτὴν καλῶ, τὴν δὲ ἐπὶ ἑτέρῳ καὶ ἑτερον ἀπεργαζομένην ἄλλην.

Plato here mentions *two* criteria for sameness and differences of powers: what they are set over and what they do. (In the context, it is not entirely clear whether these two function independently.) But for our purposes, the main point is that Plato had already articulated both the problem about how to identify powers, and had connected the solution with what powers are for: what they do. Drawing on this assumption, Aristotle concludes that correlative active and passive powers are, in a way, the same.

3.2.2 Difference

However, correlative active and passive powers are also, in a way, different. It seems that this sense is more authoritative than the sense in which they are the same:

(3a) For the one is in the thing acted on (for it is because of having a certain principle, and because matter, too, is a principle of a sort, that what is acted on is acted on, various things by various things; for the oily is flammable, and what yields in *this* way is crushable, and likewise also in the other cases); (3b) while the other is in what acts, for instance the hot and the art of housebuilding, the one in what can heat, the other in what can build. (©.1 1046a22–8, quoted above, page 54)

The argument, in outline, is that the power to be acted on is in the patient, while the power to act is in the agent. And since they are in different items, they must be different.

But this argument must be construed carefully, lest we rely on presuppositions with absurd consequences that neither Aristotle nor we would accept. In particular, the argument cannot be this:

PREMISE 1: If x is distinct from y , then any power in x is distinct from any power in y .

PREMISE 2: Agents and patients are distinct.

CONCLUSION: The powers in agents (including their active powers) and the powers in patients (including their passive powers) are distinct.

One serious problem with this argument is that PREMISE 2 is false: while agents and patients are normally distinct, they are not necessarily so. But even waiving this difficulty, if this were Aristotle's argument, then he would also have to accept the following argument:

PREMISE 1: If x is distinct from y , then any power in x is distinct from any power in y .

PREMISE 2*: Machaon is distinct from Galen.

CONCLUSION: The powers in Machaon (including Machaon's power to treat) are distinct from the powers in Galen (including Galen's power to treat).

But this cannot be right. Aristotle had argued that, surprisingly, patients have (in a way) the same powers as their doctors. When he now explains how,

unsurprisingly, patients and doctors have (in another way) different powers, this should not also have the surprising consequence that distinct doctors do not have the same power.

One might, alternatively, distinguish the powers in question by distinguishing what they do. On this interpretation, *healing* and *being healed* are distinct changes. We can then apply the Platonic criterion that powers that do different things are different. But this would seem simply to contradict the claim that correlative active and passive powers are the same. Aristotle does not simply contradict and reject that claim; he thinks it is, in a way, true. Moreover, Aristotle elsewhere insists that the exercises of correlative powers are *not* distinct. Bringing about change and being changed are not two events, but one and the same event.⁴²

The issue for Aristotle is not that the relevant powers are lodged in distinct objects, nor that they are powers for distinct events, but that the powers in question are *correlative* active and passive powers, in virtue of which things play the roles of *agent* and *patient* in a change. The powers that Aristotle is talking about are so closely associated with one another that Aristotle concluded in the first place that they are, in a sense, one power.

But this close association equally requires that the powers be distinct. The powers equip objects to play distinct and, more importantly, asymmetric roles in change. For this reason, Aristotle does not write here simply, “But the active power and the passive power are in different objects,” but rather that the one power is in the *patient* while the other is in the *agent*. He also says that what is acted on is acted on “because of having a certain principle.” This is the principle in virtue of which the patient is changed in the relevant way, rather than not being changed at all, or being changed in some other way. To adapt an example from the text: sandstone, because it yields to pressure in a certain way, is crushable (1046a25). A pillow, by contrast, yields differently; it is compressible, but not crushable. In general, because the agent and the patient play asymmetric and correlative roles in the actual change, the principles in virtue of which they play those roles must be distinct. This construal of the argument explains why Aristotle mentions the agent, the patient, and the patient’s having a principle.

Aristotle highlights this point with his examples. The oily, for instance, is burnable (1046a24–5). The name ‘burnable’ brings out the connection to burning, and hence the intimate connection between the passive power and the active. But Aristotle mentions the oily. He is assuming that the burnability

⁴² See *Physics* III.3, especially 202a18: one *energeia* of the agent and the patient. One might object to my reading that, in *Physics* III.3, Aristotle allows that the *energeia* of the agent and the *energeia* of the patient do not have one account (*logos*). But the idea seems to be that one and the same thing can be looked at in two ways: the way up and the way down, the interval from one to two and that from two to one. I am attempting to capture precisely this by speaking of the roles of agent and patient in a single change.

of the burnable derives from its oiliness. But oiliness is obviously not the property in virtue of which things *cause* burning. It is not the power to light something on fire (the very power that, as Aristotle earlier said, it is in a way the same as). Similarly, what makes something capable of healing, namely the art of medicine, is different from what makes something capable of being healed—such a thing might not even have the art of medicine.

These vivid examples of the difference between active and passive powers drive home Aristotle's point. But that point is based not only on a consideration of cases, but also on theoretical considerations about the structure of change. In any change produced by action, there are agent and patient. Perhaps they are identical, but, identical or not, the roles of agent and patient are essential to the process of action. Those roles are radically, essentially different, so different that the principles in virtue of which agent and patient play their roles must be different.

3.2.3 Self-affection and Unity

These reflections about the distinction between active and passive powers lead to a further conclusion:

(4) Therefore, to the extent that something is naturally unified, it itself is not acted on by itself, because it is one thing and not different. (Θ.1 1046a28–9)⁴³

Aristotle is deeply committed to this claim, which is familiar from other texts. For instance, in *Physics* IV.5, Aristotle says, “While things that are naturally unified are not acted on by one another, things that touch are able to act on and be acted on by one another” (212b31–3).⁴⁴ The claim is striking, both because of its intrinsic interest and boldness, and because it may appear to be in tension with Aristotle's views about nature.

Things, simply as unities, cannot act on themselves, for the following reason: because, in any action, *distinct* active and passive principles are involved, something that acts on itself must have distinct active and passive principles, and must be, to that extent, lacking in unity. This conclusion appears to cover every case of change brought about by action. (I mean to be leaving open whether and in what sense natural changes are brought about by action.) In every such change, there are items, which are somehow distinct, playing active and passive roles. These roles may, of course, be played by altogether different things, but they may also be played by a single thing. When they are played by a single thing, the active and passive roles may be filled by distinct parts of

⁴³ See page 54 for the context and the Greek.

⁴⁴ καὶ συμπεφυκότα μὲν ἀπαθῆ, ἀπτόμενα δὲ παθητικὰ καὶ ποιητικὰ ἀλλήλων. Cf. also 213a9, 227a23, 253a11–13, 255a10–15.

the thing in question, such as its legs and upper body (say, when it jumps), or by distinct aspects of a single thing, as when a doctor treats his own illness.

Aristotle leaves unspecified what exactly the lack of unity must consist in. At the very least, it must consist in the having of two distinct properties. Moreover, it seems to require having at least two (proper) parts. For the thing in question has some parts that undergo change, distinct from some other part that brings about the change (cf. *Physics* VIII.5 257b2–258a27). And this will require having some magnitude.

One might think that Aristotle's views about nature and about powers are inconsistent.⁴⁵ For one might think that, when something changes because of its nature, there is a change in which there are not two distinct active and passive principles, but only a single nature, which can be active (and passive?) on its own. There are two versions of this view, according to whether one maintains that the nature plays both active and passive roles in the change, or that such changes do not have active and passive roles to be played.

In fact, however, Aristotle's theory of nature is perfectly compatible with the claim he makes here in *Theta 1*. This is because even in cases of self-motion, brought about by a nature, there is some part of the thing with the nature that acts and some part that is acted on.⁴⁶ He argues for this conclusion in *Physics* VIII.5:

[Something] moves itself as a whole, both being moved and imparting motion through containing a *part that imparts motion* and a *part that is moved*. It does not impart motion as a whole nor is it moved as a whole: it is A that imparts motion and B alone that is moved. (258a23–6; emphasis added)⁴⁷

I presume that the active and passive *parts* here mentioned have correlative active and passive principles. Something with a nature may be capable, as such, of affecting itself, but, if so, then it is capable of affecting itself only insofar as it is not unified. Thus natural changes are no exception to the strong claim that Aristotle makes in *Theta 1*.

⁴⁵ Charlton, for instance, seems to think this [32, pp. 277–8 and 281]. He concludes that the stricture of *Theta 1* applies only to powers and not to natures. This restriction seems unwarranted by *Theta 1*, and is at odds with the discussion in *Physics* VIII.5 257b2–258a27, just cited.

⁴⁶ There is another strategy for maintaining the compatibility of the theory of powers in *Theta 1* with the theory of nature. One might maintain that a natural change involves no action of one thing on another. It is not without a cause. The nature is the cause. However, nothing acts on anything else. Against this view, Aristotle seems to assume (although, to my knowledge, he never explicitly says this) that every change does involve the action of one thing on another. His discussion of projectile motion strongly suggests this. There, Aristotle assumes that a projectile must be *continuously* acted on throughout its motion.

⁴⁷ Trans. Hardie and Gaye in Barnes. ἀλλ' ὅλον κινεῖ αὐτὸ ἑαυτό, κινούμενόν τε καὶ κινούν τῷ αὐτοῦ τι εἶναι τὸ κινούν καὶ τὸ κινούμενον. οὐ γὰρ ὅλον κινεῖ οὐδ' ὅλον κινεῖται, ἀλλὰ κινεῖ μὲν ἢ τὸ Α, κινεῖται δὲ ἢ τὸ Β μόνον. See also the broader context in this chapter, 257a32–258b9.

Granted that even natural self-motion involves active and passive *principles*, are those active and passive principles *powers* in the strict sense of *Metaphysics* Theta and Delta? I do not think so. (Thus I also think that the argument for the distinctness of active and passive powers actually has broader scope than powers in the strict sense: it concerns active and passive principles more generally.) Powers are indifferent to the identity of the patient. Something with a power may be able to affect itself, but that is only because the power is indifferent to the identity of the patient, i.e., it does not even require the distinctness of the patient.

Natures, unlike powers, are not indifferent as to the identity of the patient. Natural principles of self-motion are not principles of change in another thing or in oneself as another thing. They are principles of change in oneself as such. When they act to bring about change, they must, as parts of a whole, act on other parts of that very same whole. Thus I assume that the active and passive principles involved in self-motion are principles whose action is connected with the identity of the patient. They are not principles of bringing about change in another thing or in oneself as another thing. Hence they are not powers according to *Metaphysics* Theta's account of what a power is.

3.3 THE THEORY OF POWERS: OVERVIEW

Aristotle's theory of powers works out and makes precise a familiar way of looking at the world. Things have powers, which they exercise at some times and not 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, others 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.

The changes in the world come about because of the exercise of active and passive powers. Even the unchanging things in the world are charged with the power to bring about changes. There are artisans who are not exercising their powers. Countless natural interactions are primed to take place. In all these cases, the power is, as it were, just waiting for the right opportunity. These powers are not merely possibilities, neutral as to their realization. Such powers are directed towards one and only one result.

According to Aristotle, there is a complex structure implicit in ordinary Greek, in terms of which the basis for change can be understood. Having set aside the irrelevant usage of 'capacity' (*dunamis*) in geometry, Aristotle identifies a primary usage. In this usage, a capacity (*dunamis*) is a principle

Table 3.1. Powers connected with an action φ

Power to φ	Inability to φ
power to be φ -ed (= power to be acted on by something that can φ)	inability to be φ -ed
state of being unaffected (or not affected for the worse) by something that can φ	[empty]
power to φ well	inability to φ -ed well
power to be φ -ed well	inability to be φ -ed well

Table 3.2. Powers connected with the action heating

Power to heat	Inability to heat
power to be heated	inability to be heated
state of not being affected (or not affected for the worse) by hot things	[empty]
power to heat well	inability to be heated well
power to be heated well	inability to be heated well

of change in another thing or in the thing that has it as another thing. Deriving from this primary usage are at least five other usages.

I summarize the various usages of power and inability in two tables. In Table 3.1, there are descriptions of the various powers connected with an arbitrary action, φ . In Table 3.2, there are descriptions of the various powers connected with a particular action, namely heating. The tables also show the corresponding inability. Corresponding to the five ways of being able, there are only four ways of being unable.

While all of these powers are connected to the primary usage, two usages come in for special attention: active power and passive power. Surprisingly, Aristotle claims that active and passive powers are in a way the same, but he also insists that active and passive powers are in a way different. Active and passive powers are the same because they are powers for the same thing to be brought about. But they are different because of the essentially asymmetric roles that agents and patients play in change. This asymmetry is characteristic of all change, even of self-change.

3.4 OBJECTIONS

3.4.1 Powers as Determinate Properties

Some philosophers have been highly dubious about the very notion of a causal power. One reason for this has been, I think, an assumption that the actual is

fully determinate.⁴⁸ Powers might seem to have no place in a fully determinate actual world, at least not if they leave open a variety of ways in which the world might evolve. The power to build a house, for instance, may or may not be exercised. When it does get exercised, the precise way in which the generation of a house unfolds will depend partly on the circumstances in question. This is so, not because only creatures capable of intentional action have the power to build a house, but because of the nature of powers quite generally. Consider a match that has the passive power to be lit on fire. This power may or may not ever be exercised. What precisely happens when this power is exercised depends on the circumstances: the match may burn more or less quickly, more or less hot, more or less brightly. My point is not that there is no significant difference between the two cases. The housebuilder, for instance, knows what he is doing. The match does not. Nevertheless, the two cases have in common the attribution of powers to things, where this leaves open to some extent what happens when the power is exercised. This has seemed to some to inject an intolerable indeterminacy into the state of the world.

For Aristotle, however, the powers that things have are merely some of their qualities. Aristotle classifies powers as qualities (*ποιότητες*) already in *Categories* 8: “Another kind of quality is that in virtue of which we call people boxers or runners or healthy or sickly—anything, in short, which they are called in virtue of a natural capacity or incapacity” (9a14–16, trans. Ackrill in Barnes).⁴⁹ But it is also clear from Aristotle’s discussion in *Metaphysics* Theta itself that he thinks of powers as qualities. For instance, he considers as powers the arts that artisans have, and the heat of a hot thing.⁵⁰

Thus I take phrases, such as, ‘the power to heat,’ to refer to properties such as the heat of a hot thing. By this, I do not mean to be denying the real existence of powers. One might have thought that a rather suspicious entity—a power—is replaced by an ordinary one—heat. But I think the idea rather is that some, presumably very many, of the perfectly ordinary qualities of things are themselves powers. For instance, in the passage from the *Categories*, Aristotle goes on to speak of hardness as a power not to be divided easily, and softness as the lack of that same power (*Categories* 8 9a25–7).

This should, I think, go some way towards assuaging philosophers’ animosity towards powers. The idea is not that, over and above the ordinary determinate properties of things, we should also attribute further properties, the powers, that have an extraordinary and indeterminate character. The idea is

⁴⁸ I am indebted to Jim Conant for help clarifying this issue.

⁴⁹ Ἄλλοτε γένος ποιότητος κατὰ τὸ πυχτικὸν ἢ δρομικὸν ἢ ὑγιεινὸν ἢ οὐδυνὸν λέγομεν, καὶ ἀπλῶς ὅσα κατὰ δύναμιν φυσικὴν ἢ ἀδυναμίαν λέγεται.

⁵⁰ For heat has a power, see the implicit equation of “the hot thing [τὸ θερμόν]” and “the thing capable of heating [τὸ θερμαντικόν]” at 1046a26–7.

rather than the familiar qualities of things, which we are accustomed to regard as determinate, already contain an element of indeterminacy, to the extent that they are the powers exercised in changes whose course depends only in part on the power in question. The powers in things are merely some of their determinate actual properties.

These reflections will not persuade a philosopher who is hostile to the very idea of powers to accept them. Rather, they show how the rejection of powers is the rejection of a familiar and ordinary way of thinking about familiar and ordinary determinate properties. The conclusion we should draw is that there is something somehow or other indeterminate about the actual way things are. But this is to say nothing more than that the future is open, and that it is open *because* things have powers to bring about changes, but the actual course of those changes will be determined by the power in question along with other factors.⁵¹

3.4.2 Vacuous Explanation

Some readers might worry that Aristotle, or my Aristotle, is in danger of giving the sort of vacuous explanations for which scholastic thinkers were later mocked. A doctor treats a patient in virtue of his power to treat the patient: is this any better than explaining that opium puts one to sleep because of its dormitive virtue?

Firstly, it is not vacuous to explain that this opium has put (say) Byron to sleep because of its dormitive virtue (rather than because this opium was tainted in such a way that it put Byron to sleep). Secondly, nor is it vacuous to explain that opium (in general) puts people (in general) to sleep because of its dormitive virtue—rather than because the process by which opium is refined from poppies regularly creates soporific by-products which are then inhaled during smoking. So, likewise, for a doctor's curing someone through his medical power—rather than by some accident.

Moreover, and more importantly, there is no reason to think that Aristotle's analysis has committed him to the view that there is nothing more to the explanation of opium's putting people to sleep than its dormitive virtue, nor anything more to the explanation of a doctor's medical treatment than his being able to treat. On the contrary, it is clear that Aristotle thinks that the enormous diversity of powers in the world is to be explained somehow in terms of a relatively small number of powers. A vast number of powers involved in the interactions of bodies all derive from the properties of the simple bodies: hot and cold, wet and dry. And these properties either are powers or

⁵¹ Just how indeterminate the existence of powers makes the world is a question that Aristotle address, implicitly in his discussion of the Megarics (*Theta 3*) and explicitly in his discussion of the exercise of powers (*Theta 5*). I will clarify the issue further in my discussion of those passages.

are intimately connected with powers. In *de Generatione et Corruptione* II.2, Aristotle explicitly raises the question which properties are primary. He argues that the primary properties are hot, cold, wet, and dry. He further claims that *all* of the other tangible properties can be explained in terms of these four. And he sketches some explanations of the other properties. Clearly, Aristotle is committed to undertaking elaborate and richly informative explanatory projects. His view of powers to bring about changes is in no danger of trapping either Aristotle or us in vacuous explanations.⁵²

Nor was this an Aristotelian innovation. Plato and Hippocratic authors had already clearly anticipated this project of identifying the fundamental powers of the fundamental bodies.⁵³ For instance, the Hippocratic treatise, *On Regimen*, treats fire and water as the fundamental bodies: everything develops from them and is dissolved into them. And they are distinguished by having different powers.⁵⁴ Plato makes Timaeus present the fundamental bodies of the cosmos in terms of their powers. The divine craftsman carefully balances the powers of the four elements (56c3–7). We are mortal because of the limitations on the power of our constituents to endure; they can only hold out for so long, and our lives cannot be longer than that (89c1–4). The power of sight is connected with the power of the fire in the eye. That is why we cannot see with our eyes closed: the power of the fire is shut in (45d7–e2).⁵⁵

3.4.3 Priority of Active Powers

Why should we agree with Aristotle that active powers have priority over passive ones? I find the derivative status of the other powers plausible but that of passive powers seems doubtful. Certainly, it does not follow from the mere fact that patients have powers to be acted on by something else. Aristotle defines passive powers in terms of active powers. Having defined active power, he says that something has a passive power “if another thing has over it a power of the first sort” (Delta 12 1019a35–b1, quoted above).

⁵² Cf. Aristotle’s project of explaining all the properties of stuffs in terms of hot/cold and wet/dry in *Meteorology* IV.1 and *de Anima* II.11.

⁵³ Heinrich von Staden argues for this thesis in ‘Dynamis: The Hippocratics and Plato’ [81]. He also argues that the pre-Socratics had not already undertaken this project: “In the extant fragments of Presocratic philosophers who were particularly interested in the question of the ultimate constituents of things that exist, the word *dynamis* does not seem to occur with reference to the basic elements, components or constituents of the natural world” (p. 265). I am much indebted to von Staden’s paper, which is essential reading for anyone interested in the pre-Aristotelian history of the term ‘*dunamis*.’

⁵⁴ See also *On the Nature of a Human Being*. There, the constituents in question are quite different, but the idea that they are characterized by their powers is the same.

⁵⁵ Cf. 64c6–7 on further connections between the powers of elements and the power of perception. See also *Philebus* 29b on the powers of the elements.

However, this definition begs our question. For the question is precisely why we should define passive powers in terms of active powers, but *not* vice versa. It is, of course, true that patients depend on agents in the sense that, without the agent, no change takes place: without a housebuilder, the materials for a house do not get made into a house. However, agents depend on patients in the same sense. Without materials, a housebuilder cannot do his work. Why then think that the active powers are primary?

Aristotle nowhere further explains why active powers are prior to passive powers. But I think it is pretty clear why he thinks this. Active powers are prior to passive powers because of the asymmetric roles the agent and patient play in a change. It is the agent that makes the change happen. The patient merely undergoes something done by the agent. While the properties of the patient do constrain how the change proceeds, it is the agent that actively determines how the change proceeds.

Moreover, Aristotle appears to think that changes are essentially end-directed. Thus *what* a given process is, is constituted, at least in part, by what it is directed to. For instance, the process of turning from white to grey is a different process from the process of turning from white to black (even if this latter process is interrupted at a shade of grey by some external interference). When a patient is involved in a change, the relevant passive power constrains the range of changes the thing can undergo, and the range of ends toward which those changes might be directed. The patient has passive powers to be changed in certain ways, but not in others. But, of the available changes, it is the agent that determines what change takes place (for instance, whether it is a change from white to grey or from white to black). In this sense the agent, and only the agent, is in control of a change: not only of how the change occurs, but also of what the change is at all. I take this simply to be another way of saying that it is the agent that brings about the change. The change is something the agent not only occasions, but *does*. Because of the priority of agents over patients in changes, active powers are prior to passive powers.

Aristotle's insistence that active and passive powers are not on a par is an important departure from Plato's *Sophist*. The Eleatic Visitor there proposes, on behalf of the so-called Giants, that to be is to be able to act or to be acted on:

VISITOR: I'm saying [on behalf of the Giants] that a thing really is if it has any capacity at all, either being by nature such as to do something to something else or to have even the smallest thing done to it by even the most trivial thing, even if it only happens once. I'll take it as a definition that *those which are* amount to nothing other than *capacity*. (247d8–e4)⁵⁶

⁵⁶ See page 7, n. 10, for the Greek.

Aristotle accepts the connection between power and action. But he addresses the question—which seems not to have occurred to Plato—whether the powers for action and for passion are on a par. He thinks not. The power to act and the power to be acted on are separated, as two ways of having a power within a wider array of ways. Power in its passive sense is derivative from power in its active sense. If I am right in my reconstruction of Aristotle's view, the basis for this innovation is the way in which teleology, for him, plays a role in every change: the end of a change is essential to the change's being the change that it is. All changes have this teleological structure, whether or not they are natural, and whether or not they are brought about by a rational creature. Since it is the agent that performs the action and aims at the end, the agent's power has priority over the patient's power. And this is so, even though both agent and patient are required for a change to take place at all.

It is not clear to me why this idea is absent from Plato's thought. Plato certainly has a teleological understanding of the natural world; and he, like Aristotle, certainly thinks of agents as engaging in activities that are essentially directed towards bringing about definite results, whether or not those results come about. I speculate that there are two crucial differences, which are intimately connected. Plato's teleology is global. It is rooted in the activity of a divine craftsman or divine paradigm that governs all changes throughout all time. Furthermore, Plato does not appear to have reflected on the metaphysics of individual processes, and in particular on agency (*poiēsis*) in change quite generally. Aristotle, in challenging Plato's global teleology and replacing it with a local teleology, seems to have been driven to reflect on the metaphysics of individual processes. His understanding of the metaphysics of individual processes led him to give agents and their powers a special, primary role.

A further way in which Aristotle modifies the view of the Giants' from the *Sophist* is this: his theory of powers is a theory of causal agency—a theory of the principles of non-natural changes—but it is not a theory of being. For Aristotle here is still preparing for, but not yet presenting his theory of being-in-capacity (and being-in-*energeia*). The theory of powers prepares us for the theory of being in capacity and in *energeia*, but it is a distinct topic.

Nevertheless, Aristotle already here anticipates the climax of Book Theta's theory of being. That climax is the argument of chapters 8 and 9 that being-in-*energeia* is prior and superior to being-in-capacity. This claim is anticipated by the priority of active powers over passive. The two claims are not, of course, the same. Active and passive powers are situated in distinct objects (or, if in a single object, not as some single object). Being-in-capacity and being-in-*energeia* are typically conceived by Aristotle as stages in the development of a single object. Despite this, the claim about powers foreshadows the later claim. This is not simply because of a prejudice in favor of the active,

but because of the underlying arguments. The priority of active powers over passive derives from the relationship of these powers with one another in the changes that they bring about: it is the active power that determines not only how the change proceeds, but also what change takes place. This is because it is the active power that determines the end to which the change is directed. The passive power is merely a condition for the change taking place. In each case, the passive power is not only understood with reference to, but has its very being with reference to, the active power. Aristotle will argue that being-in-*energeia*, like active powers, is specially connected with ends, both the ends towards which changes are directed and the ends for the sake of which things have being. Being-in-capacity not only is understood with reference to being-in-*energeia*, it is also posterior in being to being-in-*energeia*.

In another way, the view of the world advanced in the opening chapter of *Metaphysics* will be reversed by the subsequent argument. Set aside the relationship between active and passive powers. Focus instead on the relationship between powers and the exercise of powers. It would seem, at this stage, that the powers have priority over their exercise. For, when a change occurs, it is possible that it occur because of the relevant power. When a housebuilder builds a house, it is in virtue of his art that he can do so. The power (the art) is the explanatory basis for the action. But Aristotle will go on to reverse this intuition, arguing that it is being-in-*energeia*, not being-in-capacity, that is in every case and in every way primary.

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Rational Powers (Theta 2)

The second chapter of Book Theta focuses on a certain important class of powers: those that consist in rational comprehension. I will call these *rational powers*. Such powers include the art of housebuilding and medicine.

This characterization of rational powers is remarkably strong. A rational power does not merely require, or partly consist in, rational comprehension, but is rational comprehension. Of course, in order to act on one's rational comprehension, one needs a body that can do certain things. Even if the artisan does not do the things himself, and tells others to do them instead, they need some means of communication. But, as we will see, Aristotle's conception relegates these requirements to necessary conditions for the exercise of a power, not for having the power.

Rational powers are important to Aristotle for at least two reasons. The more important is a problem that rational powers present. On the one hand, Aristotle assumes that every power is for the sake of an end. On the other hand, he thinks that rational powers are necessarily powers to bring about either of *two opposite* results, and it would seem that neither result can be the end. Aristotle explains how rational powers do not, in fact, present the problem they seem to. The two results associated with a given rational power are not on a par.

Aristotle also wants to show that *no* power is, as such, sufficient to bring about any change. Powers function only in certain given circumstances. Later, in chapter 5, he gives precise criteria for when powers operate, and these also, implicitly, serve as a criteria for when something has a power. But rational powers require separate criteria of their own. The discussion in Theta 2 is essential preparation for the later discussion in Theta 5.

Although Aristotle has already used housebuilding and medicine as examples of powers,¹ he begins chapter 2 by arguing that certain powers consist in rational comprehension (§4.1). He then argues that while non-rational powers are powers to bring about one result and not also its opposite (§4.2), rational powers are powers to bring about two opposite results (§4.3). It will turn out that this claim about rational powers has to be refined in an important way (§4.3.4): rational powers are not indifferently powers to produce both something and its opposite. Rather, each rational power has a special orientation

¹ Housebuilding is mentioned in Θ .1, and medicine in Δ .12.

towards one of its two results. But the rational power to produce that result necessarily is the power to produce its opposite as well.

4.1 SETTING THE STAGE

Aristotle opens the discussion by situating rational powers in a broader context:

Since some such principles belong to inanimate things, and others to animate creatures, both in the soul and in that [part] of the soul that has reason, it is clear that, of powers too, some will be non-rational and others with reason. This is why all the arts and the productive sciences are powers: because they are principles of change in another thing or as another thing. (Θ.2 1046a36–b4)²

We begin by considering “such principles,” meaning capacities connected with change. But Aristotle is clearly thinking not of powers generally, but of powers in the primary sense: active powers. These are then divided into two classes: those that belong to inanimate things and those that belong to animate creatures (as such). The latter class is then divided into two further classes: those that belong to a soul (in general) and those that belong to that part of the soul that has reason.

Examples of powers are: the powers to heat, to cool, to moisten; to light on fire, to dissolve, to freeze, to moisten, to melt. Examples of powers of animate creatures are: to push, to pull, to tear, to sting, to build a dam. Examples of powers that belong to the rational part of the soul are: the arts of housebuilding, medicine, politics, household management, and navigation. These bodies of knowledge, Aristotle points out, meet the definition of active power given in Theta 1 (1046a–11).

Not that Aristotle has to prove that arts are powers. This seems to have been taken for granted. In the *Sophist*, the Eleatic Visitor presupposes, as if it were perfectly natural, that all arts are powers, but not *vice versa* (219a). No one objects. In the *Gorgias*, Socrates and Gorgias discuss the question what rhetoric is, on the assumption (introduced by Socrates) that to say what rhetoric is, is to say what its power is.³

One might interpret the phrase “powers with reason” in several ways: the powers in question are rational; they belong only to creatures that have reason. When such a power is exercised, the agent has a reason why he performs

² Ἐπεὶ δ' αἱ μὲν ἐν τοῖς ἀψύχοις ἐνυπάρχουσιν ἀρχαὶ τοιαῦται, αἱ δ' ἐν τοῖς ἐμψύχοις καὶ ἐν ψυχῇ καὶ τῆς ψυχῆς ἐν τῷ λόγον ἔχοντι, ὁρῶντες ὅτι καὶ τῶν δυνάμεων αἱ μὲν ἔσσονται ἀλογοὶ αἱ δὲ μετὰ λόγου· διὸ πᾶσαι αἱ τέχναι καὶ αἱ ποιητικαὶ ἐπιστῆμαι δυνάμεις εἰσὶν· ἀρχαὶ γὰρ μεταβλητικαὶ εἰσιν ἐν ἄλλῳ ἢ ἢ ἄλλο.

³ The idea first comes in at 447b–c. See also 452e, 455d, 456a, 457b (in this last passage, *dunamis* and *tekhnē* are linked by an epexegetic *kai*).

each of the actions that constitute the exercise of the power. Aristotle explains that “the science is a power *by* having an account” (Θ.2 1046b16–17).⁴ That is, in the case of a power “with reason,” it is *in virtue of* one’s reasoned understanding that one is able to do something.

Not everything that a person learns counts as a power in this sense. One can learn more or less isolated facts, such as, say, the way from Athens to Larissa. One does not thereby acquire the systematic and explanatory comprehension that is necessary for knowledge, even in the sense of an art (*tekhnē*). And some systematic bodies of knowledge are not principles of *change*. Geometry is not the knowledge of how to bring about certain changes. Of course, geometry might be exploited for such purposes. There is an ancient story about Archimedes, who supposedly used his understanding of conic sections to construct parabolic mirrors that focused sunlight on Roman ships and set them on fire. But such an exploitation of geometry is neither what the knowledge is *of* nor what the knowledge is *for*. The exercise of geometry consists simply in understanding the shapes with which one is confronted.⁵

Clearly, all rational powers are powers in the rational part of the soul. Is the converse also true? Are *all* powers of the rational part of the soul rational powers? This turns out to be a delicate question. One might think the answer is no, for the following reason: it is in virtue of the rational part of the soul that we acquire rational powers. Thus the rational part of the soul must have some power (perhaps a quite general power to achieve rational comprehension) that does not itself consist in rational comprehension. Rather, it is what makes rational comprehension possible for its possessor.

However, another view is available, which probably better represents Aristotle’s views. Aristotle does not think that human beings are born with a soul that is rational in *energeia*. Rather, a human being, if all goes well, achieves rationality in the course of its life. And it seems that this rationality is not empty: it consists in understanding the world to some extent. On this interpretation, the rational part of the soul consists, through and through, of a rational grasp of the way the world is, some of it practical and some of it

⁴ ἡ δ’ ἐπιστήμη δύναμις τῷ λόγον ἔχειν. Cf. Θ.5, 1048a13: τὸ δυνατόν κατὰ λόγον ἅπαν.

⁵ Practical wisdom (*phronēsis*) presents special difficulties. On the one hand, it is a body of systematic practical knowledge. On the other hand, it is not other-directed in the way that is characteristic of powers. First, it seems first and foremost to be a power of living one’s own life. Yet it also seems essentially concerned with bringing about certain changes outside the agent (e.g., in acting justly, one brings about just states of affairs). Second, the exercise of practical wisdom, i.e., the performing of virtuous actions, is valuable for its own sake and, to that extent, has its end in itself. But there is also reason to think that the end is something over and above the action. The point of a generous action, for instance, would seem to be that the recipient of generosity is better off, and the action has failed if that is not the case. I think these difficulties are very complex, and I will not explore them further here.

theoretical. The rational part of the soul is not the seat of some rational but contentless power to understand.⁶ On this view, not only all rational powers are in the rational part of the soul, but also all powers in the rational part of the soul are rational powers—powers that consist in some sort of understanding.

Some powers seem to be hybrids, which consist only partly in rational comprehension. Flute playing is listed, at the beginning of Theta 5, as a power acquired by habit, rather than by learning. It appears, then, that the power thus acquired does not consist merely in rational comprehension. And this is plausible. A flute player might be able to give an excellent account of why he moves his fingers as he does; but his virtuoso playing requires not only this account, but a certain habituation of the hands. On the other hand, habituation of the hands is not sufficient. No degree of manual dexterity will enable a human being to play *music*, unless he also has some understanding of how the notes compose a melody.

The important divide is not, as one might have expected, that between the inanimate and animate powers, but rather that between the non-rational and rational powers. Aristotle argues that rational powers are “of opposites,” meaning that they are powers both to produce something and its opposite, whereas the non-rational powers are powers for only one thing:

All powers with reason are the same of opposites, but non-rational powers are one of one. For instance, something hot only heats, whereas medicine is [able to bring about] disease and health. (Θ.2 1046b4–7)⁷

Every power is suited to bring about a certain result. Non-rational powers are suited to bring about only one result, whereas rational powers are suited to bring about either of two opposite results.

In advancing these claims, Aristotle is taking up a theme from Plato. Famously, Socrates argues that “the just person has turned out then, it seems to be a kind of thief,” on the assumption that justice is a certain art, namely the art of guarding money (*Republic* I, 333e–334a, trans. Reeve in Cooper). Socrates’ argument relied on precisely the claim about arts that Aristotle here advances about rational powers. A similar, but broader claim, is the crux of the argument of the *Hippias Minor* as a whole. Socrates there argues that knowledge constitutes a power (*dunamis*) both to say the truth and to deceive (366c–368a). He goes on to make corresponding claims about running, wrestling,

⁶ See *Posterior Analytics* II.19 and *de Generatione Animalium* II.3, 736b27–9, for some (disputable) evidence that this is Aristotle’s view. See Frede’s introduction to *Rationality in Greek Thought* [42] for further discussion of these issues in Aristotle and other Greek philosophers, as well as the essays collected in that volume.

⁷ καὶ αἱ μὲν μετὰ λόγου πᾶσαι τῶν ἐναντίων αἱ αὐταί, αἱ δὲ ἄλλοι μίᾳ ἐνός, οἷον τὸ θερμὸν τοῦ θερμαίνειν μόνον ἢ δὲ ἰατρικὴ νόσου καὶ ὑγείας. Throughout chapters 2 and 5, Aristotle uses genitives to indicate what a power is a power to bring about.

and “other physical activities” (373b–374b). A related view is also found in Aristotle’s own work at *Rhetoric* I.1, 1355b3–7.⁸

Thus Plato, at least sometimes (e.g., in the *Hippias Minor*), seems to think that all powers are of opposites. There is no indication that Aristotle is tempted by this view. He consistently insists that only rational powers can be exercised so as to bring about either of two opposite results. There are two claims here, which we should distinguish and discuss separately:

A non-rational power is a power to bring about only one result.

A rational power is a power to bring about either of two opposite results.

It is the latter claim to which Aristotle devotes his attention in *Metaphysics* Theta. He takes the former for granted. We, however, are not inclined to accept it so readily. It is worthwhile to consider it, if only cursorily, both in order to understand it on its own terms, and in order to understand the contrast between rational and non-rational powers.

4.2 ONE OF ONE: NON-RATIONAL POWERS

Powers are specified in terms of what they are powers to bring about: for instance, the power *to heat*. One might therefore think that one can easily tell which powers are identical by what they are powers to do. For instance, the power to heat is surely not the same as the power to cool. They are powers to do different things. On the other hand, if warming and heating are the same, then the power to heat and the power to warm are the same.

This cannot, however, be Aristotle’s way of thinking about powers. If it were, it would follow trivially that, for every pair of powers, those powers are the same if and only if they are the power to do the same thing. Yet Aristotle very clearly claims that there can be one and the same power to bring about distinct results. For arts are powers to bring about distinct—indeed, opposite—results.

Aristotle seems rather to be thinking of a formula such as ‘the power to heat’ as picking out the property of the thing in virtue of which it can heat, whatever property that may happen to be. The property in question might turn out to be identical with the power to do some quite different thing. As far as the logic of the phrase ‘the power to heat’ is concerned, the power to heat may well be identical with the power to train a dog to fetch. The phrase,

⁸ It is interesting, given that flute-playing does not fit neatly into Aristotle’s scheme, that Plato waffles about whether flute playing is an art. Usually, he treats it as an art: *Hippias Minor* 375b7–c3, *Republic* 601d10, *Meno* 90e1–3, *Protagoras* 323a7–9. But at *Gorgias* 501e1–3 (and context), flute playing is denied to be an art, on the grounds that it “merely aims at giving us pleasure without giving thought to anything else” (trans. Zeyl in Cooper). On knowledge of opposites, see also *Phaedo* 98d3–5.

‘power to heat,’ picks out different powers in different cases. For instance, a hot stone heats water by being itself hot. Its heat is its power to heat. A doctor, by contrast, has the power to heat a patient by rubbing. This is a different power. It engages, for instance, with different passive powers. The stone, in virtue of its own heat, can heat air, whereas the doctor cannot heat air by rubbing.

Thus there is a significant difference between the formulae ‘what can heat’ (τὸ θερμαντικόν) and ‘what is hot’ (τὸ θερμόν), even when they are used as if they were interchangeable.⁹ The phrase, ‘what can heat,’ does not specify the property that constitutes the thing’s power to heat. ‘What is hot,’ by contrast, gives a robust characterization of the power to heat: it consists in being hot. When hot stones heat water, it is because the stones are themselves hot that they can make the water hot. The stones’ power consists in their own heat.

Aristotle takes this as the model for his general view about what the agent in a change must be like: when an agent acts to change a patient, the agent imposes on the patient a form that the agent already possesses. In the most straightforward case, an agent possesses the form *F* by being *F*. And when such an agent acts on a patient, the agent makes the patient like itself: hot stones make water hot. But there are also other ways of possessing the form *F*. An artisan has the form *F* in the sense that he has a rational grasp of it. For instance, a housebuilder has the form of a house in his soul, and he imposes it on the materials for a house, but a housebuilder is not a house.

This language echoes the language of Plato’s *Phaedo*, where the antecedent of this view is to be found. In the course of the dialogue, Socrates articulates some quite general problems concerning explanation. One of those problems is that the point of citing a cause is to explain why this effect came about rather than any other: why the water became *hot* (not cold, or blue). The stones in the water cannot themselves be the cause of the water’s being hot. For stones in water do not necessarily heat the water, and might do something quite different to water, or nothing at all. Socrates proposes a “safe but simple-minded” approach to explanation—an approach that is to be supplemented in some yet to be determined way (100b–e). The safe and simple-minded way to explain something’s being *F* is this: whatever is *F* is *F* because of “the *F* itself on its own.” This item is supposed to be *F* without qualification; this means that it is always *F* and never not *F*, and that it is *F* in a way that is not derivative from anything else. In the case of the hot stones in water, for instance, it is the hot itself on its own that makes the water hot. The

⁹ ‘What is hot’ is used as an equivalent for ‘what can heat’ at 1046b6: αἱ δὲ ἄλλοι μίαν ἑνός, οἷον τὸ θερμόν τοῦ θερμαίνειν μόνον ἢ δὲ ἰατρικὴ νόσου καὶ ὑγιείας. ‘What is hot’ is often used by Aristotle, when he is not speaking about powers, simply to pick out what is hot by contrast with what is cold.

hot itself on its own is something that is always hot, is never not hot, and whose being hot (unlike the stones' being hot) is not derivative from anything else.

We can see why Socrates (and Plato) would think that such an item addresses the problem: such an item could never make anything be any way other than like itself. The hot itself on its own could never make anything cold, or tall, or two. We can also see how Socrates (and Plato) could think that it makes sense to extend this idea to that of a form-bearer, as Socrates does later in the conversation (102d–3a).¹⁰ Snow, for instance, bears the cold itself. While snow is not the cold itself on its own, snow always necessarily brings with it the cold itself on its own. Where the cold itself is driven out, snow too is driven out or destroyed.

Aristotle takes over from Plato the idea that whatever is made to be *F* has to be made *F* by something that itself already 'has' the form *F*. This is clear from the discussion of coming into being throughout *Metaphysics* Z.7–9 and in Λ.4. In both discussions, change of all kinds is insistently presented as the transference of a form from the agent to the patient.¹¹

Against this background, we can understand why, in the simplest cases, non-rational powers bring about only one result. Let us consider such a case: the hot stones in water. The stones are able to heat the water because they are themselves hot (and the water is cold). Now such a stone may well also be able to cool (for instance, it may have one hot part and one cold part). But even if this is true, it is clearly not in virtue of its power to heat that such a stone is also able to cool. In simple cases like this one, an agent is able to make things *F* by itself being *F*. The agent may be also be able to make things not-*F*. But it will never be in virtue of its *F*-ness that the thing can make something not-*F*. For it will make things not-*F* in virtue of lacking the form of *F*, that is, in virtue of being not-*F*.

It is tempting to object by concocting a counterexample. Say, an air conditioner powered by something hot. Perhaps the hot thing produces steam, which turns a turbine, which in turn produces the electricity that powers the air conditioner. In such a case, it seems that something *F* (hot) makes something else (the air in the room) not-*F* (cold). Of this case, Aristotle would say that the air conditioner, not the hot steam, cools the room. It is important

¹⁰ 'Form-bearer' does not translate any particular term in Plato's Greek. It is a neutral term, intended to capture the relationship between perceptible things and forms, while not introducing any philosophically laden terminology, such as 'essence.'

¹¹ See, for instance, the claim, "a human being generates a human being" (Z.7 1032a25; ἀνθρώπος γὰρ ἀνθρώπον γεννᾷ); or "all those things whose form is in the soul [of a craftsman] come into being from art" (Z.7 1032a32–b1; ἀπὸ τέχνης δὲ γίγνεται ὅσων τὸ εἶδος ἐν τῇ ψυχῇ). The claim about medicine in particular follows, at 1032b5–6. Cf. the closing claim of Λ.4 that medicine in a way *is* health and the art of building in a way *is* the form of a house (1070b33). It is crucial that Aristotle is here maintaining this claim not only about natural objects, but about all cases of coming into being.

to appreciate that Aristotle takes the language of inanimate agency very seriously. When one speaks of a stone or an air conditioner doing something, this is not metaphorical. Thus Aristotle does not deny that there are courses of events in which something is made to be not-*F* by a chain of causes that includes something *F*. What he claims is that, in such a case, the exercise of a thing's (non-rational) power to make things *F* does nothing but make things *F*. This leaves open the possibility that, in special circumstances, the agent's *F*-making action leads to things being not-*F*. The agent's action is not for that reason properly described as 'making something not-*F*,'¹ and the agent's power is not a power to make things not-*F*.

So much for the straightforward cases, in which an agent makes something *F* by itself being *F*. There are less straightforward cases as well: sand is fused into glass by a lightning bolt, birds make nests, a machine heats by rubbing (rather than by transferring its own heat), a transparent acid turns litmus paper red. In none of these cases are things made *F* by something that is itself *F*—or at least, if the agent is *F*, it is not in virtue of the agent's being *F* that it makes the patient *F*. Nevertheless, Aristotle would have us understand the causal process in each case as a transference of a form from the agent to the patient.

There is much more to say about this than can be said here. However, it is worth noting that Aristotle has available (at least) two strategies of response to these difficult cases. One strategy involves revising our understanding of the agent and its way of having the form in question; the other strategy involves revising our understanding of the form of the patient.

(1) In some cases, the agent does not have the relevant form *F* in the most straightforward way (i.e., by being *F*), but in some other way. The agent transfers a certain form to a patient by acting on the patient in such a way that this form is present in the action. We can adapt, I think, something that Aristotle says in *On the Generation of Animals*. He appears there, as in *Metaphysics* Theta, to be thinking of two cases only: the transference of a form *F* from something that is *F*, and the activity of an artisan. But we can see how his way of thinking about the transference of form can be extended to other cases:

The hot and the cold make the iron hard and soft, but the *sword* is made by the tools' movement, which contains a definition belonging to the art. For the art is source and form of the product, but in another thing. But the movement of nature is in the thing itself, being derived from another nature which contains the form actively.

(GA II.1, 734b37–735a4)¹²

¹² Balme translation, modified. σκληρὸν μὲν γὰρ καὶ μαλακὸν τὸν σίδηρον ποιεῖ τὸ θερμὸν καὶ τὸ ψυχρὸν, ἀλλὰ ξίφος ἡ κίνησις ἡ τῶν ὀργάνων ἔχουσα λόγον [τὸν] τῆς τέχνης. ἡ γὰρ τέχνη ἀρχὴ καὶ εἶδος τοῦ γιγνομένου, ἀλλ' ἐν ἑτέρῳ: ἡ δὲ τῆς φύσεως κίνησις ἐν αὐτῷ ὡς ἑτέρας οὕσα φύσεως τῆς ἐχούσης τὸ εἶδος ἐνεργεία.

The artisan imposes the relevant form on an object through motions that themselves also embody the form. The seed imposes the form on the menses in the same way. The relevant motions occur, and occur in just the way they occur, because of *what* the object that is coming into being is. As a sword comes into being, the smith's hammer moves in such a way as to create a long, narrow, flat piece of metal. This goal is reflected in the way the hammer starts and stops, in the angle at which it strikes the metal, how long it goes on striking at a particular point, and so forth. An onlooker, especially an expert onlooker, need not ask a smith what he is making in order to see that it will turn out to be a sword.

Similarly, a bird imposes the form of a nest—a form that it somehow ‘has’—on a mass of sticks and grass. We can see that its activity is form-imposing just as we saw that the smith's activity was form-imposing. Likewise, a machine that produces heat by rubbing will impose a form (heat) through its motions. The form is also, according to Aristotle, present in the motions. It is then a small step to the idea that the form is also present in the structure of the machine—the very structure in virtue of which it moves so as to heat.

One would like to know a lot more about how cases like this work.¹³ For instance, one would like to understand better in what sense the bird has the form of a nest. Clearly, the bird has it neither in the sense in which the nest will have it, nor in the sense in which a human artisan has a form. A bird's possession of the form of nest differs from a human housebuilder's possession of the form of house precisely in that a bird is *not* able to destroy nests in virtue of its power to build nests. The human housebuilder, on the other hand, according to Aristotle, is qualified to destroy houses.

(2) Lightning strikes a beach, fusing some sand into glass. The lightning is not glass, and it is extremely difficult to see any extended sense in which the lightning could be thought of as having the form of glass. This process is more complex than the other processes we have been considering. In some sense, it is true that the lightning makes the sand into glass. But, strictly speaking, for Aristotle, the lightning only heats the sand. It is a case of what he calls, in *Physics* II.5 (197a23–9), incidental causation (although it is not a chance event). Because the lightning's activity is directed towards heating, and not towards glass production, the proper description of the lightning's action is ‘heating,’ not ‘glass-making.’ The production of the glass lacks a proper cause. Even though something acted in such a way that glass was produced, there was nothing that acted *so as to produce glass*. This is not a full explanation of the transformation of sand into glass. A full explanation would say why sand, when heated in a certain way, becomes glass. But we

¹³ I discuss them to some extent in §7.3 on page 146.

were not trying to explain this fact, but to explain, in Aristotle's terms, the sense in which the lightning's transforming the sand into glass was a case of form-transference. It is enough, for this defense, simply to point out that, accord to Aristotle, strictly speaking, the lightning's activity is one of heating, not of turning something into glass.

I hope these considerations are sufficient to make plausible and interesting Aristotle's view that causation is, in every case, a kind of transference of form. We can see, moreover, why this general view of coming into being warrants his conclusion about non-rational powers. When something is able to make something *F*, it does so by imposing the form of *F*, a form that it itself somehow has. In the most straightforward case, the agent has the form *F* by being itself *F*. In less straightforward cases, the agent, without being *F*, has the form *F* in some extended sense, as a housebuilder has the form of house. In all cases, it is the form *F* that is the active principle. It imposes itself, through the agency of its bearer, on the patient. But the form *F* cannot itself, through its own activity, make something not-*F*. Indeed, the point of this theory of change, as introduced by Socrates in the *Phaedo*, was to rule out precisely such mismatches between cause and effect.¹⁴ Against this background assumption about causation in general, Aristotle introduces his claim that arts are powers to bring about two opposite results.

4.3 ONE OF TWO: RATIONAL POWERS

Rational powers are arts. They consist in the systematic rational comprehension of some object or property. This systematic understanding is itself an account (*logos*) of what the art brings about, and this account constitutes a single power to bring about either of two results. It is not that two powers are constituted by a single account.¹⁵ The passage in which Aristotle argues for this is somewhat complicated and slightly repetitive. It falls into two main parts: first an argument that the knowledge in question is of opposites, and second an argument that such knowledge must, in a soul, issue in a power to bring about both opposites:

¹⁴ Cf. my brief remarks on the *Phaedo*, p. 74 ff.

¹⁵ Why not interpret Aristotle as saying that one account constitutes two powers? In chapter 5, he will argue that "something else is in control" of rational powers. For the argument there to make sense, something else has to be in control of some *single* principle of change. The problem under consideration is that a single principle of change can bring about either of two opposite changes. If someone were to insist that there is one principle (*arkhē*) but two powers (*dunameis*), then he is simply using the term 'power' in a way that is irrelevant to Aristotle. (A way, I might add, whose point is rather difficult to discern.)

(1) The reason [why rational powers are of opposites] is that (a) knowledge¹⁶ is an account, and (b) the same account illuminates both the thing and its lack, although not in the same way. It is in a way of both, but in a way more of what is positively present. Hence such knowledge is necessarily of opposites, but it is in its own right knowledge of the one, whereas it is not in its own right of the other. For the account is in its own right of the one, whereas it is of the other only in a certain way, i.e., incidentally. (c) For it is by denial and removal that it illuminates the opposite. For the lack, in its primary sense, is the opposite, and this is the removal of the other.

(2) Since (a) opposites do not come to be in the same, but (b) the knowledge in question is a power by having an account, and (c) the soul has a principle for causing change, it follows that (d) although the healthy produces only health and what can heat only heat and what can cool only cold, the knower produces both. For the account is of both, but not in the same way, and it is in the soul, which has a principle for causing change. (e) Therefore, from the same principle [*sc.* soul], it will produce both changes, drawing inferences in relation to the same thing. This is why things that are able in virtue of an account produce things opposite to the things that are able without an account. For the opposites are encompassed by a single principle, namely by the account. (Θ.2 1046b7–24)¹⁷

The argument has three important steps. First, Aristotle claims that the account of one member of a pair of opposites is an account of the other (§4.3.1). Then, he argues that productive knowledge of one member of a pair of opposites is also productive knowledge of the other (§4.3.2). Finally, he concludes that someone who is able to produce one member of a pair of opposites is able to produce the other (§4.3.3). He then qualifies this conclusion by saying that, nevertheless, the arts do all have intrinsic orientations (§4.3.4).

¹⁶ It is worth noting that Aristotle here describes an art (τέχνη) as knowledge or science (ἐπιστήμη). This shows that he doesn't always use these terms to mark the technical distinction he draws sometimes between them, most famously in *Nicomachean Ethics* VI.3–4. In general, one should not assume that Aristotle *always* uses a term to mark a certain distinction, even if the term in question is an important *terminus technicus* in certain contexts. He is, of course, ready to develop and use technical philosophical vocabulary, but that does not mean that he has, or even aspires to have, a battery of fixed technical terms to be deployed in the same way in all contexts.

¹⁷ (1) αἴτιον δὲ ὅτι (a) λόγος ἐστὶν ἡ ἐπιστήμη, (b) ὁ δὲ λόγος ὁ αὐτὸς δηλοῖ τὸ πρᾶγμα καὶ τὴν στέρησιν, πλὴν οὐχ ὡσαύτως, καὶ ἔστιν ὡς ἀμφοῖν ἔστι δ' ὡς τοῦ ὑπάρχοντος μᾶλλον, ὥστ' ἀνάγκη καὶ τὰς τοιαύτας ἐπιστήμης εἶναι μὲν τῶν ἐναντίων, εἶναι δὲ τοῦ μὲν καθ' αὐτάς τοῦ δὲ μὴ καθ' αὐτάς· καὶ γὰρ ὁ λόγος τοῦ μὲν καθ' αὐτὸ τοῦ δὲ τρόπον τινὰ κατὰ συμβεβηκός· (c) ἀποφάσει γὰρ καὶ ἀποφορᾷ δηλοῖ τὸ ἐναντίον· ἡ γὰρ στέρησις ἡ πρώτη τὸ ἐναντίον, αὕτη δὲ ἀποφορὰ θεατέρου. (2) ἐπεὶ δὲ (a) τὰ ἐναντία οὐκ ἐγγίγνεται ἐν τῷ αὐτῷ (b) ἡ δ' ἐπιστήμη δύναμις τῷ λόγον ἔχειν, καὶ (c) ἡ ψυχὴ κινήσεως ἔχει ἀρχήν, (d) τὸ μὲν ὑγιεινὸν ὑγίειαν μόνον ποιεῖ καὶ τὸ θερμαντικὸν θερμότητα καὶ τὸ ψυκτικὸν ψυχρότητα, ὁ δ' ἐπιστήμων ἄμφω. λόγος γὰρ ἐστὶν ἀμφοῖν μὲν, οὐχ ὁμοίως δέ, καὶ ἐν ψυχῇ ἥ ἔχει κινήσεως ἀρχήν· (e) ὥστε ἄμφω ἀπὸ τῆς αὐτῆς ἀρχῆς κινήσει πρὸς ταῦτ' ἀνάψασα· διὸ τὰ κατὰ λόγον δυνατὰ τοῖς ἄνευ λόγου δυνατοῖς ποιεῖ τάναντία· μιᾷ γὰρ ἀρχῇ περιέχεται, τῷ λόγῳ.

4.3.1 Accounts

The argument that knowledge is of opposites begins with the claim that knowledge is an account (1a). Aristotle conceives of the art of bringing about *F* as consisting in a rational grasp of what it is to be *F*. For instance, the art of medicine consists in a rational grasp of what it is to be healthy.¹⁸

Obviously, a person who has the art of housebuilding needs to know a great deal that, we might reasonably think, is not involved in knowing ‘merely’ what a house is: all of us who have any familiarity at all with houses know a lot about houses, including both what they are and what they are for, and yet we would need to know a lot more in order to be expert at building houses. In speaking here of knowledge, Aristotle has in mind something much more stringent than the results of ordinary experience with the objects known, even when those results are reflectively organized.

But one might think that even a properly scientific account, one that meets stringent criteria for knowledge, does not enable someone to build a house. An expert in the art of household management presumably has expert knowledge of houses. An expert household manager must understand in detail and with full precision how the house plays its role in the household. One would think that this constitutes a scientific grasp of what it is to be a house. However, household managers do not normally know how to build a house. This seems to show that grasping what it is to be a house is not sufficient for being a housebuilder.

The solution is to see that there are different ways to grasp what it is to be a house. There is a way of grasping the form of the house that is also grasping the matter. This is not to say that grasping the form, in every case, requires grasping the matter. It may well be that one can grasp the form without the matter. But there must be a way of grasping the form that involves grasping the matter—so that understanding the matter does not count as something in addition to understanding the form.¹⁹

When Aristotle claims that the art of housebuilding is an account of what it is to be a house, the point is not to erase all differences between various good claims to grasp what it is to be a house. Rather, his claim is that the content of the knowledge of how to build a house does not go beyond what it is to be a

¹⁸ For evidence that medicine is the rational grasp of *what it is to be healthy*, see the passages on page 75 n. 11 above.

¹⁹ David Charles argues, in *Aristotle on Meaning and Essence*, that there is no single canonical form for definitions. Some definitions make reference to matter and some do not [31, §8.5]. Charles does not discuss the identification of arts with accounts. But if he is correct, then it may be that various experts about some object all grasp the essence of that object, and yet the very content of their knowledge is different, since they grasp the essence through distinct definitions. If so, there is a firm theoretical basis, in Aristotle’s own thought, for differently qualified experts grasping the essence of the same kind in different ways.

house. This is not to claim that just any grasp of what it is to be a house makes someone a housebuilder, but that there is *some* way of grasping what it is to be a house that is sufficient for being a housebuilder. The housebuilder grasps the form of house in a way specially connected with the material conditions of its realization. Anyone with any kind of grasp of the form of house knows that houses are to have roofs that do not collapse because of the normal motions of the house's inhabitants. But housebuilders, by contrast with others, know what it takes for a roof to be held up in a way that achieves this result.²⁰

However, even this more modest claim might seem highly implausible. We are inclined to think that even the most refined and scientific account of what a house is, no matter how it is grasped, would not enable someone to build a house. On prevailing modern views, possessing knowledge of the form of a house is quite independent of knowledge of the material conditions of the constitution, and so also for the construction, of a house.²¹ The matter for something can be understood, as such, without any reference to the composite of which it is or could be a component. If one thinks that the matter for (say) a house can be fully characterized and understood without any reference to houses, then Aristotle's view of housebuilding is implausible. For then one would think that the rational grasp of the conditions under which one can make a house is something over and above the grasp of what a house is. One must know, in addition to what a house is, facts about earth, stones, bricks, and wood, and perhaps also about soil, erosion, temperature changes, and weather. Learning how to build a house involves learning certain things about houses, but it also involves learning about things other than houses.

²⁰ The definition of art in *Nicomachean Ethics* VI.4 (1140a20–1) identifies art not with an account, but with a disposition (*hexis*) accompanied by an account. It is not easy to say whether this is the same as the understanding consistently espoused in the *Metaphysics* (in the passages cited on page 75 n.11). Prima facie, the two views seem different. The *Ethics* does not call the arts powers, and it says that the arts are states accompanied by, but not identical, with accounts.

However, there are prospects for substantially reconciling the two ways of talking about arts. A power that is acquired by a rational agent through practice is presumably a disposition (*hexis*). And while the *Metaphysics* identifies these powers with certain accounts, it also, like the *Ethics*, says that they are “with” accounts. It is not unreasonable to think that these two locutions come to the same thing. Aristotle has reason to say that the powers or dispositions (*hexeis*) in question are *with* accounts, insofar as he focuses on the art as a kind of power or state, and contrasts with others in terms of its rational character. But, insofar as he emphasizes the conformity of arts to his general understanding of causation, he has reason to identify them with accounts, since grasping an account is having a form. One can then easily see why the former would be emphasized in the *Ethics*, the latter in the *Metaphysics*.

²¹ This is so, I presume, even according to such self-described Aristotelian hylomorphists as Kit Fine. Fine nowhere (to my knowledge) discusses expert productive knowledge. However, he endorses a view of matter on which the matter is independent of form in precisely the way that, as I suggest below, is incompatible with Aristotle's view. See, for instance, [37] and [38].

If we attributed this view of matter and form to Aristotle, then his view of expert productive knowledge would be incoherent. His view of expert productive knowledge thus constitutes, in its own right, a strong reason not to attribute this view of matter and form to Aristotle.²² Instead, we should understand Aristotle to be saying that an artisan, in grasping the matter, is not grasping something in addition to the form. This is why it is possible for a housebuilder to grasp the form in such a way that he also grasps how to build a house: in grasping the form, he also grasps that the form is such as to be realized in, and only in, matter of a certain type. For instance, he understands that a house needs a roof, and thus that the walls need to be able to support the roof, and thus that the walls need to be of a certain strength, and thus that they need to be of a material with certain properties.

4.3.2 Opposites

Having identified an art with an account (1a), Aristotle goes on to claim that the account in question is connected with both members of a pair of opposites (1b): “the same account illuminates both the thing and its lack.”²³ In the background is the idea that the knowledge and the account each have an object—and moreover the same object. Hence Aristotle can support his claim that the knowledge in question is of opposites by way of his claim that the account in question is of opposites.

A certain conception of opposites is in play. If F^+ and F^- are opposites, then F^+ is “a thing” (*pragma*) that is positively present (*huparkhein*) in things that are F^+ . There is something such that being F^+ consists in having it. By contrast, F^- is not “a thing.” It is not something that belongs to things that are F^- (except perhaps in an extended sense). Being F^- is not having anything at all, but rather *lacking* something—namely, lacking F^+ . This relationship between F^+ and F^- is one-way and real. It is not simply that we (perhaps for pragmatic reasons) select one member to play the positive role and one the

²² These considerations are related to ‘Ackrill’s problem’ (sketched by Ackrill in “Aristotle’s Definition of *Psuchê* [2], reprinted in [3]) but do not on their own have any consequences for it. According to Ackrill, “In order that the matter-form distinction should be clearly applicable to anything, that a thing should be capable of being seen as a composite of matter and form, it is necessary that the material constituent should be capable of being picked out” [3, p. 168]. “The problem with Aristotle’s application of the matter-form distinction to living things is that the body that is here the matter is itself ‘already’ necessarily living” [3, p. 169]. My claim concerns form, not matter. I am here claiming that there is a plurality of ways of grasping the form of an artifact, and that one way involves grasping the correlative matter. This is compatible with Ackrill’s view that, for Aristotle, the matter must be definable independent of the form and that this entails that it can exist without having the form.

²³ In *Metaphysics* Z.7 (1032b2–5), too, Aristotle says that, for a pair of opposites, there is only one account or form. In that context, however, he does not draw the conclusion that anyone who has the art is able to produce both results.

negative. If we thought of F^+ as the privation of F^- , we would be thinking falsely.

For example, white is something. One could give an account of what it is for something to be white (perhaps: causing the complete activity of the transparent).²⁴ The account says what something has to have to be white. By contrast, there is not anything such that to be black is to be *that*. To be black is to fail to be white—in the appropriate sense of failure.²⁵ A voice, for instance, fails to be black, but not in the appropriate way, since it is impossible that a voice be white. There is, correspondingly, no account of black over and above the denial of the account of being white.

This conception of opposites applies to qualitative opposites that fall at extreme ends of a continuum, such as black and white, hot and cold, wet and dry, light and heavy, hard and soft, high and low (pitch), and so on. Aristotle assumes that, in the nature of things, precisely one member of the pair is the positive member, such that to be it is for something to be present, and to be its opposite is for that very same thing to be absent.

This conception of opposites is exceedingly general, and also covers such cases as houses, although there does not seem to be any contrary to house. Aristotle himself famously maintained that it is characteristic of substance not to have an opposite (*Categories* 5 3b24–32). There are, of course, things that fail to be houses. Indeed, many things. But while a bright orange sofa is not a house, it is also not the opposite of a house, just as a voice, which fails to be white, is not the opposite of white, i.e., black. Is there something that fails to be a house in the way that a panther fails to be white? It seems that there is: the assembled and ready materials for building a house are suited to be a house. They have a nameless ‘property’ that is contrary to household.²⁶ To be black is to be such as to be white, while (completely) lacking whiteness. To be an un-house is to be such as to become a house, while (completely) lacking household.

One might object that, nevertheless, there are three crucial dissimilarities between (say) black/white and house/un-house. First, black and white are extremes of a continuum, whereas house and un-house do not seem to be. Second, being an un-house is a way of being disordered, and is thus indeterminate in a way that being black is not. Black is, after all, a perfectly definite

²⁴ A proposal one might infer from the account of transparency and color in *de Anima* II.7.

²⁵ In the quotation above (p. 79), Aristotle picks about the appropriate sense of failing to have an opposite by speaking of “lacking, in the primary sense” (ἡ στέρησις ἡ πρώτη).

²⁶ Aristotle recognizes such properties in at least two places: *Λ*.4, where the trio of form, privation, and matter for a house is given as εἶδος, ἀταξία τοιαυτή, πλὴνθι (1070b28–9); and *Physics* I.7 where ‘what is contrary’ (for a substance) (ἀντικείμενον) is characterized as τὴν μὲν ἀσχημοσύνην καὶ τὴν ἀμορφίαν καὶ τὴν ἀταξίαν (190b14–15).

color. Third, there are many objects of which it is true to say, 'It is black.' On the other hand, there is a sense in which there is nothing of which it is true to say, 'It is an un-house.' What lacks household (in the relevant way) lacks the very thing that could make it a unified object that bears properties.

What should Aristotle say to this? The third point is an interesting and correct observation, but not a difficulty. The first and second points are not quite correct.

Rightly understood, the opposite of household is more definite than the objector admits. The privation of household is, to be sure, highly indefinite; it covers ruined houses, heaps of bricks, heaps of straw, embankments, stars, and the color blue. However, being an un-house is not just any privation of household. In *Λ.4*, canvassing various trios of form, privation, and matter, Aristotle mentions, "form, a *certain sort* of disorder, bricks" as some of the principles relevant to the production of a house.²⁷ In the first place, not only the form but also the corresponding privation can exist *only* in the relevant sort of matter. No disorder obtaining in a heap of straw is the relevant sort of privation of household. Second, not just any disorder in bricks is *such* a disorder. What sort of disorder in bricks would fail to count as being an un-house? Suppose a dissolute brickmaker, charged with transporting bricks from Athens to Corinth, gets drunk before setting out. He loads the bricks onto his cart but neglects to secure them, and, in his stupor, he is unaware of them tumbling to the ground, little by little, along the way. The disorder that then obtains among the bricks, strewn from Athens to Corinth, is not the disorder of an un-house. The heap of bricks, that the brickmaker is supposed to deliver, would have had the right kind of disorder, opposed to the structure of a house; such a heap is an un-house.²⁸

²⁷ My emphasis. This remark was already quoted in n. 26 on the previous page, where the reader will find the Greek.

²⁸ Does Aristotle's later view contradict the view of the *Categories*? Only partly. In the passage from the *Categories* (5, 3b24–32), Aristotle claims that substance does not have an opposite. But this claim has to be understood in terms of the theory of substance in the *Categories*. According to that theory, there are both primary and secondary substances. Thus Aristotle is claiming two things: that primary substances—particular human beings such as Socrates—do not have opposites; and that secondary substances—the universal kinds, such as *human being*, to which particular substances belong—do not have opposites. There is at least some sense in which the latter claim is revised and refined in later works. But note that the idea of an un-house appears tantamount to the idea of the matter of a house. Thus it seems that the idea of a contrary to a substance relies on the notions of matter and form. And these notions are conspicuously absent from the *Categories*. Moreover, Aristotle presumably continues to hold, without any qualification, that a particular human being, *qua* the very particular it is, has no opposite: Socrates has no opposite, although his being human does. This follows from the assumption that there is no such thing as what it is to be this particular human being by contrast with all other (possible) human beings.

Moreover, I think Aristotle would probably say that the house and the un-house are at opposite ends of a continuum. The production of a house is the traversal of that continuum (just as becoming white is the traversing of the continuum from black to white). In this change, there are numerous degrees of partial household: when the walls and roof have been erected, but there is no ceiling, the materials are much closer to constituting a house than when they were in a heap.

Thus the difference between black/white and house/un-house is less than one might have thought.

What Aristotle here insists on is that productive knowledge is always knowledge of both members of a pair of opposites. Every art is suited to bring about some result, F^+ . Some objects are the opposite of F^+ . They are F^- . They are suited to be made F^+ but they are not F^+ . Since being F^- is just lacking what it is to be F^+ , in the way characteristic of what is suited to become F^+ , the account of being F^- is just the denial of the account of F^+ . As Aristotle puts it in the passage already quoted, "(1c) For it is by denial and removal that it [the account] illuminates the opposite. For the lack, in its primary sense, is the opposite, and this is the removal of the other." The lack (*sterēsis*) and removal (*apophora*) of the property correspond to the *denial* (*apophasis*) of the definition. Because nothing more than a denial is required to account for this sort of lack, anyone who has the account of F^+ has *eo ipso* the account of F^- . Or rather, it is not that the person has two distinct accounts (of F^+ and F^-) but that the person can do two things (affirming and denying) with one account (of F^+).

This allows us to make a further distinction that illuminates Aristotle's basic claim. He presumably does not mean that a housebuilder is capable of producing an un-house from mud and water. Brickmakers do that. Rather, the claim is that the housebuilder can impose the form of house and he can remove it. The power to remove the form of house is the power to produce an un-house *from a house* (or from something with some degree of household). It would be most misleading to describe the art of producing F^+ as the art of producing F^- . Especially in the case of substances, there may well be an art of producing F^- out of some kinds of stuff. And the art of producing F^+ is certainly not identical with that art. Rather, the art of producing F^+ enables an artisan, given something somewhere in the process of development from F^- to F^+ , to move that thing either further towards F^+ or to draw it back towards F^- .

(Aristotle argues for this claim in *Metaphysics* Z.15.) But it follows that there is no such thing as *lacking* what it is to be this particular human being. Hence there is, in a sense, an opposite to being human, although there is no opposite to any particular human being. (This leaves untouched the question of whether Aristotle's views about individual properties, e.g., individual white, are compatible with the view that it is distinctive of substance to be without an opposite. But this is an issue for all interpreters of the *Categories*.)

4.3.3 Soul

We have now elucidated paragraph (1) (from page 79). This paragraph focused on the relationship between three terms: the art, the account of the art's product, and the account of the opposite of the art's product. The art and the account of the art's product are, according to Aristotle, identical, while the account of the product's opposite is merely the denial of the account of the product.

But there is an additional paragraph of argument, which takes a crucial further step. We need to conclude that the rational power to produce one result necessarily brings with it the power to produce the opposite result. And the crucial link in this argument is the soul, as a principle of motion.

We should consider whether the claim is *prima facie* plausible. For many cases, at least, it is. A housebuilder understands what the crucial structural elements of a house are; and this presumably enables him to ruin the house with his expert knowledge. The housebuilder not only knows which elements play crucial structural roles. He also knows how the materials respond to certain conditions. For instance, he knows that an apparently innocuous, slow leak at a certain place will, in the long term, cause a beam to rot and give way. In building, he knows that he has to prevent such a leak, and, moreover, he knows how to do so by (say) plugging a hole with clay. But then he also knows that knocking out his clay plug will create a leak that will eventually result in the house's collapse. In short, the housebuilder can destroy houses *expertly*. He not only can bring it about that a house is no longer there (as a bulldozer operator can). He can do so slowly or quickly, conspicuously or inconspicuously. He knows the entire range of ways to destroy a house, and, in any particular case, he knows which ways are applicable to *this* house.

In some cases, it may also require expert knowledge to tell whether an article has been destroyed. For instance, it might not be clear to a non-expert whether a bridle that has been shortened in a certain way is still a usable bridle or not. The expert bridlemaker is qualified to tell (without trying to use the bridle), although others, even qualified riders, may well not be.

In short, Aristotle's basic claim is a plausible one. But what is the general argument for it? Aristotle presents it as follows:

(2) Since ... (b) the knowledge in question is a power by having an account, and (c) the soul has a principle for causing change, it follows that (d) ... the knower produces both [results]. For the account is of both, but not in the same way, and it is in the soul, which has a principle for causing change.

Soul then plays a crucial role as the mover that is conjoined with the account in question.

Because a soul is a source of change, an ensouled creature can produce something, the account of which it has in its soul. The account contains the

blueprint for changes; and a soul equips a living creature to move in various ways, including the ways that accord with the blueprint. Hence an ensouled creature can produce things that it has an account of (in the relevant sense of 'having an account'). But any creature that has an account of F^+ also has an account of F^- , since the latter account is simply the negation of the former account. Aristotle assumes that any soul capable of grasping an account is also capable of denying it, and this is surely correct. Thus any creature that has a rational power to produce something also has a rational power to produce its opposite.

One might object to the assumption that any creature that has an account of F^+ not only has the account of F^- , but has the account of F^- *in the same way* as the account of F^+ . It seems that someone might know the procedures for producing an F^+ , and that there might be procedures for producing an F^- , but that the procedures for producing an F^- are very different from those for producing an F^+ . So different, that grasping the account of an F^+ would not suffice for grasping the account of F^- *in the way* that an expert producer of F^- must grasp it.

But Aristotle claims not only that if a rational creature has the account of F^+ , then it also has the account of F^- . One and the same account illuminates (*dēloi*) both F^+ and F^- . There is only a single formula to be grasped. In the one case, it is affirmed, in the other, it is denied. It is impossible that the account of F^- not be grasped in the relevant way, because it simply *is* the (denied) account of F^+ . So, having the account of F^- is not a matter of having an additional account, over and above the account of F^+ but related to it in a certain way. Having the account of F^- is just a matter of denying the account of F^+ , and hence everyone who has the one account in a certain way has the other in the same way.

A further objection is that an art might have irreversible results. Once a result has been produced, there might be no way to eliminate it. For instance, if a doctor makes someone sick, the person might be irreversibly sick, so that they will inevitably die. Aristotle should simply accept this. He claims not that every artisan can in every case undo his own work, but rather that, to the extent that there is an art of removing some form, this art is identical with the art of imposing that very form. This is compatible with there being irreversible arts. It is also compatible with there being arts, other than the art of producing F^+ , that somehow undo or destroy F^+ : an art of bulldozer operation, for instance, might destroy houses, but it is not thereby the art of removing the form of house from the relevant materials.

The essential point is this: because a rational power consists of an account lodged in a rational soul, the soul can turn the account in either direction. Non-rational powers do not have a similar two-part structure. In a non-rational power, the only relevant motive principle is the form in question. For rational powers, by contrast, the guiding form is provided by the account, and the

motive force is independently provided by the soul. A non-rational power is like a stamping machine that consists of a single piece for moving and stamping. A rational power is like a stamping machine that consists of two parts, a stamp that can be reversed, and an engine that presses the stamp into the materials. The crucial difference between rational and non-rational powers is whether there is independence between the motive principle and the pattern for motion so that the pattern can be used in two ways.²⁹

One can now see how important it is for Aristotle that rational powers do not merely involve rational comprehension (along with other things) but simply consist in it. The rational comprehension is itself the guide for motion, and thus it is a guide that can be reversed, because it consists in an account and accounts can be denied. The reversibility of the arts depends, in the end, on the deniability of statements. But if something other than rational comprehension were also involved—e.g., certain habituated movements—then Aristotle could not argue that the power to produce F^+ is also the power to produce F^- . Aristotle would need perfectly general grounds to think that whatever can (say) make the movements for the production of F^+ can also make the movements for the production of F^- . This seems intuitively false. Aristotle does not attempt to give such general grounds, and it is very hard to see what they might be.³⁰

4.3.4 Orientation

In Theta 2, Aristotle quietly offers a solution to a problem that he inherited from Plato. Neither Plato nor Aristotle articulates the problem as such, but it is clearly present, albeit implicit, in the writings of both philosophers. And it is of special relevance to the program of *Metaphysics* Theta

The problem is this: each art is first and foremost the art of producing some one good.³¹ Yet each art also enables its producer to produce the opposite.³²

²⁹ Some powers present problems for this way of looking at things: all the characteristic powers of non-rational animals. Those powers are surely not rational, since the animals do not even have rational soul. On the other hand, those powers, too, seem to have a two-part structure, at least somewhat like rational powers. See §7.3 on page 146 for further discussion.

³⁰ For this reason, the conception of arts here in *Metaphysics* Theta cannot be the conception suggested by the formulations from the *Ethics* cited earlier, where an art is a *hexis together with an account*.

³¹ For the idea that an art aims not only at producing some product or other, but some good, see, e.g., Socrates' speech on the forms of art and forms of flattery at *Gorgias* 464b–466a; and the hierarchy of arts described in *Nicomachean Ethics* I.2, all of which serve the human good. At *Rhetoric* I.1 1355a39–b7, Aristotle seems to presuppose that rhetoric's standing as an art and rhetoric's standing as something good come together.

³² That Aristotle accepts this is clear from Θ .2. Plato's acceptance of this second claim is manifest from the passages cited in the last paragraph on page 72. In Plato, the tension between the two claims manifests itself in a tension between dialogues in

The second assumption is crucial to the rejection, by both Plato and Aristotle, of the idea that virtue is an art. But the former assumption is responsible for its seeming plausible in the first place that virtue is an art. Considerations about virtue aside, these two claims present a puzzle. On the one hand, each art seems to have a single end towards which it is intrinsically directed. On the other hand, an art seems to constitute a power to produce either that end or its opposite.

Characteristically, Aristotle solves the problem by accepting both views, making new distinctions that resolve the conflict between them. He accepts that, for any art, that art is the art of producing some positive member of a pair of opposites, some F^+ . The art also constitutes the power to produce F^- . But the art is not for that reason equally the art of producing F^- . While there is only one underlying art, and only one underlying account, the account is, in the first instance, of the positive pole, F^+ , and only secondarily of the negative pole, F^- . The reason for this is that the account is of F^- only in the sense that the account of F^+ is denied of any F^- . And thus the account is *per se* of the positive pole, and only incidentally of the negative:

... (1b) the same account illuminates both the thing and its lack, although not in the same way. It is in a way of both, but in a way more of what positively belongs. Hence such knowledge is necessarily of opposites, but it is in its own right knowledge of the one, whereas it is not in its own right of the other. For the account is in its own right of the one, whereas it is of the other only in a certain way, i.e., incidentally. (c) For it is by denial and removal that it illuminates the opposite. For the lack, in its primary sense, is the opposite, and this is the removal of the other. (Θ.2 1046b8–15)³³

Because the account is *per se* of the positive pole, the knowledge, which is the art, is also *per se* of the positive pole.

On this conception of arts, an art enables its possessor to bring about two opposite ends, but arts nonetheless have an orientation in a very strong sense. One might have been satisfied with the weaker view: each art is the art equally of F^+ and F^- , and thus enables its possessor to produce both, but the art is intrinsically oriented towards F^+ as its proper end (perhaps on the grounds that F^+ is a good). But Aristotle holds a stronger view. He denies that any art is equally the art of F^+ and F^- . The art is *per se* the art of only one

which virtue is treated as an art and dialogues in which it is not. The conception of virtue as an art presupposes that the art is directed towards some single product. Even if it is Plato's considered opinion that virtue is not an art, there remains a question about how the orientation of the arts is to be understood. The *Hippias Minor* on its own also embodies this tension. On the one hand, Socrates concludes, "So the one who voluntarily misses the mark and does what is shameful and unjust, Hippias—that is, if there is such a person—would be no other than the good man" (376b, trans. Smith in Cooper). On the other hand, this is supposed to be a problematic conclusion, for us, for Hippias, and for Socrates. (In the last speech of the dialogue, Socrates says he wavers about what to think on these matters.)

³³ This text was quoted above on page 79; the Greek may be found there.

of the two results, namely the positive result. It is only in an attenuated and incidental sense that it is the art of F^- at all.

This view of the arts is crucial for the role the arts will play in the subsequent argument of *Metaphysics* Theta. I will argue that it is no coincidence that an art like housebuilding plays a central role in the analogical explanation of *energeia* in Theta 6. Aristotle makes an art the central example, not because of the cognitive character of such a power, but because of the way these powers are related to changes. But Aristotle also seems to think that every power is directed towards some definite end. This is crucial for the argument in Theta 8 that all capacities, including powers, are for the sake of their corresponding *energeiai*. He clearly assumes there could not be more than one such *energeia*. And this assumption is crucial for Aristotle's claims about the relationship between *energeia* and goodness in Theta 9. So he needs to show how the arts, although they are reversible, also have definite ends. Theta 2 has done so.

It has also laid the groundwork for the argument in Theta 5 that there is something else in control of an art. For that argument crucially relies on the assumption that the arts are powers to bring about either of two opposites. But first, Aristotle rebuts the Megarics.

Powers and Possibilities: The Megarics (Theta 3)

In the third chapter of *Metaphysics* Theta, Aristotle discusses the view of “certain people, for instance, the Megarics.”¹ These people, says Aristotle, espouse a view about ‘can’ statements that sounds bizarre on first hearing: something *can* do something only when it is engaged in doing it. Aristotle does not explain why they held their view. And one wonders why Aristotle bothers to respond to the view, given that he himself says that it is easy to see that intolerable consequences follow from it (1046b32–3). The principle of charity places conflicting demands on a good interpretation of the passage: we ought to explain how Megaricism is reasonable, but also how Aristotle’s arguments against Megaricism are reasonable.

The vagueness of ‘can’ statements is the central issue. In Greek and in English, just a bit of reflection on statements such as, ‘He can build a house,’ is liable to plunge one into confusion about when precisely they are true and false. I will propose that the Megarics were led by such reflection to their bizarre-sounding doctrine (§5.1). The vagueness of ‘can’ statements is also, I think, what Aristotle is interested in: he wants to use the Megarics as a foil, in order to clarify and make more precise what it takes to have the power to do something. The Megarics failed to distinguish between the conditions under which a thing has a power and the conditions under which a power is exercised. A further important theme is thereby sounded: the relationship between powers and their exercise, which is intimately connected with the relationship between capacities and their *energeiai*.

The bulk of Theta 3 consists of Aristotle’s argument against the Megarics (§5.2). This argument hinges on a transition from claims about powers to claims about possibilities. Powers are intrinsic properties of things: for instance, a certain person may or may not have the power to play Chopin’s

¹ Following an admonition of Sedley’s in [76, note 3], I use ‘Megaric’ for a member of a certain philosophical school, ‘Megarian’ for a citizen of Megara. To be a member of the philosophical school, there was no need to be a citizen of Megara. This corresponds to the distinction between Μεγαρικός and Μεγαρεύς. For general discussion of the Megarics, see Döring’s edition of the fragments [36] and Sedley’s article on Diodorus Cronus [76].

mazurkas on the piano. Claims about possibilities are about states of affairs.² In many obvious cases, powers and possibilities come together: a certain person has the power to play Chopin's mazurkas, and it is (normally) possible that that person play Chopin's mazurkas. One might, then, think that an object has the power to do a certain thing if and only if it is possible that it do that thing. But this would be hasty. In fact, neither entailment holds. First, it may be that a person—perhaps a child—lacks the power *now*, but it is perfectly possible that they acquire and exercise it. Second, someone might have the power to play Chopin mazurkas, but it might be impossible for that person to do so, because external factors make it inevitable that the person will die before they are again in a position to do so. Perhaps there is an instant just before a person is killed by a bullet, after which it is impossible that anything prevent it. It is presumably impossible, starting at that moment, for the person in question to play Chopin mazurkas, even though they continue to have the power that they've always had.

This example is *circumstantial*. The impossibility in question does not derive from a change in the thing with the power in question. *The person's playing Chopin mazurkas* went from being possible to being impossible, due to a change in the circumstances changed, not due to a change in the person.

There are other cases of impossibility that do not seem to be relative to circumstances. For instance, the impossibility of finding a line that measures both the side of a square and its diagonal. The impossibility of doing that derives not from any set of circumstances, but simply from facts about squares, their diagonals, and what it is to measure one line with another.

Thus within the realm of impossibilities, there is a distinction to be made between the *circumstantially* and the *intrinsically* impossible. In all such cases, possible and impossible are predicates of states of affairs, not of things: for instance, they are applied to *the side and diagonal's being measured* or *this person's playing Chopin mazurkas*. *Has a power*, by contrast, is a predicate of a thing, not a state of affairs. It is applied to a human being, or a hot stone.

In English, we use the verb 'can' indiscriminately for claims about powers and claims about possibilities. Consider "She can play Chopin's mazurkas" (a claim about powers) and "No counting number greater than 2 can be even and prime" (a claim about possibilities). Likewise, in Greek, claims about

² I am using the term 'state of affairs' in a neutral way here. I mean to be picking up on Aristotle's use of the articular infinitive to make a noun out of a complete sentence (e.g., 'the diagonal's being measured'), without taking a stand on the question of what he takes such expressions to refer to. This leaves open two important questions. One is the question whether Aristotle has a notion of state of affairs by contrast with sentence. Perhaps I should speak of propositions, or facts, rather than states of affairs. The important thing is that 'possible' is a predicate of that sort of 'thing' that also takes the predicate 'is the case.' Second, it leaves open the question whether possibility in Aristotle is always *de dicto* or also *de re*. My remarks should not be misunderstood as presupposing or even suggesting any answer to this question.

powers and about possibilities are formulated using the verb *dunasthai* (and adjective *dunaton* as well).³ It is a central claim of my interpretation that Aristotle is well aware of the distinction between power and possibility. One excellent reason for thinking so is that he goes on to explain this distinction just after his rebuttal of Megaricism, in the latter part of Theta 3 and the beginning of Theta 4 (§6.1 and §6.2). It would be bizarre if Aristotle had confused the two concepts just before he explains the distinction. Indeed, it is precisely because the distinction is relevant to his argument against the Megarics that Aristotle goes on to elucidate it.

I have said that Aristotle's argument makes a transition from a claim about powers to a claim about possibilities. This transition is warranted by the observation that powers are intrinsic properties of objects. When powers are gained and lost, things undergo changes. For this reason, changes in the powers of things presuppose (other) powers that are the basis of those changes. This insight is the basis for Aristotle's argument that the Megaric thesis entails the impossibility of change. And this is enough to refute Megaricism.

5.1 THE MEGARIC VIEW

At the beginning of Theta 3, Aristotle gives a brief formulation of the view he will attack:

There are some, for instance, the Megarics, who say that it is only when something is acting that it can [act] and when it is not acting then it cannot [act]. For instance, whoever⁴ is not building a house cannot build a house, but someone who is building a house, when he is building, [can build a house]. Similarly in the other cases.

(Θ.3 1046b29–32)⁵

Aristotle is saying that Megaricism is the following doctrine:

MEGARICISM: For any action, φ , only when something is engaged in φ -ing can it φ . When something is not engaged in φ -ing, it cannot φ .

Aristotle himself gives the example of building a house. The housebuilder *can* build only when he is engaged in building. Other examples will be similar. The flute player can play the flute only when he is engaged in playing the flute.

³ Moreover, while the word *dunaton* can be used to mean either possible or able, there is another Greek word that means only possible, never able: *endekhomenon*. At certain points—in particular, in the discussion of eternal things in Theta 8—Aristotle will employ the word *endekhomenon* to mark this distinction.

⁴ Note the generalizing force of the negative in the phrase τὸν μὴ οἰκοδομοῦντα.

⁵ Εἰσὶ δὲ τινες οἳ φασιν, ὅτι οἱ Μεγαρικοί, ὅταν ἐνεργῇ μόνον δύνασθαι, ὅταν μὴ ἐνεργῇ οὐ δύνασθαι, ὅτι οὐ μὴ οἰκοδομοῦντα οὐ δύνασθαι οἰκοδομεῖν, ἀλλὰ τὸν οἰκοδομοῦντα ὅταν οἰκοδομῇ· ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων.

The rhetorician can persuade people only when she is engaged in persuading people. And similar claims apply to the non-rational abilities of inanimate things. Water can dissolve salt only when it is engaged in dissolving salt. A stick can be burned only when it is being burned. The materials for a house can be built into a house only when they are being built into a house.⁶

We are left to speculate about why the Megarics held this odd view. I suggest that the Megarics had reflected about the vagueness of claims of the form ‘ x can φ .’ They were led to conclude that the restrictions on the truth of such claims were so tight, that they can be true only when x is in fact φ -ing. Since when x is in fact φ -ing, x obviously can φ , it turns out that x can φ if and only if x is φ -ing. The basic motivation is not a general opposition to powers and possibilities, or a general insistence that the real does not outstrip the actual. In fact, on this construal, the Megarics should even accept the existence of powers—just not of any powers that are not being exercised.

Let us consider an example from the philosophical milieu a short time after the Megarics. The early Stoics, as well as the influential but shadowy

⁶ There are other views about what Megaricism was, but I think they are wrong. Cf. Ross, vol. 2, p. 244: “Chapter 3 defends the notion of the possible in distinction from the actual.” Unsurprisingly, he later finds that Aristotle has gotten himself into a mess: “He is using the notion of potentiality, not that of power, and thus confusing the two senses of *dunamis* which he proposed to keep distinct” (ad 1047a10–29). But the example given in the text concerns a power (the art of housebuilding) and its exercise, not a potentiality or a possibility and the corresponding actuality. And Aristotle’s first arguments against Megaricism are clearly about powers, not possibilities (1046b32–47a7). Further, against Ross, Aristotle’s discussion of powers in Θ .1–2 and Θ .5 is naturally connected with a doctrine about powers and their exercise. It is not naturally connected with a doctrine about possibility and actuality. Ross recognizes this (which leads him to accuse Aristotle of confusion), and he would agree that this counts against his interpretation. Moreover, it seems highly unlikely that $\epsilon\nu\epsilon\rho\gamma\epsilon\acute{\iota}\nu$ could mean ‘to be actual.’ Given that $\epsilon\nu\epsilon\rho\gamma\epsilon\acute{\iota}\nu$ is a term coined by Aristotle, its meaning should initially be understood in terms of the usual formation of Greek verbs in $-\epsilon\omega$. The most basic sense of $\epsilon\nu\epsilon\rho\gamma\epsilon\acute{\iota}\nu$ is ‘to be $\epsilon\nu\epsilon\rho\gamma\acute{o}\varsigma$.’ Something is $\epsilon\nu\epsilon\rho\gamma\acute{o}\varsigma$, according to the LSJ, if it is “at work, active, busy, effective, vigorous.” This fits neatly with the example of the housebuilder. Megaricism, as Aristotle understands it, concerns statements of the form, ‘something can φ ,’ and Aristotle uses a term of his own coinage, $\epsilon\nu\epsilon\rho\gamma\epsilon\acute{\iota}\nu$, to capture the whole range of corresponding cases in which the thing in question does φ .

Susanne Bobzien seems to share Ross’s interpretation, although she is careful to call the position “Proto-Diodorean,” rather than Megaric [21, p. 70]. She is primarily interested in giving a genealogy of Diodorus Cronus’ thought, and not in *Metaphysics* Theta or the Megarics. Moreover, she is interested in Diodorus Cronus as a forerunner of the Stoics, and the Stoics obviously did have the concept of something like a propositional content—a $\lambda\epsilon\kappa\tau\acute{o}\nu$ —that could be true or false (or neither). In the Stoic context, it is thus natural to construe Megaricism as a doctrine about what is possibly or actually the case. Döring, in his edition of the Megaric fragments, makes a few remarks on Theta 3, which show no sensitivity to the distinctions among the contrasts actual/possible, actual/potential, and exercise/capacity [36, pp. 132–3]. However, the more recent commentators, Stephen Makin and Charlotte Witt hold, as I do, that Megaricism concerns powers and their exercise (see Makin’s [66, pp. 254–5] and [19, ad loc., pp. 60–72], and Witt’s [86, pp. 20–3]).

Diodorus Cronus, shared with the Megarics a deep interest in the relations between time, freedom, power, and possibility. The example I want to consider comes from Philo the Dialectician. He considered a piece of wood (perhaps part of a sunken ship) lying at the bottom of the ocean.⁷ The question is: can such a stick burn? Since the stick is not burning, the Megaric answer is: no, it cannot burn. And for this example, at least, that answer is not unreasonable. After all, the stick cannot burn while it is immersed in water. It would be wrong to think, “The stick merely happens not to be burning, but it could perfectly well burn, without anything else being changed first.” The stick’s circumstances would have to be altered in order for it to burn. Since the stick’s circumstances *must* be altered for it to burn, it would seem that, as things stand, it cannot burn.

Suppose the stick’s circumstances are altered: a great whale swallows the stick, and then spits it out onto a beach, where it bakes in the sun. Now can the stick burn, bone dry and out of the range of the waves? One might well think that it obviously can. But perhaps that is not so obvious. After all, the stick is not burning. And why? Well, for instance, although the circumstances are highly suitable for burning, nothing has lit the stick on fire. The Megaric might ask: do you think that the stick can burn without being lit on fire? Surely not! For the stick to burn, something has to light it on fire. This, the Megaric might insist, shows that the stick is not yet able to burn.

Of course, the Megaric will go even further. Even if a human being with a torch enters the scene and takes a look at the stick, the mere presence of fire will not be enough to make the stick able to burn. Even if the human being holds the stick in the flame of the torch, this will not be enough to make the stick able to burn until the stick starts to burn. Only when it burns will the stick be able to burn. For, until that moment, some condition or other that would have been sufficient for the burning of the stick was not fulfilled—we know that from the simple fact that the stick did not burn. If the stick did not burn, then obviously no condition sufficient for the burning of the stick was fulfilled.

⁷ The example has to be reconstructed from two texts. Alexander, discussing Aristotle’s conception of possibility in his commentary on the *Prior Analytics*, refers to something “in the depths” being combustible [5, pp. 183.34–184.10] (the crucial line is 184.9). Simplicius, commenting on the *Categories*, refers to “the wood [*xulon*] in the Atlantic Ocean” being combustible [79, pp. 195.31–196.24]. (These texts, along with others, may also be found at [43, II F 27, pp. 431ff.].) Philo defined possibility in terms of fitness (*epitēdeiotēs*). As emerges from these texts, his view was opposed to Diodorus Cronus’ view that what is possible is restricted to what is or will be the case. Philo’s view is thus also opposed to the Megaric view. That is, his view was that, e.g., ‘the wood can burn’ may be true not only in circumstances in which ‘the wood is burning’ is false but even in circumstances in which ‘the wood is burning’ is impossible. This is so, on his view, because the truth or falsity of ‘the wood can burn’ depends only on whether wood is suited to burn, and not on whether it is suited to burn *in the actual circumstances*. I am grateful to David Sedley for the references and for help reconstructing the example.

The core idea is that, in order for the stick to burn, conditions that are sufficient for the burning of the stick have to be fulfilled. If sufficient conditions are not fulfilled, then, obviously, the stick does not and cannot burn. But these considerations are not specially connected with sticks and flames. They apply to anything's performing any action.

Against this view, one might object: there simply are not sufficient conditions for every event that occurs. It may be that, for some events, there is a set of necessary conditions, but even once all relevant conditions have been fulfilled, there is nothing that determines whether the event occurs. Perhaps the relevant conditions elevate the probability that the event occurs, without being sufficient for the event's occurring. In the case of the stick, for instance, one might think that being dry, in dry circumstances, and exposed to intense heat are not strictly speaking sufficient for the stick to burn, although they may nearly always induce the stick to burn.

I see two ways that the Megarics might have responded to this objection, corresponding to two quite different motivations for their thesis. One response accepts that there may well be no sufficient causal conditions for an event, short of the actual occurrence of the event. This version of Megaricism focuses not on causation, but on the temporal structure of can-claims. Once a certain moment has been reached, if the stick is not burning, it is, so to speak, too late to burn *now*. Thus we may always determine the answer to the present-tense question, 'Can it burn?' by checking whether the stick is burning. If so, then it can burn. If not, then it cannot.⁸

⁸ This is the sort of view that Stephen Makin ascribes to the Megarics in his paper "Megarian Possibilities" [66] and in his commentary on *Metaphysics* Theta [19]. It is because can-claims are tensed that present-tense can-claims are true if and only if the corresponding indicative claim is true. He formulates Megaricism as the claim that "[s]omething possess a capacity at t if and only if it is exercising the capacity at t " (p. 254) and argues that it is based on the intuition that "[a]ll capacities are really synchronic" (i.e., $(\forall t_n)(\forall t_m) (A \text{ has at } t_n \text{ the capacity to } F \text{ at } t_m \rightarrow t_n \text{ is identical with } t_m))$ (p. 254). Notably, Makin ends up in a slightly odd position. He suggests that the intuition behind this is that "capacities *can* be exercised when they are possessed" (p. 254). This is odd because of the way it combines claims about capacities with claims about *can*. When Makin goes on to formulate the Megaric doctrine that captures this intuition, he does so in terms of capacities, which eases this peculiarity. I think it is better to see Megaricism as a universal claim about *can* (*dunasthai*—there is no English infinitive). I think we can see a natural motivation for Megaricism, as I sketch it in the text. In fact, I do not think that the examples that Makin gives to motivate his temporal version of Megaricism do motivate that reading. Rightly understood, they motivate the reading of Megaricism that I favor. Time is relevant not because powers are time-indexed (one power to build at noon and another to build at midnight) but because powers depend on circumstances that change over time. Furthermore, Makin's version of Megaricism relies not only on the syntax of time-indexing, but on the metaphysics. He requires that the power to build-at-noon and the power to build-at-midnight be distinct. If they were the same, then things would have the capacity to do things that they are not now doing. Yet this time-indexing of powers is highly dubious. Surely the builder does not lose a power to build with every passing instant and acquire a new one too. Surely the builder who builds in the morning, takes a

A second reply focuses on the causal structure of the world. It denies the objection's assumption about causation. On this version of Megaricism, whenever some event occurs, sufficient conditions for that event's occurrence were fulfilled. Let us make on the simplifying assumption that there is only one set of jointly sufficient conditions (so that each such condition is also a necessary one).⁹ So, whenever an event fails to occur, at least one of the jointly sufficient conditions for its occurrence was not fulfilled. But in any such circumstances, the event not only does not occur but cannot occur (since some necessary condition on its occurrence was not fulfilled). This causal version of Megaricism springs from quite a different source than the temporal version. We are not dealing with capacities and the times at which they are possessed and the times at which they are exercised, but rather with the truth of *can*-claims.

The core idea is that whenever such a claim is false, there is some sufficient reason why it is false. If you say that the stick can burn, but you also concede that the stick is not burning, then you owe an account of why the stick is not burning: e.g., it is at the bottom of the sea, or nothing has heated it. But such a reason why the stick does not burn will inevitably preclude the stick's burning. It will entail that the stick does not *and cannot* burn.

The Megarics may well have been fortified in this approach by general considerations about causes and powers, such as those found in Plato's *Phaedo* and *Theaetetus*. In both dialogues, a pair of Megaric philosophers is mentioned: Euclides (who seems to have been the most important member of the school) and Terpsion. In both texts, it is made explicit that they come from Megara.

Plato makes two Megaric philosophers be present on the day of Socrates' death, and he might thereby indicate the Megarics' debt to the reflections

break for lunch, and then builds some more in the afternoon, does not exercise two distinct powers. Surely the builder who spends several minutes building does not need an infinitude of powers, one for each instant. These consequences of Makin's version of Megaricism are also strange, yet Aristotle does not mention them. And they are strange enough as to cast doubt on Makin's reconstruction of Megaricism as a theory with some intuitive appeal. I would go so far as to say that these claims are at odds with the point of attributing powers to things. The point is to make changes intelligible by picking out properties of things that make changes possible whenever they occur. Also, on the attractive assumption that distinct powers are for distinct *energeiai*, the unity of a single process of housebuilding is threatened; it would seem to be composed of many distinct *energeiai*. (Broadie makes a similar point [82, p. 130].) Moreover, we can see why Aristotle would begin by formulating Megaricism in terms of *can* (1046b29–31) and then switch to claims about powers or capacities (1047a11). Megaricism is best motivated in terms of *can*-claims, so Aristotle wants to allow for that, but he then wants to motivate certain assumptions that are hard to deny about powers, which are the basis of an argument against Megaricism. (Charlotte Witt hardly develops a motivation for Megaricism; she formulates the basic position in terms of powers, rather than *can*-claims [86, pp. 20–3].)

⁹ To formulate the argument without this assumption would make it more cumbersome but not more illuminating.

about causation recorded in the dialogue. (Perhaps those reflections were Socrates', perhaps not.) The Megarics perhaps took Socrates to say that he expected from Anaxagoras' explanations an account of the *necessity* of things being as they are. In general, one explains something when one says why it has to be so. I myself do not accept this interpretation, but I do think it is not an absurd one. Socrates adds to this the suggestion that such explanations should, or at least could, consist in explaining why something is *better* as it is than it would be otherwise. This idea, important as it is for the interpretation of the *Phaedo* (and Plato generally) is less important for us than the connection between causation and necessity. Indeed, one might even interpret the following passage as saying that to state a cause is to state a necessity:

As I reflected on this subject, I was glad to think that I had found in Anaxagoras a teacher about the cause of things after my own heart, and that he would tell me, first, whether the earth is flat or round, and, after he had told me, he would explain the cause *and necessity*, saying which is better and that it was better to be so.

(*Phaedo* 97e, trans. Grube in Cooper, modified, my emphasis)

The Megarics might read this passage as saying that causes *are* necessities. They might have interpreted the example of the bones and sinews in that light (98c–99a). Socrates denies that his bones and sinews are the causes of his actions. One might take the problem to be that Socrates' bones and sinews constitute him whatever he does. There is no necessity, for instance, that someone with bones and sinews stay in Athens, rather than flee to Boeotia or Megara (!).

The Megarics might well have accepted such considerations about causation, and derived their view about can-claims from them. Whenever something φ -s, some sufficient conditions for its φ -ing are fulfilled, such that, necessarily, if they are fulfilled, the thing φ -s. Whenever something might φ , but does not, there must be some such condition that is not fulfilled. But without its being fulfilled, the thing in question *cannot* φ . This is because of the general thesis about causation: whatever happens, happens due to the fulfillment of conditions sufficient for its happening.

The *Theaetetus*, too, contains reflections strongly reminiscent of Megaricism. There, Socrates speaks at length of correlative active and passive powers (*dunameis*), which come into being correlatively.¹⁰ That is, the active power comes into being and goes out of being with the passive power. But what is most important for us is that both powers also correlate with the event that they are the powers for: both powers are around precisely so long as the relevant event is occurring. The *Theaetetus* does not give us a general motivation for accepting that view. Rather, it works out that view as part of a theory on which knowledge is awareness (*aisthēsis*).

¹⁰ See, in particular, 156a–b and 159a–160c.

The *Theaetetus* is, however, a crucial precedent for the Megaric view that Aristotle mentions in Theta 3. It is the only known place in prior philosophy where a view so much like theirs is described. It may have inspired the Megarics to consider how one might motivate such a view. However, neither dialogue already presents an argument for Megaricism. Rather, we see how the argument for Megaricism that we have speculatively reconstructed fits nicely with reflections from those dialogues.

On this reconstruction, Megaricism is not the denial of the possibility of change. Indeed, if the *Theaetetus* is part of the background, that suggests that Megaricism would embrace not only change, but a world of total Herclitean flux. The claim is not that the future is not open, or that nothing will ever be otherwise than it is now, or that nothing will ever be doing anything other than what it is doing now. The claim, rather, is that nothing can now be doing anything other than what it is doing (and if something is not doing anything, then it cannot do anything). Things may turn out later to be able to do things that they cannot do now. Given that some things are now changing, the currently occurring changes might well bring it about that some not-yet-occurring changes can occur—but, in bringing about that new changes *can* occur, they will also bring about that they *do* occur.

It now remains to see how Aristotle nevertheless argues that the impossibility of change follows from Megaricism.

5.2 ARISTOTLE AGAINST THE MEGARICS

We can easily agree with Aristotle that “it is not hard to see that strange things result for the Megarics” (1046b32–3). But it is not so easy to see precisely what strange things result for them, and it is especially difficult to see why their position has to be rejected altogether.

It is particularly tempting to accept easily and uncritically Aristotle’s claim that Megaricism entails the impossibility of change (1047a14).¹¹ The putative reason for the impossibility of change, on the Megaric view, is that there would then be no abilities in virtue of which it occurs. This leads one naturally to the following Bad Argument:

MEGARICISM: If something is not now ϕ -ing, then it is not able to ϕ .

¹¹ McClelland, for instance, is in my opinion guilty of this [67, pp. 136–9]. To be fair, McClelland does not present a full-fledged interpretation of the passage, but merely argues that Hintikka cannot use this passage as evidence that Aristotle accepted a principle of plenitude. But he does speak as if it were simply obvious that the Megaric view has the consequences Aristotle alleges.

BAD ASSUMPTION: If something is not able to φ , then it is (always) impossible that it φ .

CONCLUSION: If something is not now φ -ing, then it is (always) impossible that it φ .

This argument concludes that whatever is not now the case will never be the case since it will never even be possible for it to be the case. However the world is now, so it will remain.

The Megaric will reject the BAD ASSUMPTION. Rejecting it is not an ad hoc modification of the theory. A newborn human being does not have the power to build a house, but it might go on to acquire that power. Powers, like other properties, change; they are acquired and lost. The Megaric holds that all powers are acquired and lost whenever they begin or cease to be actively at work.

Someone might try to modify and save the Bad Argument by claiming that powers make the changes not possible, but intelligible. The powers are the necessary explanatory conditions for change. Without them change is inexplicable. (One might claim that this is intolerable on its own, or go on to claim that change is impossible because inexplicable.) But the Megarics can, and should, claim, like Aristotle, that powers are explanatory. They need not deny this just because they deny that the powers are there before they are active. A flame's ability to burn surely explains its burning, but that power comes into existence with its exercise. We are to conceive all changes on this model: the power that is active in the new state of affairs comes into being precisely with the new state of affairs.

Aristotle's counterarguments against the Megarics fall into two main groups, a set of arguments from certain cases and a general argument concerning the possibility of change altogether. In the arguments from cases, Aristotle first treats rational powers, then non-rational powers. These correspond to the two groups of powers identified in the opening lines of Theta 2. The key idea of the general argument is that changes occur in virtue of the properties of the objects that have them. Sometimes, the only thing that stands in the way of an object's bringing about or undergoing a change are its circumstances. For instance, a trained housebuilder is ready to build a house. The only things that stand in the way of his building a house are circumstances. Of course, the person might lose the knowledge of housebuilding, but that is not the case we are considering. Aristotle wants to insist, against the Megarics, that there is a perfectly good sense in which such a person *can* build a house. Namely, he has the power to build a house. The Megarics are then on the horns of an unpleasant dilemma. Either they have to accept the absurd consequence that such cases never occur. Or they have to deny that there is any sense in which such a person can build a house—but this is hopelessly implausible.

5.2.1 The Art of Housebuilding

The first of Aristotle's arguments from arts concludes that most people we consider housebuilders are, on the Megaric view, not housebuilders most of the time:

For it is clear that no one will be a housebuilder if he is not building a house, since to be a housebuilder is to be able to build a house. And likewise in the other arts.

(Θ.3 1046b33–5)¹²

The premise that to be a housebuilder is to be able to build a house implies, a fortiori, that, if something is not able to build a house, then it is not a housebuilder. This yields a logically valid reconstruction of the argument:

PREMISE ONE: If something is not building a house, then it is not able to build a house. (an instance of Megaricism)

PREMISE TWO: If something is not able to build a house, then it is not a housebuilder. (from Aristotle's conception of being a housebuilder)

CONCLUSION: If something is not building a house, then it is not a housebuilder.

The absurdity of the conclusion derives from the fact that there are many housebuilders who are not building houses. In fact, there is no housebuilder who is always building houses. Being human, housebuilders stop to rest, to eat, to sleep. Every housebuilder therefore intermittently ceases being a housebuilder. Yet it certainly is absurd to deny that these very people, who merely happen not to be building at the moment, are housebuilders.

The Megarics have a good response open to them: to deny PREMISE TWO. They thereby reject, as they should, Aristotle's conception of being a craftsman. For a Megaric, a housebuilder is not someone who can build a house.

But Aristotle also has an argument for PREMISE TWO, which we can derive from Theta 2:

PREMISE 2A: A housebuilder is someone who has the art of housebuilding. (from our ordinary conception of housebuilders)

PREMISE 2B: The art of housebuilding is the power to build houses. (from Chapter 2 [1046b2–3])

Therefore PREMISE TWO: A housebuilder is someone who has the ability to build houses.

This, too, is a valid argument. Thus the Megaric, in rejecting PREMISE TWO, must also reject a premise of this argument in support of PREMISE TWO. Which premise should he reject?

¹² ὁ ἅλιν γὰρ ὅτι οὐτ' οἰκοδόμος ἔσται ἐὰν μὴ οἰκοδομῇ (τὸ γὰρ οἰκοδόμῳ εἶναι τὸ δυνάτῳ εἶναι ἔστιν οἰκοδομεῖν), ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων τεχνῶν.

It is preferable to reject PREMISE 2B, the claim that the art of housebuilding is the power to build houses. On the one hand, it is implausible to reject PREMISE 2A, and thus to deny the connection between having the art of housebuilding and being a housebuilder. (The verbal connection between these concepts is as strong in Greek as in English.) On the other hand, it is fairly plausible that having the art of housebuilding is not, on its own, enough to make it that case that someone can build a house. There are numerous housebuilders who, for reasons of circumstance, are not able to build houses. An unlucky builder might lack the necessary materials, might lack access to a suitable site, or might be subject to systematic interferences that make building impossible.

This suggests a distinctively Megaric conception of being a housebuilder. For a Megaric, being a housebuilder is a matter of being someone who is legitimately expected to build houses in appropriate circumstances. Such people have had certain training, have built a certain number of houses under supervision, and done all the things we usually expect of housebuilders-in-training. This will be partly a matter of certain things *not* being the case, e.g., *not* having eschewed housebuilding for decades. Someone who has not built a house for forty years cannot be legitimately expected to build houses. But the Megarics will insist that we legitimately expect people to build houses under certain circumstances, and thus call them housebuilders, without those people having the power to build.

Indeed, the Megaric might press the counterattack, claiming that Aristotle's view, not their own, is paradoxical. Aristotle thinks that housebuilders have the power to build houses. Yet the people we ordinarily call housebuilders often cannot build houses! To accommodate Aristotle's view, we ought not to relax our standards for when something is able and when not. Instead, the Megarics invite us to relax our standards for when someone has an art and when not. Having an art is not, *contra* Aristotle, having the power to do something.

The Megaric does not deny that housebuilders have the knowledge of how to build houses. Rather, he denies that the knowledge of how to build houses is the power to build houses. Certainly nothing without that knowledge can be able to build a house; having that knowledge is a necessary, but not sufficient, condition for being able to build a house.

This is the kernel of the disagreement between Aristotle and the Megarics: what is the role of knowledge in the production of houses? Is the power to produce a house the art alone, or is it the art in conjunction with other things? Aristotle gives a second argument, which hinges not on who is a housebuilder, but on the relationship between the power to build a house and the knowledge of how to build a house. He says:

If it is impossible to have such arts without learning and acquiring them at some time, and impossible *not* to have them [sc. subsequently] without losing them at some time,

either by forgetting or by some debilitating condition or by time . . . , then whenever he stops building, he will not have the art, and how will he have acquired it as soon as he builds again? (Θ.3 1046b36–47a4)¹³

One might take this passage simply to reiterate the point made above, but I think it is getting at something further. The idea is that there are normal processes by which we say that someone becomes qualified to build houses, as well as normal processes by which someone loses this qualification. These are genuine changes in the human being in question. They are the acquisition or loss of a property: the art of building. Aristotle ought to press the attack. Why should we not think of the property so gained, or lost, as being the power to build? After all, the thing that has that property is the thing that will do the building.

I do not think that this finally settles the matter, but it does, I hope, help to see where the faultlines between Aristotle and the Megarics are.

5.2.2 Non-rational Powers

Aristotle extends the argument to other powers than rational ones. Although he picks out perceptible items in particular, he introduces them by saying “the same goes for inanimate things [*ta apsuksa*]” (1047a4). This suggests that he does not have in mind only the powers that are relevant to perception, but the powers of inanimate items generally. Presumably, he has in mind the class of non-rational powers from Theta 2¹⁴:

And the same goes for inanimate things. For, of the things not being perceived, nothing will be either cold or hot or sweet or, in general, perceptible. Hence it will turn out that they are making Protagoras’ claim. (Θ.4 1047a4–7)¹⁵

¹³ εἰ οὖν ἀδύνατον τὰς τοιαύτας ἔχειν τέχνας μὴ μαθόντα ποτὲ καὶ λαβόντα, καὶ μὴ ἔχειν μὴ ἀποβαλόντα ποτὲ (ἢ γὰρ λήθη ἢ πάθει τινὶ ἢ χρόνῳ· οὐ γὰρ δὴ τοῦ γε πράγματος φθαρέντος, αἰεὶ γὰρ ἔστιν), ὅταν παύσῃται, οὐχ ἔξει τὴν τέχνην, πάλιν δ’ εὐθύς οἰκοδομήσει πῶς λαβών;

¹⁴ See 1046a36–b2, where the notion of an inanimate thing is also used to distinguish the two main classes of powers.

¹⁵ καὶ τὰ ἄψυχα δὴ ὁμοίως· οὔτε γὰρ ψυχρὸν οὔτε θερμὸν οὔτε γλυκὺ οὔτε ὄλως αἰσθητὸν οὐδὲν ἔσται μὴ αἰσθανομένων· ὥστε τὸν Πρωταγόρου λόγον συμβήσεται λέγειν αὐτοῖς. The Greek is ambiguous about the relationship of αἰσθητὸν and μὴ αἰσθανομένων to the rest of the sentence. The position of μὴ αἰσθανομένων at the end of the sentence suggests that it is not simply connected with αἰσθητὸν; this, and the generalizing ὄλως, might suggest that cold and hot and sweet are all instances of the perceptible in general, so that Aristotle would be saying that nothing is cold or hot or qualified in any other way by a perceptible property unless it is being perceived. Moreover, these three examples seem to have been canonical cases for Protagoreans; or at least, they were taken by Plato to be the cases in which Protagoras’ theory is most promising. See *Theaetetus*, 152b–c (cold, “hot and things like that”), 159c–e (sweet and bitter), 160b (sweet), 171e (“warm, dry, sweet, and all that type of thing”; here it is especially clear that Socrates takes these as the easy cases for Protagoras), 178c (hot, sweet), 182a–b (warmth,

Aristotle charges the Megarics with being committed to the Protagorean doctrine that man is the measure of all things, which is discussed at length in Plato's *Theaetetus*.¹⁶ I take this to mean:

PROTAGOREANISM: Something is *F* if and only if it is perceived as being *F*.

There are two directions to the implication: one from being to being perceived, the other from being perceived to being. Aristotle attributes both to the Megarics in attributing Protagoreanism to them.

I do not see why the Megarics should be committed to the view that if something is being perceived as *F*, then it is *F*. Moreover, it is this implication, not its converse, that is the heart of Protagoreanism. Without it, the doctrine that man is the measure of all things loses its point. The point was that false perception is impossible. But if the implication from being perceived to being fails, then false perception is possible. (More on this below.)

I can, however, see a direct argument for the other implication, one precisely parallel to the argument about housebuilding. Let's consider the tangible property of coldness.

PREMISE ONE: If something is not being perceived as cold, then it is not able to be perceived as cold. (an instance of Megaricism)

PREMISE TWO: If something is not able to be perceived as cold, then it is not cold. (see below)

CONCLUSION: If something is not being perceived as cold, then it is not cold.

'Cold' here stands in for a family of terms: hot, burning, caustic, moist, white, yellow, dry, soluble, brittle, perhaps also heavy and light. PREMISE TWO in the argument is analogous to PREMISE TWO of the argument about arts. But while that premise is an obvious consequence of something Aristotle actually says (1046b24–5), this premise must be supplied by the reader. It seems impossible to construe this argument without it.

There is an important difference to be noted between the earlier cases and these: for the arts, being a craftsman *is* being able to carry out the action relevant to the craft (again, 1046b24–5), and this premise is much stronger than PREMISE TWO of that argument. In these cases, by contrast, it is not clear that being cold *is* being able to cool. Perhaps being cold requires being able to cool, without simply amounting to being able to cool. This is important because the Protagorean doctrine—at least as presented by Socrates in the

whiteness), 184e ("hot, hard, light, sweet things"), 186d (cold, warm). For these reasons, I take "cold" and "hot" here to be examples of properties best characterized as powers to be perceived, rather than as powers to bring about (e.g.) cold or heat. It is true that, however, Aristotle himself regularly takes cold and hot to be 'real' qualities; they are to do with much more than perception; to be hot is not the same as to be disposed to be perceived as hot. I take it that these views are set aside for present purposes.

¹⁶ See 151e–187a.

Theaetetus—seems to hold that to be cold is to be perceived as cold. But the argument cannot rely on this as a premise; that would beg the question. Aristotle has to show how the Megarics are forced to accept the conclusion that to be cold is to be able to be perceived as cold.

How plausible is PREMISE TWO? Could something be cold and unable to be perceived as cold? Consider something exceedingly cold, to the point that it cools its environment so powerfully that nothing can live within fifty feet of it. It is impossible that such a thing be perceived as cold. Nothing can come close enough to touch it.¹⁷ Even not very intelligent creatures might realize that the thing is cold, and they might feel a cold that is (in a sense) *its* cold. But they could not touch it and hence could not perceive *it* as cold. Aristotle might say of such a case that the thing in question nonetheless has the power to be perceived as cold. It is not intrinsic to the cold to be unable to be perceived. Rather, the cold brings about circumstances such that it cannot be perceived. However, the Megaric would have to deny that the thing in question is cold, since it is never actually perceived as cold. Yet it seems highly implausible for the Megaric to deny that it is cold, since the thing cools its environment.

But why couldn't the Megaric deny PREMISE TWO? The Megaric should claim that to be cold is not to be able to be perceived as cold but to be able to cool, and similarly to be hot is to be able to heat. This sounds both more plausible and more readily acceptable to Aristotle. With this claim, they would seem to evade Protagoreanism. Aristotle might still present an argument, like the argument from arts, that the Megarics must accept 'if something is not cooling, then it is not cold.' But the Megarics embrace this conclusion.

Suppose that we reformulate the argument, taking cold, hot, sweet, and so on as names for kinds of perceptibility. To be sweet is to be able to affect the tongue in a certain way. What does not affect the tongue in that way is not able to affect the tongue in that way. Hence it is not sweet. More generally:

PREMISE ONE: If something is not being perceived as *F*, then it is not able to be perceived as *F*. (an instance of Megarianism)

PREMISE TWO: If something is not able to be perceived as *F*, then it is not perceptible as *F*. (see below)

CONCLUSION: If something is not being perceived as *F* then it is not perceptible as *F*.

This conclusion saddles the Megarics at most with a very restricted version of Protagoreanism. It is restricted in two ways. First, it applies only to powers to affect perceivers, properties such as sweetness. It would not apply to *being a horse* or *being virtuous*, or even to *being cold* in the sense of *being able*

¹⁷ Of course, for other sensory modalities, one need not *touch* the object perceived. But one must stand in some appropriate relation to it. Presumably it would be impossible to see anything happening on a star more than twenty billion light years away.

to cool. Yet it is certainly the spirit of Protagoreanism to be universal: man is the measure of *all* things.

Second, even this reconstruction of the argument does not force the Megaric to accept that if something is perceived as *F* then it is *F*. Suppose I see a surface as purple and you see it as blue. Then the surface is able to affect my eyes so as to appear purple, and it is able to affect your eyes so as to appear blue. One might hope that the Megaric would be forced at this point to take refuge in the claim that the surface is purple-for-me and blue-for-you. But this does not follow. The Megaric is free to maintain, that the surface is in fact (say) blue. The Megaric can point to my disadvantageous situation as a perceiver—for instance, to my red sunglasses, or to my angle of vision. And the Megaric can still give a general criterion for judging whether perceptions are true or false: Consider some property of the restricted class, i.e., a property *F* such that to be *F* is to affect perceivers so that they perceive some definite content.¹⁸ When a perceiver perceives something as *F*, this is to perceive it *as having that power*. But one may perceive something as having the power to affect one in the relevant way, when in fact it is not that thing that has the power. It may be that thing in combination with others or it may not be that thing at all. Examples of the former: a surface appears purple not in virtue of its own power to appear purple, but in virtue of a combination of its power to appear blue and the powers of a red pair of glasses; a wine tastes bitter, not in virtue of its own power to taste bitter, but in virtue of its power to taste sweet together with the peculiar powers of a sick man's physical state. Example of the latter: a leaf tastes sweet not in virtue of any power of its own, but in virtue of an unnoticed sugary coating. So the Megarics can still make sense of true and false perception, and this would seem to evade Protagoreanism.

Makin agrees that, strictly speaking, the Megaric is not committed to Protagoreanism, but he argues that the Megarics cannot maintain any non-relativist position worthy of the name. Suppose that we take Aristotle to have established that the Megarics are committed to the first leg of Protagoreanism: if something is *F*, then it is being perceived as *F*. Makin claims that accepting merely this implication “plays havoc with any Megarian attempt to escape relativism by denying” the other implication. He considers the example of someone who is perceiving as hot something that no one else is perceiving at all. He claims that the Megaric cannot make sense of such a person's putative misperception: “if *A* is non-hot, they would *per impossibile* have to be perceiving *A* as non-hot too.”

For the argument, Makin requires that the variable *F* can range over predicates of the form non-*F*. This assumption gets Makin: “if something is

¹⁸ There are some delicacies about how exactly one should formulate this. One cannot simply say that to be *F* is to affect perceivers. Rocks affect perceivers by bruising their toes, but this is not what we have in mind.

non-*F*, then it is being perceived as non-*F*” (contrary to the assumption that only the perceiver perceives the object as *F*). A Megaric might well deny this. The plausibility—such as it is—of Megaricism derived from the thought that any active cause imposes its own nature on the patient of its action. It is not so clear that we should allow being non-*F* to be an aspect of something’s nature in the relevant way. The Megaric can avoid Makin’s argument by denying this assumption.

Makin assumes that if *to be non-F* is not equivalent to *not to be F*. If they were equivalent, then “if *A* is not-hot, then *A* is perceived as non-hot” would be equivalent to “if *A* is not hot, then *A* is not perceived as hot.” But this is not an instance of the accepted part of Protagoreanism (“if *A* is *F*, then *A* is perceived as *F*”) but an instance of its inverse. Without the assumption of non-equivalence, this argument would presuppose rather than prove that the Megarics are committed to Protagoreanism.

However, we can reformulate the argument so as to invoke neither assumption. We need not consider *being non-F* as a predicate or property in its own right. Rather, we consider an example with a mutually exclusive pair of predicates, such as sweet and bitter. A sick man drinks and swallows some wine, which tastes bitter to him. No one else tastes it, yet the Megaric wants to maintain that it is not bitter. If the wine were sweet, then it would have the power to affect taste buds appropriately. If it had had that power, then it would have been active. Yet clearly no such power was exercised, and hence there was no such power at all. Hence the wine is not sweet, and so there is no basis for claiming that it is false that the wine is bitter.

But the Megarics can evade the reformulated argument too. They do not face any specially Protagorean difficulty here. Whatever difficulty there is does not go beyond the basic implausibility of their position. The problem with Makin’s argument, even on my reformulation of it, is that it is not sufficiently sensitive to the difference between not being bitter and being sweet. This leaves room for the Megarics to maintain that there is false perception. They maintain this not by claiming that the wine is sweet, and to be sweet is to be not-bitter, but by maintaining that it is not the wine that is bitter, but the wine in conjunction with the sick person’s physical state. The power to affect the person’s sense as something bitter is not the wine’s, and this is enough for the person’s perception to be false.

We have considered what grounds Aristotle has to convict the Megarics of Protagoreanism. They are very weak. So weak that one might wonder whether the phrase “Hence it will turn out that they are making Protagoras’ claim” (ὥστε τὸν Πρωταγόρου λόγον συμβήσεται λέγειν αὐτοῖς) belongs in the text. These doubts are further supported by the fact that the little argument culminating in this conclusion was introduced with the words, “The same goes for inanimate things” (καὶ τὰ ἄψυχα δὴ ὁμοίως). Yet the earlier argument had nothing to do with Protagoreanism. That argument concluded that the human

beings we consider experts in some craft will be held, by the Megarics, not to be experts. One might think that the same point could be made here, and that the argument would be even more like the earlier argument. It would go as follows:

PREMISE ONE: If something is not tasting sweet, then it is not able to taste sweet.
(an instance of Megarianism)

PREMISE TWO: If something is not able to taste sweet, then it is not sweet. (from Aristotle's conception of being sweet)

CONCLUSION: If something is not tasting sweet, then it is not sweet.

The honey in the jar, which no one is tasting, is not sweet. If a tree falls unheard in a forest, then it does not make a sound. On this interpretation, these conclusions and others like them are absurd enough. The argument does not concern whether perception can be true or false. Rather, the issue is whether things are as we perceive antecedently and independently of our perceiving them.

Similarly, the argument about perceivers in the immediate sequel concerns not whether perceivers always perceive truly, but whether they are perceivers at all when not engaged in perceiving (1047a7–10). The Megarics, implausibly, say no. Aristotle points out that this implies that people are blind and deaf many times every day (whenever one blinks, for instance). He is careful to emphasize that this is not simply because they cannot see or hear on those occasions, but because they cannot see or hear *despite being naturally constituted so as to see and hear*. Stones cannot hear, but they are not deaf.¹⁹ There is no issue of whether the perceivers, in perceiving, might get things wrong.

One can see why the Megaric doctrine would be associated with Protagoreanism, which is also concerned with whether things are as we perceive them antecedently and independently of our perception. This would explain why a thinking, yet confused, scribe would add these words, not seeing that Megaricism and Protagoreanism raise the issue in quite different ways. However, the attribution of Protagoreanism to the Megarics cannot be responsibly excised from the text; there is not a shred of manuscript evidence against this reading. Aristotle seems to have made a small blunder. He has, nonetheless, given us important arguments that show how the Megarics have to accept absurdities. While the Megaric might bite these bullets, it is hard to see why anyone would want to maintain Megaricism in the face of them, unless out of a perverse delight in paradox.

¹⁹ He had already mentioned this in Theta 1, 1046a31–3. Cf. also Δ.12 1019b17–18 and Δ.22 1022b27–9, for the same point.

5.2.3 The Possibility of Change

Aristotle's last argument against Megaricism is the decisive one. It does not present a bullet the Megarics have to bite. It refutes them by showing that their doctrine entails the impossibility of change.

But the argument as Aristotle presents it faces a serious problem. He appears to make an illegitimate transition from *not (now) able to impossible*. The problem arises already in the first sentence of the argument:

(1) Moreover, if what lacks the power [to ϕ] is unable to [ϕ], what is not coming into being will not be able to come to be. (2) And someone who says that what cannot come to be either is or will be will speak falsely, (3) for 'cannot' signified this, and (4) hence these claims destroy both change and coming into being. (Θ.3 1047a10–14)²⁰

Aristotle's intention is clearly to discredit the Megarics' position by forcing them to accept yet another absurd conclusion. Once this conclusion is spelled out, Aristotle says what is absurd about it, namely that it entails that there is no change.²¹

The conclusion is formulated using precisely the problematic adjective, 'unable' (*adunaton*). And there seems to be an issue about what it means, since Aristotle says in (3) "'unable' signified this." What is it that 'unable' signified? The phrase elucidates the previous sentence, (2). Some have thought that it reflects Aristotle's commitment to the equivalence of 'never' and 'impossible' (and 'always' and 'necessary'). But there is no agreement that Aristotle did equate 'never' and 'impossible,' and it is an interpretation that I, for my part, reject.²²

Whether or not Aristotle equated 'never' and 'impossible' in general, their equation would not yield an argument against the Megarics. Aristotle says in (1) that what is not coming into being *will not be able* to come to be. In (2), he then answers a response from a Megaric, the very response I was sketching above. The Megaric says, "the thing in question is *now* unable to come to be, but nevertheless it will later come to be." The idea is that things change their powers. What is now unable to come to be may later become able to come to be. Aristotle's answer in (2) is that this is false, and this is elucidated in (3) with the remark, "'unable' signified this." What 'unable' signified was *impossibility*, by contrast with mere lack of a power. Aristotle is explaining

²⁰ ἔτι εἰ ἀδύνατον τὸ ἐστερημένον δυνάμεως, τὸ μὴ γιγνόμενον ἀδύνατον ἔσται γενέσθαι· τὸ δ' ἀδύνατον γενέσθαι ὁ λέγων ἢ εἶναι ἢ ἔσεσθαι ψεύσεται (τὸ γὰρ ἀδύνατον τοῦτο ἐσημαίνει), ὥστε οὗτοι οἱ λόγοι ἐξαιροῦσι καὶ κίνησιν καὶ γένεσιν.

²¹ Given that Aristotle concludes that the Megarics deny change altogether (1047a14), I take the verb *gignesthai* to have its broad sense, covering all cases of becoming, and not only the genesis of substance. This is confirmed by the example of a person standing and sitting (1047a15–17).

²² This issue is much too complicated to be thoroughly dealt with here. See the next chapter for some discussion.

that (2) answers the Megaric by invoking, with the term ‘unable’ (*adunaton*), not the notion of power but the notion of impossibility.

There would be no point to Aristotle’s distinction if ‘impossible’ just meant ‘never.’ Aristotle has to argue that it is impossible for what is unable to come to be, either to be or to be going to be. If ‘unable’ just means ‘neither is nor will be (nor ever was),’ then Aristotle has begged the question. But if ‘unable’ means ‘impossible,’ then Aristotle is making a telling point against the Megaric. It is because the coming into being is impossible that it will not occur.

The distinction between ‘able’ and ‘possible’ was drawn in Delta 12, and this is the occasion referred to by the past tense of ‘signified.’²³

Some things, then, are called unable in virtue of such an inability [i.e., lacking a power], while others are so called in another way, i.e., possible and impossible. On the one hand, the impossible is that of which the contrary is of necessity true. For instance, a square’s diagonal being commensurate with the side is impossible, because such a statement is a falsity such that the contrary true is not only true, but also *necessary*. Hence its being commensurate is not only false but of necessity false. On the other hand, the contrary of this, the possible, is found when it is not necessary that the contrary is false. For instance, a human being’s sitting is possible. For their not being seated is not of necessity false. (1019b22–30)²⁴

‘Possible’ is a predicate of states of affairs, whereas ‘able’ is a predicate of a thing. The phrase ‘state of affairs’ designates the sort of thing that ‘possible’ might apply to, but ‘able’ could not apply to (because it would be a category mistake to apply ‘able’). The phrase picks up a certain linguistic form, the nominalization of a complete sentence. In Greek, this is an articular infinitive. In English, it is a phrase such as ‘the diagonal’s being measured.’ The predicates ‘possible’ and ‘impossible’ are applied to them. The predicates ‘able’ and ‘unable’ in the sense of having or lacking a power are not applied to such phrases, but rather to the names of things (e.g., wood, or beaver, or Socrates).

²³ The word ‘signify’ also occurs in Δ.12 at 1019b32.

²⁴ καὶ ἀδύνατα δὲ τὰ μὲν κατὰ τὴν ἀδυναμίαν ταύτην λέγεται, τὰ δὲ ἄλλον τρόπον οἷον δυνατόν τε καὶ ἀδύνατον, ἀδύνατον μὲν οὐ τὸ ἐναντίον ἐξ ἀνάγκης ἀληθές (οἷον τὸ τὴν διάμετρον σύμμετρον εἶναι ἀδύνατον ὅτι ψεῦδος τὸ τοιοῦτον, οὐ τὸ ἐναντίον οὐ μόνον ἀληθές ἀλλὰ καὶ ἀνάγκη [ἀσύμμετρον εἶναι]· τὸ ἄρα σύμμετρον οὐ μόνον ψεῦδος ἀλλὰ καὶ ἐξ ἀνάγκης ψεῦδος)· τὸ δὲ ἐναντίον τούτῳ, τὸ δυνατόν, ὅταν μὴ ἀναγκαῖον ᾖ τὸ ἐναντίον ψεῦδος εἶναι, οἷον τὸ καθῆσθαι ἀνθρώπων δυνατόν· οὐ γὰρ ἐξ ἀνάγκης τὸ μὴ καθῆσθαι ψεῦδος. Jaeger, following Bonitz and pseudo-Alexander’s paraphrase, brackets the second τὸ in the phrase τὸ δὲ ἐναντίον τούτῳ, τὸ δυνατόν; I prefer to follow the reading of the manuscripts. Jaeger also obelizes ἀσύμμετρον as corrupt, but objects to excising the words with Ross, saying “ἀνάγκη infinitivum postulat.” He continues, “homoeoteleuto haec fere verba excidisse puto: ἀλλὰ καὶ ἀνάγκη <ἀληθές εἶναι> τὴν δὲ διάμετρον ἀνάγκη> ἀσύμμετρον εἶναι· τὸ ἄρα σύμμετρον.” This seems to me a bold but not unattractive suggestion, but it would not change the sense of the passage.

This syntactic distinction corresponds to a difference in the world. In denying the possibility of a state of affairs, one is not thereby denying the power of a thing:

So then, these things are able not in virtue of a power, but all the things that are called 'able' in virtue of a power are so called with reference to the single, primary sort of power. (1019b34–1020a1)²⁵

Aristotle's example is designed to bring this out.²⁶ First, because it is geometric, it does not seem to involve powers for bringing about or undergoing change at all. Second, and more importantly, both the side of a square and its diagonal can be measured. Both lines have the 'power' of being measured. The impossibility does not attach simply to the one or to the other, but to the pair together. Any third line that measures one of the two necessarily fails to measure the other. The fact that the failure of measurability applies only to the pair together, not to each individually, helps bring out the difference between this use of 'unable,' and the use of 'unable' in saying of a candidate doctor that they are unable to heal. To deny the possibility of measuring the side and diagonal is not to deny the possession of a property by some object, whereas to deny that someone has the power to do something is.

In rebutting the Megarics, Aristotle is using both notions together. The argument turns on the impossibility of certain statements about powers. This already occurs in the very first sentence of the argument. In it, the protasis expresses a general truth about the relationship between lacking a power and 'cannot.'

MODAL PREMISE: What lacks the power to φ cannot φ . (protasis of 1)

The apodosis then draws a conclusion from this truth and Megaricism, in the particular case where the power in question is the power to undergo a change. The idea is roughly this:

INSTANCE OF MODAL PREMISE: What lacks to the power to become F cannot become F .

MEGARIC PREMISE: What is not becoming F lacks the power to become F .
(instance of Megaricism)

CONCLUSION: What is not becoming F cannot become F .

But whether the conclusion is absurd depends on how it is interpreted. There are two interpretations, each problematic.

²⁵ ταῦτα μὲν οὖν δυνατὰ οὐ κατὰ δύναμιν· τὰ δὲ λεγόμενα κατὰ δύναμιν πάντα λέγεται πρὸς τὴν πρώτην μίαν.

²⁶ The incommensurability of the side and diagonal of a square is one of his stock examples of impossibility. See *Prior Analytics* I.44 50a37 and II.17 65b18, *Physics* IV.12 221b24, *de Caelo* I.11 281a7 and I.12 281b13, *Metaphysics* IV.12 1019b24, and *Rhetoric* II.19 1392a18.

The conclusion might mean that what is not *now* becoming *F* cannot *now* become *F*. But this claim is not, on its own, absurd. And the Megaric is free to continue to insist that many things that cannot now become *F* will become able to become *F*. This conclusion does not entail that there is no change, but only that, in order for changes that are not yet occurring to occur, things will have to change their powers.

On the other hand, the conclusion might mean that what is not *now* coming into being cannot *ever* come into being. This conclusion is, as it should be, absurd. However, this reading of the conclusion makes the argument a bad one. On pain of equivocation, 'cannot' must be understood in the same way throughout the argument. But when 'cannot' is understood in terms of strict, atemporal impossibility, the MODAL PREMISE is highly implausible, for reasons that are by now familiar. This reading turns the MODAL PREMISE into the BAD ASSUMPTION from the Bad Argument. When Pheidias was just born, he lacked the ability to sculpt. There was a sense in which he could not sculpt. Fortunately for Greek sculpture, it was not strictly impossible that he sculpt. This is presumably the point that the Megarics will exploit. They will reject the MODAL PREMISE so understood, and they will say that Aristotle either equivocates or forces on them nothing absurd.

To solve this problem, we have to take account of how powers change over time. This is indicated by the future-tense verb in (1): "if what lacks the power [to φ] is unable to [φ], what is not coming into being *will not* be able to come to be." Aristotle signals his awareness of the difficulty that concerns us. He is saying that, on the Megaric view, what *now* lacks the power to become *F* will go on lacking that power. The Megarics might want to allow that the thing acquire the power, but their view in fact precludes this. The question is: why so?

We should bear in mind two things. First, Aristotle is trying to work around the paucity of the Greek modal vocabulary. Second, Aristotle has already given an account of power in Theta 1, and this account is presumably in the background here: a power is a principle, in one thing, of change in another thing. Aristotle is entitled to rely both on this premise and on the assumption that what has a power to φ can φ . Such principles of change are intrinsic properties of the objects that have them, and I will call them intrinsic powers.

The changes in such intrinsic powers are real changes in the object. By contrast, the non-intrinsic powers of things sometimes change without the things themselves changing. Schopenhauer was not able to attract many students to his lectures. If Hegel had abruptly lost his charisma, then Schopenhauer would have become able to attract more students to his lectures. Yet there would have been no change in Schopenhauer himself. Such a change is a relational change, not a real change in Schopenhauer. Some powers are intrinsic. Changing them involves a real change in the object. Other powers are not intrinsic; they can change without there being a real change in the

object. Such a power might change through a real change in the object. If Schopenhauer were suddenly to have become more charismatic, then perhaps he would have become able to attract more students than Hegel.

I assume that the intrinsic powers are fundamental, and that all facts about non-intrinsic powers are reducible to facts about intrinsic powers. (The non-intrinsic powers of one object might depend on the intrinsic powers of another.)

Megaricism was justified, I argued, by unclarity about the truth of claims that something can do something. A similar unclarity also applies to attributions of powers. But Aristotle's language of powers has one crucial advantage over the language of 'can.' The term of 'power' focuses our attention on the intrinsic properties of the individual object that has the power in question. For instance, it is unclear when to say of someone that they could play basketball like Michael Jordan in his prime. In some contexts, it would be plausible to say this of a talented ten-year-old. In other contexts, it would only be plausible to say this of someone whose basketball playing abilities are as well developed as Michael Jordan's in his prime.

Aristotle is drawing on what is distinctive of 'power' by contrast with 'can' to develop a more precise notion. The idea is that something can be *completely* ready to participate, as agent or patient, in a certain change. Something is completely ready when it does not need to undergo any further intrinsic changes in order for the change in question to take place. In this sense, no ten-year-old has the ability to play basketball like Michael Jordan in his prime. However talented, no ten-year-old has the strength, size, speed, and stamina of Michael Jordan in his prime, to say nothing of Jordan's ball-handling skills. Nevertheless, it may be true of a ten-year-old that they *can* (or, as we would more probably say, *could*) play basketball like Jordan in his prime, in that the child in question has the intrinsic properties necessary for acquiring Jordan's skill. This distinguishes some children from others, who could not develop into great basketball players even in the circumstances optimal for doing so.

This puts us in a position to interpret the MODAL PREMISE. It says that it is impossible for a thing to bring about or undergo a certain change without having the relevant power. This is something that a Megaric might have agreed to. But Aristotle's point is that the intrinsic property of the patient—the thing that becomes *F*—is a condition on the possibility of a change. What it is to have the property in question is something other than what it is for the change in question to be possible. Whatever has the property in question is completely ready for the change. Perhaps the change is possible. Perhaps not. But nothing more need change about the prospective patient of the change in order for the change to occur.

For this reason, it is perfectly possible that a thing be 'completely ready' to bring about or to undergo a change without the change actually occurring. In such a case, it is clearly appropriate to say that the thing in question has a

power to bring about or undergo the relevant change. For the power is just the property in question.

Furthermore, if something has a power (*dunamis*) to bring about or undergo a certain change, then surely it is able (*dunaton*) to bring about or undergo that change. And if it is able (*dunaton*) to bring about or undergo a certain change, surely it *can* (*dunasthai*) bring about or undergo that change, in some sense of ‘can.’

This enables us to find an interpretation of Aristotle’s argument that change is impossible, on which the argument is a good one. The problem centered on how to take the MODAL PREMISE that what lacks the power to φ cannot φ . We should read this as saying that whatever (now) is lacking in the power to φ , cannot (now) φ .²⁷ It is impossible that what lacks the power to φ engage in φ -ing.

It had seemed that, on this reading, the conclusion that change is impossible does not follow. But we can now see that it does. For the Megaric insists that whatever is not φ -ing cannot (without qualification) φ . Aristotle takes them at their word. It follows that the thing in question lacks the power to φ (since what has the power to φ can φ). Thus whatever is not now engaged in becoming cannot become.

Aristotle asks us to consider a normal adult human being who is sitting. We would normally think that such a person *can* stand up. They have the *power* to stand up. They have whatever *intrinsic property* something has to have in order to stand up. Nothing more needs to happen to such a person before they do so. Yet the Megarics have to deny that the person can stand. And they therefore have to deny that the person has the power to stand up. And they therefore have to deny that anything more needs to happen to such a person before they do so.

Similarly, consider the assembled materials for a house. Suppose that they have the *intrinsic properties* that must be present, in order to be made into a house. Nothing more needs to be done to those materials before they are made into a house. (We may suppose that an authoritative master of the art of housebuilding has honestly told us so.) Then they have the *power* to become a house, and hence *can* become a house. The Megaric denies that they can become a house, and thus also that they have the power to become a house. But the Megaric does not claim (what would be absurd) that the materials therefore have to undergo change before they are made into a house. They thus deny, willy-nilly, the role that the power—the intrinsic property of the materials—plays in the change.

²⁷ This might seem to contradict what I will later say about Aristotle’s view of eternal things, namely that, when they eternally φ , they do not do so by exercising a power to φ . To this I say: although these things do not have a power to φ , they also do not *lack* one.

Aristotle has shifted the focus from the agent to the patient of change, from a housebuilder to something undergoing change in general. In such cases, it is particularly easy to see the role played by the notion of power, because a patient always depends on an agent to bring about the relevant change. It is one thing for the patient to have the relevant power, and another thing for the correlative agent to act on the patient.

Thus if it is not possible to say these things, it is evident that power and *energeia* are different. But those [Megaric] arguments make power and *energeia* the same, which is why they are seeking to destroy no small thing. (Θ.3 1047a17–20)²⁸

And because of this difference in what it is to have a power, and what it is to exercise a power, it is also possible for something to have a power and yet not exercise it.

Hence it is possible for something to be able to be, yet not to be, and for something to be able not to be, and yet to be, and similarly also in the other categories, that what is able to walk not walk, and what is able not to walk walk. (Θ.3 1047a20–4)²⁹

Aristotle first characterized the Megaric view as one about the coincidence of claims about ‘can’ and claims about *energeia*. In the passages just quoted, he has gone farther. But I think that this is not a characterization of Megaricism as its proponents understood it (or at least, as they might best have understood it). The Megaric should make a distinction between power and *energeia*, and I have suggested how they might at least try to do so.

But Aristotle has argued the Megaric into a corner. By pointing out the crucial role that is in fact played by intrinsic properties in change, he forces them to equate power and *energeia*. They have to equate them to block the inference from ‘has the power to stand’ to ‘can stand.’ Aristotle is thinking, I suggest, that the Megarics cannot accept that the power in question is the property of being completely ready for the change in question. For if they accept that, then they have to accept that the power is a sufficient basis for saying that the thing in question *can* undergo the change. But if they deny that the power is this property, then the only other property with which they might identify it is the *energeia* itself.

This was, already, in the background of Aristotle’s previous arguments. The housebuilder is ‘completely ready’ to build a house when he has acquired the art of housebuilding. Insisting, as the Megarics do, that such a person can build a house *only* when engaged in building a house destroys the very point

²⁸ εἰ οὖν μὴ ἐνδέχεται ταῦτα λέγειν, φανερόν ὅτι δύναμις καὶ ἐνέργεια ἕτερόν ἐστιν· ἔκκειναι δ’ οἱ λόγοι δύναμιν καὶ ἐνέργειαν ταῦτό ποιοῦσιν, διὸ καὶ οὐ μικρόν τι ζητοῦσιν ἀναιρεῖν.

²⁹ ὥστε ἐνδέχεται δυνατόν μὲν τι εἶναι μὴ εἶναι δέ, καὶ δυνατόν μὴ εἶναι εἶναι δέ, ὁμοίως δὲ καὶ ἐπὶ τῶν ἄλλων κατηγοριῶν δυνατόν βαδίζειν ὃν μὴ βαδίζειν, καὶ μὴ βαδίζειν δυνατόν ὃν βαδίζειν.

of talking about power by contrast with *energeia*. That is why Aristotle says that Megaricism destroys the difference between a power and its exercise (Θ.3 1047a19–20). But this is simply absurd. There just is such a notion of being ‘completely ready’ available to us. That is the strict notion of having a power. And, as I have explained, the criteria for the necessary exercise of powers make precise this very notion. Something is completely ready to φ when, in order for it successfully to φ , only the circumstances need be right.

One can think of this as a response to the account of the art of housebuilding that I suggested on the Megarics behalf. On that account, the art of housebuilding does not itself constitute a sufficient basis for saying of something that it can build. It is, however, a sufficient basis for a ‘legitimate expectation’ (as I put it). Aristotle is pointing out that this legitimate expectation is much more robust and precise than the Megaric had admitted. Our legitimate expectation is, or can be, based on a thorough understanding of what goes into a housebuilder’s complete intrinsic readiness to build. Of course Aristotle will agree that the housebuilder’s power to build is restricted to be exercised under certain conditions. And thus Aristotle should concede that, in many circumstances, the housebuilder cannot build—in the sense that the circumstances mentioned in the full specification of their power to build do not obtain. But this does not in the least impugn the housebuilder’s own readiness to build. Even in those circumstances it is also true that the housebuilder can build—just in the sense that they have the power to do so. The possible housebuilder need not change in order for building to occur. Only their circumstances need change.

I see two further ways the Megarics might try to evade Aristotle’s argument. First, they might try denying that what has the power to φ can φ . This seems to me ad hoc stipulation, lacking any persuasive force. Second, they might try out the bizarre claim that, although it is impossible that what lacks the power to φ φ , nevertheless what lacks the power to φ will φ . It is impossible, but it will happen. For instance, someone who is sitting lacks the power to stand. It is impossible for them to stand (without first acquiring the power). And yet they will stand (acquiring the power at that instant). I think that Aristotle has so far simply assumed that this is false. But he goes on to elaborate on that assumption in the subsequent lines, where he discusses the relationship between possibility and the future.

The view I attribute to Aristotle has important affinities with a reading of can-statements developed by David Pears in his paper ‘Ifs and Cans’ [71, pp. 145–60].³⁰ Pears distinguishes between two ways of taking the statement, ‘This van can do 70 mph if it is unloaded.’ On one reading, the statement says that if a certain condition is fulfilled (the van is unloaded), then the van has the (unconditional) power to do 70 mph. One might have said, ‘If this

³⁰ I thank David Charles for the reference.

van is unloaded, then it can do 70 mph.' On the other reading, the statement unconditionally says that the van already has a certain (conditional) power, namely the power to do-70-mph-if-unloaded. One might take the Megarics to be reading all can-statements as attributions of conditional powers, and then arguing that they are only true when the powers in question are exercised. Aristotle would then be reading (some) can-statements as attributions of conditional powers.

The comparison is illuminating. Particularly helpful for our purposes is Pears's account of what is at stake in the two different readings of such sentences (pp. 152–3). The conditional attribution of an unconditional power says how the object in question would have to be changed in order to perform the task in question (e.g., the van would have to be unloaded). The unconditional attribution of a conditional power says how the task in question has to be understood (e.g., doing 70 mph without a load). This idea can help us see how Aristotle is simultaneously clarifying what powers things have, and what actions they perform.

There are also important differences between Pears's project and Aristotle's. Aristotle and the Megarics do not deal with conditional sentences, but with unconditional statements involving 'can' and with referring phrases like, 'the power to heat' or 'the power to heal.' The contrast is particularly dramatic since Pears allows that, sometimes, we might simply choose to take a condition one way or the other (pp. 145–6).³¹ No such moves appear open to Aristotle and the Megarics.

The main difference is not that Pears is focusing on one sort of linguistic expression, and Aristotle and the Megarics on another. The central question, for Aristotle, is not about the interpretation of sentences, but about the role of the intrinsic properties of things in changes. Aristotle and the Megarics are arguing about which things can do what, and this is, at least in part, a question about the world, not about language. It is a question about what it is to have the power to do something.

Furthermore, the Megarics seem not to have tolerated the sort of ambiguity in attributions of powers that Pears embraces. And I think that Aristotle cannot tolerate such ambiguity either. For him, 'power' is a central scientific concept, and thus has to be clear and precise in a way that precludes the ambiguity Pears accepts. Theta 5 is the culmination of the project of clarification. There, the notion of 'complete readiness' will be made more precise, by way of the conditions under which powers are necessarily exercised.

³¹ He does also say that, in some contexts, there is strong pressure to take a given statement one way rather than another.

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6

Possibility and the Future (Theta 3 and 4)

In the latter part of Theta 3, and in Theta 4, Aristotle elaborates on the distinction between power and possibility, which played such a crucial role in his rebuttal of the Megarics. First, he focuses on possibility in its own right (Theta 3). Then he discusses the relationship between possibility and the future (Theta 4). This discussion explains and supports the assumption from his rebuttal of the Megarics that statements about the future are true (or false) only if they will necessarily turn out true (or false) at the relevant time.

6.1 THE CRITERION OF POSSIBILITY

Aristotle clarifies the notion of possibility by giving the following criterion for what is possible:

CRITERION OF POSSIBILITY: What is able [to ϕ] is [such that], if the *energeia* for which it is said to have the capacity belongs to it, nothing impossible will be the case. (Θ .3 1047a24–6)¹

What kind of claim is the criterion of possibility? It is not a reductive analysis of the concept of possibility—an analysis designed to get someone who lacks the concept to grasp it—since it relies on the concept of impossibility. Obviously, if someone does not have the concept of impossibility, then one cannot explain to them the concept of possibility by the observation that what is possible is precisely what is not impossible (or, perhaps, what is neither impossible nor necessary²). Moreover, the criterion of possibility does not attempt to explain the concept of possibility in terms of non-modal concepts. Indeed, it employs the concept of impossibility to explain the concept of possibility.³

¹ ἔστι δὲ δυνατόν τοῦτο ὃ ἐὰν ὑπάρξῃ ἡ ἐνέργεια οὗ λέγεται ἔχειν τὴν δύναμιν, οὐθὲν ἔσται ἀδύνατον.

² See *Prior Analytics*, I.13, 32a18–20.

³ It would be wrong-headed to criticize Aristotle for failing to analyze possibility in non-modal terms, as if that were already to be guilty of obviously vicious circularity. It is absolutely clear that Aristotle is not trying to analyze the concept of possibility in

If it is not an analysis, then presumably the criterion of possibility is a way of determining whether something, whose possibility is in question, is or is not possible.⁴ This is suggested by the occurrence of “is said” in the formula. It is thought of as being applied to something that is allegedly possible, in order to determine whether it truly is possible. Yet it is not a criterion that can be used in every case, since it presupposes that we have an independent grasp that certain things are impossible.⁵

Aristotle is, therefore, presupposing that we have some other way to identify at least some impossibilities. (I will return below to the question of how to identify them.) The class of impossibilities would then fall into two subclasses, the manifest impossibilities and the doubtful impossibilities, each of which entails a manifest impossibility. This interpretation attributes to Aristotle the following claims:

non-modal terms. The motivation for analyzing modal concepts in terms of non-modal concepts is complex, and frequently derives from the view that the very modal concepts are suspect and hence to be rejected until properly analyzed. Aristotle did not share this view.

⁴ One could take the view that the CRITERION is neither an analysis nor, as I claim, a criterion, but a mere equivalence: something is impossible if and only if it entails something impossible. Given that everything entails itself, this would be trivially true. I do not see the point of taking the CRITERION this way, unless Aristotle makes the assumptions I attribute to him below: that there is a core class of impossibilities recognized in some other way, and some other impossibilities that are known to be impossibilities through entailing a member of the core class. So I see no substantive difference. Furthermore, Aristotle nowhere recognizes a concept of entailment on which things entail themselves, and it seems somehow un-Aristotelian in spirit to me. (The definition of syllogism in *Prior Analytics* I.1 (25a18–20) requires the distinctness of the conclusion from the premises.)

⁵ A similar formula, in connection with *to endekhomenon* rather than *to dunaton*, occurs at *Prior Analytics* I.13 32a18. It is there called a *horismos*, which might be translated as ‘definition,’ ‘criterion,’ ‘determination.’ One might think that the CRITERION given in Theta 3 is a version restricted in scope by contrast with the version given in the *Prior Analytics*. The version in Theta 3 uses the word ‘*dunamis*,’ and the correlative term ‘*energeia*,’ which do not appear in the *Prior Analytics*. This is a delicate issue, which could easily lead to confusion on important matters. The formulation of the CRITERION in Theta 3 is influenced by the preceding context, the refutation of the Megarics, which had focused on capacities and their exercise. It is for this reason that it employs the terms ‘*dunamis*’ and ‘*energeia*.’ But in the immediately preceding sentence Aristotle had spoken about what is possible (*endekhetai*, and the CRITERION is elucidating this. One of the cases mentioned there (walking, but being able not to walk) is surely not a case in which the imputed capacity (not to walk) has a correlative *energeia*. And in the immediate sequel, Aristotle makes clear that this restriction is not intended: he speaks about “what is able to sit, viz. it is possible that it sit” (1047a26–7; δυνατόν καθῆσθαι καὶ ἐνδέχεται καθῆσθαι). The subsequent examples include some cases of capacities and their exercise (*energeia*)—being moved, causing to move, standing, causing to stand, and becoming—but also cases that are clearly the non-exercise of a capacity—not being, not becoming (1047a28–9). It is particularly important to see that the word ‘*energeia*,’ like the word ‘*dunamis*,’ has crept into the CRITERION because of the Megaric context—not because ‘*energeia*’ is a general term for the obtaining of a fact, any more than ‘*dunamis*’ is a general term for possibility.

1. There is a *core class* of impossibilities. One can ascertain whether some state of affairs is a member of this class without recourse to the criterion of possibility.
2. The members of the core class are *manifest* impossibilities. One does not need any special criterion to show that they are impossible.
3. If something entails something impossible, then it is impossible.
4. If something does not entail a member of the core class, then it is possible.
5. If something is impossible, then *either* it is itself a member of the core class *or* it entails a member of the core class.

All interpretations should accept (1) and (4). As I have explained, (1) is presupposed by the CRITERION OF POSSIBILITY. And (4) merely restates the CRITERION OF POSSIBILITY. The other claims require further comment. They are my attempt to flesh out a view of possibility and impossibility in general, on the basis of what Aristotle says here in Theta 3.

(5) is not an independent part of the interpretation, but rather a consequence of (3) and (4), which state that entailing a member of the core class is both sufficient (3) and necessary (4) for impossibility. I list (5) separately, even though it is a consequence of other claims on the list, because it seems to me to express the real point of Aristotle's account, namely to grasp the whole classes of possibilities and impossibilities.

However, in attributing (5) to Aristotle, I attribute to him not only (4)—which is explicitly stated as the CRITERION OF POSSIBILITY—but also (3). Do I have adequate grounds to do so? This is not quite as straightforward as one might think. The following simple argument would not be adequate. Suppose that *B* is impossible and if *A*, then *B*. Since *B* is impossible, *B* is not the case. Hence, by *modus tollens*, *A* is not the case. But this conclusion—that *A* is not the case—is not the conclusion we seek—that *A* is impossible.

Suppose we work on the assumption that the statement, 'if *A*, then *B*,' entails the statement, 'if *A* is possible, then *B* is possible.'⁶ Then *modus tollens* immediately shows that *A* is not possible, and hence *A* is impossible.⁷ So Aristotle should accept (3). And indeed, Aristotle says at the end of

⁶ Aristotle himself states this assumption in the latter part of Theta 4 at 1047b14–16.

⁷ An equivalent argument can be formulated using the language of formal modal logic. Suppose $\Box(p \supset q)$ and $\neg\Diamond q$. By contraposition, we have $\Box(\neg q \supset \neg p)$. And from $\neg\Diamond q$ we have $\Box\neg q$ by the usual substitution rules for $\Box$ and $\Diamond$. We assume the basic modal principle $\Box(x \supset y) \supset (\Box x \supset \Box y)$. (This is the modal assumption of the most elementary modal system **K**, which is contained by most other modal systems studied.) From it and $\Box(\neg q \supset \neg p)$ we infer $\Box\neg q \supset \Box\neg p$ and hence, by *modus ponens*, $\Box\neg p$. Therefore, by the usual substitution rules for $\Box$ and $\Diamond$, $\neg\Diamond p$, QED.

Physics VII.1, “the assumption of a possible case ought not to give rise to any impossible result” (243a30-1; trans. Hardy and Gaye in Barnes).⁸

This leaves (2), which requires further elaboration and defense. The plausibility of (2) is best brought out by *reductiones ad absurdum*. The term *absurdum* indicates that, in such an argument, one shows that what is entailed by some hypothesis is not only false but manifestly false. Where the conclusion is an impossibility, then the hypothesis in question entails something not only false, but impossible—and not only impossible, but manifestly impossible. Euclid himself regularly—about a fourth of the time—uses *atopon*, ‘absurd,’ rather than the more neutral *adunaton*, ‘impossible,’ to describe the impossibility that follows from the hypothesis to be refuted in a *reductio*.⁹

It may help to clarify these considerations by considering a mathematical example. Let’s take Euclid’s proof of *Elements* X.2 (a proposition that will also serve as an example of considerations about the future later in this chapter). This argument concludes in a way that fits well with Aristotle’s CRITERION OF POSSIBILITY. Euclid writes:

But *E* measures the whole *AB* also; therefore (1) *it will also measure the remainder AG*, (2) *the greater the less*: (3) *which is impossible*. Therefore no magnitude will measure the magnitudes *AB*, *CD*; therefore the magnitudes *AB*, *CD* are incommensurable.

The assumption to be refuted—that certain lines are commensurable—is shown to entail something impossible—that *E* measures *AG*. But Euclid does not simply state the impossible conclusion, he also characterizes it in a way that displays its impossibility. This is the force of the words, “the greater the less.” Nor does Euclid stop with this reformulation. He also states explicitly that the conclusion is impossible. Thus this section of the proof has three distinct parts: the conclusion about the particular lines (1), the reformulation of this conclusion in general terms (2), and the statement, on the basis of that reformulation, that the conclusion is impossible (3).

The English translation of the second component, “the greater the less,” captures the Greek literally. There is no separate sentence, merely the addition

⁸ Ross, in his note to 1047a26, cites this passage, along with *Prior Analytics* 32a18, as expressing the same principle as the CRITERION. This is a mistake. The *Physics* gives a necessary condition for possibility—claim (3) in my interpretation—whereas the *Metaphysics* and *Prior Analytics* give a sufficient condition—claim (4) in my interpretation.

⁹ In the lemma to proposition XIII.2, *adunaton* and *atopon* are used as synonyms. It is to be shown that a certain line is less than another line. On the supposition that the two lines are equal, something impossible (*adunaton*) follows. Then Euclid writes that we can further conclude that the line in question is not larger “for the absurdity [*to atopon*] is much greater.”

of two adjectives. Nor does Euclid use any logical connectives. We are thereby invited to see him not as *inferring* that the statement about the particular lines expresses an impossibility, but rather as indicating that it is obvious that it expresses an impossibility, and this is the crucial point for us. The demonstration relies on a certain proposition's being manifestly impossible. This is characteristic of a *reductio*. It does not much matter whether the proposition in question is *E measures AG* or a *greater line measures a lesser line*. The demonstration relies on our seeing that a proposition is not and cannot be true.

Reductiones ad absurdum thus support the plausibility of (2), and hence indirectly support the interpretation of Aristotle as holding (2). Further support comes from the fact that Aristotle does explicitly state the CRITERION OF POSSIBILITY (4), and thus clearly relies on the claim that there is a core class of impossibilities (1). Given that he is relying on there being a core class of impossibilities, one would expect a discussion of how to identify a member of that class. Yet he offers no further elucidation—here or elsewhere—of how to determine whether a candidate sentence expresses a possibility. This would be peculiar, unless the members of the core class are manifest impossibilities. There is no need for further discussion of how to identify them because they are manifest.

This idea, together with the CRITERION OF POSSIBILITY, would divide the class of impossibilities into two sub-classes, the class of manifest impossibilities and the class of impossibilities that entail something manifestly impossible. On the one hand, not all the impossibilities are simply manifest. On the other hand, there are no irredeemably obscure impossibilities—impossibilities neither manifest in their own right nor entailing a manifest impossibility.

This interpretation of the CRITERION presupposes further that there are no hidden entailments. It presupposes that there are no cases like the following: (1) if *p*, then *q*; (2) *q* is impossible; (3) there is no way to deduce *q* from *p* using assumptions that human beings can know. One can, of course, deduce *q* from *p* given the assumption that if *p* then *q*. But the connection between *p* and *q* might not be knowable. It might, for instance, be a function of certain highly complicated natural laws. Aristotle seems to take for granted that there are no such hidden necessary connections in the world.

One would like to know more about the core class of impossibilities, the manifest impossibilities. The manifest impossibilities are such that one can ascertain that they are impossible without applying any criterion. Perhaps the idea is that all one needs to do to see the impossibility in question is to understand what is said by the relevant statement. One might take this as meaning that any competent speaker of the relevant language (and the relevant vocabulary in that language) would agree that the sentence obviously expresses an impossibility.

But that is implausibly and unnecessarily strong. The idea could well be the much weaker one that, when someone does grasp that such a proposition could not be the case, they do so simply in virtue of grasping what the proposition says. The example above, from Euclid, should help elucidate this idea: Euclid takes the proposition that *E* measures *AG* to be manifestly impossible, but that does not mean everyone who grasps it realizes this. One might need to prod such a person, for instance by adding that *E* is greater than *AG*. In some cases, it might require a great deal of prodding, even browbeating, to get someone to realize that a certain sentence expresses an impossibility.

What are the impossibilities that can be identified simply by grasping what the relevant proposition says? A modest proposal is that they are the instances of the principle of non-contradiction. On this view, all impossibility is captured in the principle of non-contradiction. There are, however, two important reasons not to accept this view. First, it is unclear whether the principle of non-contradiction would generate a core class of manifest impossibilities rich enough either to be plausible or to satisfy Aristotle. Second, to whom is it manifest that the members of the core class are impossible?

These two questions are related. It may be obvious to someone with expert knowledge that it is impossible to build a wooden house with a certain structure, because it would collapse before you could get all the pieces in place. It is not clear that this follows from the principle of non-contradiction. Color exclusion might be another example of an impossibility that is obvious, but not a matter of the principle of non-contradiction. By ‘color exclusion,’ I mean the fact that a single region of a surface cannot have two colors at once. This might, in fact, follow from the principle of non-contradiction, once one has grasped *what* color is.

For these reasons, it seems to me more attractive to think that there is a core class of manifest necessary truths. The manifest impossibilities are manifestly incompatible with the necessary truths, and the non-manifest impossibilities entail things that are manifestly incompatible with the necessary truths. I hope to elaborate on these ideas, particularly in connection with Aristotle’s theory of our knowledge of necessary first principles of sciences, but I cannot do so here.

6.2 ‘WILL NOT’ AND ‘CANNOT’ (Theta 4)

After he has presented the CRITERION OF POSSIBILITY, Aristotle makes a rather cryptic statement about the relationship between possibility and the future.¹⁰ The relationship between possibility and the future arises from the

¹⁰ Some remarks about the notion of *energeia* intervene, at the end of Theta 3. I discuss them in connection with *energeia* in §9.9.

discussion of the Megarics. Aristotle had said that what is impossible is not going to occur.¹¹ Aristotle now considers the question of whether what is not going to occur is impossible.

Moreover, Aristotle's CRITERION OF POSSIBILITY is generous, leaving the possible a wide range. It thus would seem to leave open that something is possible, and yet neither is nor will be the case. Aristotle now clarifies this matter. He allows that something might be possible, yet never be the case. Yet he also wants to insist that if it is already *now* true, that something neither is *nor will be* the case, then it is already impossible. That is, it is already ruled out.

Aristotle's remarks in Theta 4 have sometimes—in my view, wrongly—been taken as evidence that Aristotle believes in a principle of plenitude. That is, he believes that all possibilities are, at some time, realized. But once we realize that Aristotle is concerned about the present truth of future-tense claims, then he no longer seems to be claiming anything like the principle of plenitude here.

Commentators take Theta 4 this way partly because they believe that his general views on necessity commit him to it. In particular, it is thought that whatever is *always* the case is necessarily the case, according to Aristotle. Given the equivalence of *necessarily* and *not possibly not*,¹² it follows that *possibly* is equivalent to *not always not*, i.e., *at some time*. In other words, whatever is possible is the case at some time, and whatever is never the case is impossible.

I cannot discuss this issue with the thoroughness it deserves, but I do need to say something about it, in order to forestall confusions pertaining to Theta 4. First, all direct evidence about Aristotle's views on possibility favors the interpretation that possibilities need not be realized. As is well known, he explicitly allows this in *de Interpretatione* 9.

However, there is strong evidence that Aristotle thinks that whatever is always the case is necessarily the case. What then of the argument from this view to the principle of plenitude? I think that the argument is fallacious. It has to infer 'this is necessarily not so' from 'this is not ever so.' But this inference illegitimately treats negative statements about what is not the case at any time as if they were on a par with positive statements about what *is* the case always. Even if Aristotle accepts the inference from 'this is always so' to 'this is necessarily so,' he might deny the inference from 'this is not ever so' to 'this is necessarily not so.'

The view that what is always the case is necessarily the case has some plausibility. The idea is that if something is always the case, then something

¹¹ Cf. *estai* in 1047a12 and *esesthai* in 1047a13.

¹² For Aristotle's acceptance of these views, see the opening lines of *de Interpretatione* 13 and *Metaphysics* Δ.5 1015a33–5.

has to be responsible for its being always the case, and that is enough to make it necessarily the case. It is not, however, intuitively plausible that if something always fails to be the case, something must prevent its ever being the case. Indeed, that seems obviously false. Without anything ever having ensured that Fabius not die at sea, it may just happen that he never does. Say, Fabius dies of an illness, and it is a matter of chance that he is not shipboard at the time. So it seems false that if there is no time at which something is the case, then it is necessarily not the case. And thus we should reject the argument that commits Aristotle to a principle of plenitude, on the basis of his view what always is the case is necessarily the case. The substitution seems plausible if one translates Aristotle's view into the symbolism of formal logic, using symbols that stand for any arbitrary well-formed sentence. Then, one would think that the view also applies to negative sentences, to what is always or necessarily *not* the case. But this only shows how dangerous it can be to translate Aristotle's views into the symbolism of formal logic.

These considerations are enough to remove the presumption that Aristotle accepts that all possibilities are at some time realized. Approaching Theta 4 without that presumption, we will find no independent reason here to ascribe that belief to him. The claim Aristotle makes is this:

If what has been said *is* what is possible, or if what has been said follows from that, then evidently it is not possible that it be true to say that *this*¹³ can be, yet will not be the case, so that things that cannot be thus escape. (Θ.4 1047b3–5)¹⁴

Aristotle is here saying that, if it is *now* already true that something will not be the case, then that something is now already ruled out. Many things about the future are open. Perhaps there will be a sea battle tomorrow, perhaps not.

However, the future is not entirely open (or at least, it might not be). Some things about the future are already determined. For instance, it may already have been determined that a hurricane will strike land at Miami tomorrow. What does it take for a statement about the future to be true *now*? The way things are now must ensure that the statement will be true. Of the available

¹³ I emphasize 'this' because it translates not τόδε but τοδί.

¹⁴ Εἰ δέ ἐστι τὸ εἰρημένον τὸ δυνατόν ἢ ἀκολουθεῖ, φανερόν ὅτι οὐκ ἐνδέχεται ἀληθὲς εἶναι τὸ εἰπεῖν ὅτι δυνατόν μὲν τοδί, οὐκ ἔσται δέ, ὥστε τὰ ἀδύνατα εἶναι ταύτη διαφεύγειν. There is a problem with the text of the protasis. I adopt Ross's reading, for the following reasons: (1) It yields an intelligible and sensible text. (2) It is the reading of one manuscript, T. (One must consult Ross's apparatus for this reading; Jaeger does not mention T here.) (3) The more authoritative manuscripts E and J have different readings from one another. (4) neither of which is intelligible. (5) The text of T differs only slightly from the texts of E and J. (It differs from both in omitting the τὸ before δυνατόν, and from E in having ἢ rather than ἢ.) (6) The proposed emendations of E and J differ far more from the texts of E and J than does the reading of T. It seems to me that further conjectures might well be fruitful, although I have not discovered a satisfying one. One strategy would be to provide a dative to go with ἀκολουθεῖ, perhaps simply adding τῷ δυνατῷ, to yield εἰ δέ ἐστι τὸ εἰρημένον τὸ δυνατόν ἢ τῷ δυνατῷ ἀκολουθεῖ....

ways for things to change now, all include a hurricane's striking land at Miami tomorrow. And whatever it is that ensures that the statement will be true, ensures that its contradiction will be false.¹⁵

This suffices to establish Aristotle's claim. It cannot be true to say *now* that something neither is nor will be the case, and yet is possible. For if it is true now that it neither is nor will be the case, then there must be something that already rules out its being the case.

In the simplest cases, we can say that something neither is nor will be simply because it is impossible. That is, its possibility is ruled out by facts that are not subject to change. Aristotle himself gives precisely such an example in the immediate sequel:

I mean, for instance, if someone should say that the diagonal [of a square] is able to be measured, although it will not be measured—someone who does not conclude it cannot be [measured], on the grounds that nothing prevents its being the case that something, while able to be or to come to be, neither is nor even will be.

(Θ.4 1047b6–9)¹⁶

Aristotle seems to have in mind the following sort of case. Someone is confronted with a two-part argument. First, the argument concludes that, if a line measures the side of a square, that line *will not* measure the diagonal of the square. The second part of the argument further concludes that it is *impossible* for the diagonal of the square to be measured by any line that measures the side. The person accepts the first part of the argument, but not the second. He rejects the inference to the conclusion that it is *impossible* for

¹⁵ Hintikka, in ch. 5 of *Time & Necessity* [50], deals briefly with Theta 4 (pp. 107–9). He cites the passage I have just cited, and asserts without argument that it supports his attribution to Aristotle of the view that only states of affairs that are at some time actual are possible. He does argue against an alternative reading, which he attributes to G. E. L. Owen and Martha Kneale, also espoused by Kung in [58]. But I propose yet another reading, that his arguments do not count against. Neither side of the debate appreciates the importance of truth-conditions for future-tense sentences. Both sides of the debate read Aristotle as dealing with the statement, “It can be true that something is possible, and yet for it not to be the case at any time.” Owen, Kneale, and Kung then read the *ὥστε* clause in 1047b5–6 as introducing a restriction: this claim cannot be true *in such a way* that impossibilities escape. Hintikka reads the claim as unrestricted, and contradicting Aristotle's view. I take the *ὥστε* clause as stating the consequence that *would* follow from affirming what Aristotle denies—but I take Aristotle to deny a more restricted claim than any that figures in the debate so far, because I take the claim to involve ineliminable future-tense claims. Notably, Sarah Waterlow Broadie in *Passage and Possibility*, although she accepts Hintikka-like views about modality in Aristotle in general, is very cautious in her remarks about this passage. See [83, p. 2, n. 1]. (The passages cited in that note provide a good overview of the relevant passages in Aristotle.)

¹⁶ λέγω δὲ οἷον εἴ τις φαίη δυνατόν τὴν διάμετρον μετρηθῆναι οὐ μέντοι μετρηθήσεσθαι—ὁ μὴ λογιζόμενος τὸ ἀδύνατον εἶναι, ὅτι οὐδὲν καλύπει δυνατόν τι ὄν εἶναι ἢ γενέσθαι μὴ εἶναι μηδ' ἔσεσθαι. I have modified that punctuation given by Jaeger and Ross. Both print a dash rather than a comma between εἶναι and ὅτι.

a line that measures the side to measure the diagonal. The phrase, “someone who does not conclude it cannot be [measured],” indicates that this person doubts the impossibility of the diagonal’s being measured *not* because he has an argument that it is possible to measure it, but because he rejects the inference from ‘will not’ to ‘cannot.’ He is not a revisionist mathematician, but a fussy sophist.

There is no need to saddle Aristotle with the extremely strong assumption that, in general, ‘not at any time’ implies ‘cannot.’ The diagonal’s not being measured is not something that just happens to turn out that way. It is most unlike a case in which I have worn my cloak once—and then must remain in doubt about whether or not it is possible for me to wear it again, until it turns out that I do or do not wear it again. The natural view of the cloak case would accept that, soon after the first wearing, claims about whether I *will* wear it again are mere conjectures, whereas there are good grounds for claiming that it is possible for me to wear it again. In the case of the square’s diagonal, however, there is a demonstration, accepted by the objector, that no measure of the side will measure the diagonal. The claim about the future is known to be true *now*.

Aristotle may well have been thinking of an argument for incommensurability involving reciprocal subtraction (*anthuphairesis*).¹⁷ The process of reciprocal subtraction can be carried out with lines or numbers (in which case it is also known as the Euclidean algorithm for finding the greatest common divisor). The process involves repeatedly subtracting one quantity from another, and then subtracting the remainder repeatedly from the first quantity. Consider, for instance, 21 and 96. Repeatedly subtract the lesser, 21, from the greater, 96, as many times as possible. (Since we are working only with counting numbers, it is impossible to subtract a greater number from a lesser.) We get $96 - 21 = 75$, and then 54, 33, 12. Since 12 is less than 21, we cannot perform further subtractions. So, our first remainder is 12. Now reverse the process, subtracting 12 from 21 as many times as possible. This yields $21 - 12 = 9$. So our second remainder is 9. Again, reverse the process, subtracting 9 from 12, yielding 3. Our third remainder is 3. When we reverse the process this time, subtracting 3 from 9 as many times as possible, the remainder is 0. If we were to try to reverse the process again, we would be subtracting 0 from 3, and this would yield no new result. Hence the process has terminated, and the number at which it terminates, 3, is a common

¹⁷ I focus on this argument because it involves a process, and thus provides a context for claims about will happen as the process is carried. That is not the case for the argument sketched in *Prior Analytics* I.44. That argument relies on the equivalence commensurability and *being in a ratio of counting numbers*. If the side and diagonal of a square were in the ratio of two counting numbers, there would be two counting numbers whose squares were in the ratio 1:2. The proof shows that this is impossible. (For the equivalence of commensurability and being in a ratio of counting numbers, see Euclid X.5 and 6.)

measure, in fact the greatest common measure, of the original numbers, 21 and 96.

For (counting) numbers, the process of reciprocal subtraction always terminates. That's because counting numbers always have a common measure, namely the number one. For lines, the process of reciprocal subtraction sometimes terminates and sometimes does not. When it terminates, it terminates at a common measure. Euclid demonstrates, at *Elements* X.2, that, if the process of reciprocal subtraction does not terminate, then the two lines are incommensurable. Aristotle may well have such an argument in mind here in Theta 4. For there is an ingenious diagram, which shows that the process of reciprocal subtraction does not terminate, in the case of the square and its diagonal.¹⁸ And it follows from the fact that the process of reciprocal subtraction does not terminate that the lines in question have no common measure.

I have in mind the following sort of disagreement between a mathematician and a mathematically competent sophist. The mathematician is demonstrating the incommensurability of the side and diagonal in the face of the sophist's objections.

The mathematician begins their demonstration by undertaking the reciprocal subtraction of side and diagonal. After iterating the process several times without arriving at a common measure, they assert that the side and diagonal are incommensurable. The sophist objects that, although the reciprocal subtraction has not yet terminated, it may still terminate, in which case the side and diagonal would be commensurable.

The mathematician replies by producing the diagram that shows that the process will never terminate.¹⁹ The sophist objects: it may be that *this* process for finding a common measure fails, but some other process succeeds.

The mathematician replies by producing the demonstration of Euclid X.2. This demonstration concludes that if reciprocal subtraction produces no common measure, then no line whatsoever *will* measure both the side and diagonal. And it further concludes that the lines are incommensurable, i.e., that it is *impossible* that there be a common measure.

The sophist concedes that no process will produce a common measure. He ought to concede this. His competence in mathematics allows him to follow the excellent argument of X.2. He accepts that a greater line does not measure a smaller one. But when the mathematician further concludes that the side and diagonal are incommensurable, the sophist objects to inferring that they *cannot* be measured from the fact that they *will not* be measured.

¹⁸ This can also be shown for the lines involved in the golden section, but it requires a far more sophisticated construction, involving a regular pentagon. For both diagrams, see Knorr [53, pp. 28–31] and the works cited by him in n. 28.

¹⁹ This is the diagram cited above, from [53, p. 28.]

We are no longer dealing with a mathematical issue, but rather with a philosophical one. But it is a philosophical issue with immediate bearing on how a mathematician might demonstrate incommensurability. Such inferences were employed in the last steps of Euclid's demonstration of X.2.²⁰ Euclid has to move back and forth between what will or will not be the case and what is or is not possible.

At the beginning of the proof, Euclid goes from what is (supposedly) possible to what will be the case. First, he makes the assumption to be refuted, that the two given lines, *AB* and *CD*, are commensurable: this is a claim about possibility. He then infers, "For, if they are commensurable, then some magnitude *will* measure them [*metrēsei*]." At the conclusion of the argument, he infers back again from 'will not' to 'cannot.' First he shows that the assumption that the magnitudes *will* be measured leads to an impossibility, and then he draws his conclusion in two stages: "Therefore no magnitude *will* measure the magnitudes *AB*, *CD*; therefore the magnitudes *AB*, *CD* are incommensurable."²¹ These sentences frame the body of the demonstration.

Aristotle is imagining someone who challenges this inference—not someone who concludes that it is *impossible* for the diagonal to be measured (ὁ μὴ λογιζόμενος τὸ ἀδύνατον εἶναι), but rather someone who challenges the inference on the grounds that "nothing prevents its being the case that something, while able to be or to come to be, neither is nor will be" (1047b7–9). The objector is confused about the relationship between *will not* (a tensed claim about the future relative to some *now*) and *never*. The challenger accepts that there will be no line that measures the side and the diagonal, but he denies that it is impossible for there to be such a line.

The objector's chain of reasoning is one that Aristotle himself might well be thought to accept. The point of the CRITERION OF POSSIBILITY was to give the most capacious available definition of possibility. This was a central part of the rebuttal of the Megarics, who had restricted what can be to what is. Aristotle had himself affirmed just what the objector now affirms: it is possible that something, while able to be or to come to be, neither is nor will be. Indeed, to reject the Megaric position is to affirm precisely this claim.

We can now understand the role of this claim at the beginning of Theta 4 in the larger dialectic. Aristotle is responding to an objection to his earlier view, an objection that says, 'Given your view of possibility, certain things that should turn out impossible—such as measuring the diagonal of a square—come out possible, because one cannot infer their impossibility from the

²⁰ See the discussion on page 122 above.

²¹ οὐκ ἄρα τὰ *AB*, *CD* μετέθῃ μετρήσει τι μέγεθος· ἀσύμμετρα ἄρα ἐστὶ τὰ *AB*, *CD* μεγέθῃ

fact that they will not be the case.’ This objector is not the sophist in the above argument with the mathematician. This objector is, rather, someone who accuses Aristotle of succumbing to such sophistry himself. This has important ramifications for what we expect from Aristotle’s reply. He need not demonstrate to a sophist such as the one above, who is firmly committed to the possibility of measuring the diagonal, that it is impossible to measure it. He need only carry out the more modest task of showing that his view does not, in fact, succumb to such sophistry. His view has resources for drawing the inferences the sophist denies.

The crux of Aristotle’s reply is this. To prove the falsehood of ‘it is possible that *X*,’ it is enough to show that something impossible follows from *X*. There is no need to show that ‘it is possible at *X*’ entails something false. This distinction is picked up in Aristotle’s answer to the objector by the “we suppose”:

But that must be the case, from our assumptions, i.e., if we should suppose that what is not but can be either is or has come about, nothing impossible will be the case. But [in the case in question, an impossibility] will result, for [the diagonal’s] being measured is impossible. (Θ.4 1047b9–12)²²

The objector had said that *being measured* is possible but will not be. He accepts the demonstration that the diagonal is not and will not be measured. Aristotle’s response follows the CRITERION OF POSSIBILITY carefully. One is to consider what follows if the thing in question belongs to that which is alleged to be able to be it. Accordingly, he focuses not on the future tense, but on the state of affairs (*to metresthai*), without regard to when it may obtain.

This is enough, for Aristotle and the sophist agree about a great deal. They agree that they are considering a counterfactual case. They agree that something impossible would result if the diagonal were measured. And Aristotle shows the objector that the CRITERION OF POSSIBILITY has been formulated

²² ἀλλ’ ἐκεῖνο ἀνάγκη ἐκ τῶν κειμένων, εἰ καὶ ὑποτιθέμεθα εἶναι ἢ γεγενῆσθαι ὃ οὐκ ἔστι μὲν δυνατόν δέ, ὅτι οὐθὲν ἔσται ἀδύνατον· συμβήσεται δέ γε, τὸ γὰρ μετρεῖσθαι ἀδύνατον. Some remarks about my translation are in order. (1) The syntax of the first sentence here translated is somewhat awkward. The Greek reads, ἀλλ’ ἐκεῖνο ἀνάγκη ἐκ τῶν κειμένων, εἰ καὶ ὑποτιθέμεθα εἶναι ἢ γεγενῆσθαι ὃ οὐκ ἔστι μὲν δυνατόν δέ, ὅτι οὐθὲν ἔσται ἀδύνατον. At first glance, one expects ἐκεῖνο to refer to something previous, but it seems that it must refer, proleptically, to the ὅτι clause, which otherwise will have nothing to govern it. (2) My emphasis on ‘will’ reflects a γε in the Greek. (3) I translate τὸ μετρεῖσθαι “the diagonal’s being measured.” It is, of course, perfectly possible to measure the diagonal of a square; one may use, for instance, a line half the length of the diagonal. What is impossible is for any line that measures the diagonal also to measure the side, and vice versa. However, one usually thinks of a square as determined by its side, and hence of measuring the side first. For this reason, Aristotle speaks, as is customary, as if it were measuring the diagonal that were problematic. Cf. Euclid’s strategy of classifying lines as rational or irrational with respect to some given reference line.

in a way that excludes sophist's claim. If the sophist accepted the CRITERION OF POSSIBILITY, then he would have to accept the impossibility of the diagonal's being measured. And this is a sufficient reply to Aristotle's objector.

This reading of the lines just quoted avoids making Aristotle beg the question. He certainly seems in danger of fallacy when he writes, "But something impossible *will* result, for the diagonal's being measured is impossible" (1047b11–12). The objector has questioned the very impossibility of measuring the diagonal, and so would presumably reject Aristotle's triumphant conclusion. But on our reading, Aristotle and the objector agree that if *the diagonal's being measured* were actually the case, something impossible would follow. Given the CRITERION OF POSSIBILITY, this is enough to show that it is impossible.

These issues about tense are less prominent in the cryptic explanation that Aristotle gives of his assertion that the diagonal's being measured is impossible.

For the false and the impossible are not the same, for it is false that you are standing now but not impossible. (1047b12–14)

The example Aristotle gives is a peculiar one because it is in the present tense, whereas the original claim was that the diagonal *will* not be measured. But the issues about tense remain important. I suggest that the present tense contains the assumption of actuality that is crucial for the criterion of possibility. The point is to test the possibility of *you are standing* by supposing it now to be the case. Of course, it follows that you are not sitting, and this is false—but it is not impossible.

The future is, in its own right, indeterminate, unlike the present and the past. Thus present truth of statements about the *future* has an entirely different standing from present truth of statements about the *present*. The only thing that could *now* make true a statement about what *will* be the case is some constraint on what could be the case. What is at issue about the diagonal is not simply whether the diagonal is measured, but how we know that it will not be measured. When we apply the CRITERION OF POSSIBILITY to 'you are now standing,' no impossibility results, merely something false. On the other hand, when we apply the CRITERION OF POSSIBILITY to 'the square's diagonal is now (actually) measured,' something impossible does result, namely that a smaller line measures a greater. It is measured *ex hypothesi*. And the very arguments that were used in the first place to show that the diagonal will not be measured can still be used, even on the hypothesis that the diagonal is measured.

The process of reciprocal subtraction provides a wonderful example for Aristotle's discussion. On the one hand, we can talk meaningfully about the future (what *will* happen in the process). On the other hand, all agree that

what will happen is already determined. This enables Aristotle to point out the relationship between time-relative necessity and future-tense statements. That's why Aristotle uses this kind of example. But the example has misled commentators, because it seems to be one to which time is irrelevant. That means they miss that Aristotle is here discussing the relationship between time and necessity. This seems to me confirmed not only by the tenses of the verbs in Theta 4, but also by the contexts of discussion from Theta 3, where the relationship between what will be and what can be was of central importance.

Furthermore, my reading makes sense of Aristotle's emphasis on the occasion of speaking. He does not merely say that it is impossible for something to be possible and yet not be going to occur. Rather, he says that it cannot be true to say that something is possible and yet will never occur. The peculiar locution, "not true to say" (οὐκ ἀληθὲς τὸ εἰπεῖν), draws attention to the role of the human speaker. Aristotle is not making a general claim that everything possible occurs at some time. Rather, he claims that if it is true *now* that something will never be the case, then it is impossible for it to come to be the case. This interpretation makes excellent sense of many details: the verb "to say," the mathematical example, the fact that this claim follows from the CRITERION OF POSSIBILITY, the fact that the position to be rejected sounds very much like Aristotle's own, and the fact that Aristotle's counterargument seems in danger of begging the question.

6.3 'WILL NOT' AND 'CANNOT' IN PLATO'S *TIMAEUS*

Up to this point, I have spoken as if the view that something is possible, but (now) will not be, is outlandish and sophistic. And it does seem so in the mathematical context. But this view is found in the *Timaeus*, and there it is not outlandish or sophistic, but plausible and serious. Timaeus portrays the divine craftsman as telling the created gods that it is possible for them to die but that they never will:

[W]hatever has come to be by my hands cannot be undone but by my consent. Now while it is true that anything that is bound is liable to being undone, still only one who is evil would consent to the undoing of what has been well fitted together and is in fine condition. This is the reason why you, as creatures that have come to be, are neither completely immortal nor exempt from being undone. (41a–b; trans. Zeyl in Cooper)

When the supreme deity says that the lesser ones are "neither completely immortal nor exempt from being undone," he means that it is possible for them to die. This is borne out in the immediate sequel, where the divine craftsman assures them that, as matter of his *will* (*boulēsis*), they will never die:

Still you will not be undone nor will death be your portion, since you have received the guarantee of my will—a great, more sovereign bond than those with which you were bound when you came to be. (41b, *ibid.*)

It is up to the creator whether or not the lesser deities will be undone. However, since their creator is totally good and trustworthy, his promise that he will never allow them to die is surely good grounds for them to accept that they will never die. (It may even be enough for them to *know*, in some sense, that they will not die.) Here we have a case in which something will never happen—because of God’s absolutely reliable guarantee—and yet could. The lesser gods might be destroyed, but they never will be.

Aristotle is responding to this Timaeian picture. Of course, one could read the *Timaeus* in non-literal terms. Timaeus’ talk about time and change does not refer to genuine changes or temporal processes. If we read the dialogue that way, then presumably when Timaeus says that the craftsman *could* do something, this need not be taken to commit him to the possibility of anything’s happening (if that means, that a change occurs). However, if we read the descriptions of the craftsman literally, then Aristotle could not accept both (1) that when the divine craftsman is speaking, it is true that the lesser gods will never be destroyed and (2) that the divine craftsman can allow them to be destroyed.

Would Aristotle therefore say that Timaeus’ doctrine is incoherent or impossible? It would seem strange for him to say that. Timaeus’ doctrine appears at first blush coherent, and it is doubtful that Aristotle has given us strong enough reasons simply to reject it out of hand. But Aristotle need only deny the construal of Timaeus’ doctrine as saying (1). Aristotle can deny (1), while emphasizing that the denial of (1) is perfectly compatible with the divine craftsman never destroying the lesser deities. Although the divine craftsman never destroys them, it is not, on this Aristotelian reading, at any time already true that the lesser gods will never be destroyed. This reading is also compatible with the divine craftsman promising never to destroy the lesser deities, and with that promise being absolutely reliable. It will always be open for the world to develop so that the created deities perish. Likewise, Aristotle would not say in the case of a trustworthy person who promises (say) to pay a debt tomorrow, that it is now true that the debt will be paid tomorrow. The person *could* change his mind. The divine craftsman, too, could change his mind (this is implicit in talk of his will), although he is not such as to do so.

An alternative way to make the view acceptable to Aristotle is to deny that the divine craftsman could change his mind, and conclude that it is true that he will never destroy the lesser gods. This is to deny that he could destroy the created gods (2).

Moreover, we can see how Timaeus' doctrine might be understood in such a way that this is compatible with it. Aristotle should nevertheless be understood as responding to Timaeus—not because his view presupposes the thoroughgoing rejection of the *Timaeus*, but because he forces us to reject the most obvious interpretation of Timaeus' doctrine as erroneous.

6.4 FOUR VARIETIES OF BEING ABLE

The latter part of Theta 3, as well as the first part of Theta 4, seems at first blush to contain a miscellany of observations about 'being able.' My reading ties these reflections closely to the rebuttal of the Megarics at the beginning of Theta 3. The Megarics held that only those things that are engaged in φ -ing are capable of φ -ing. Theta 4 has Aristotle responding to a diametrically opposed position: someone allows that the diagonal of a square not only is not measured, but also that it will never be measured (and presumably has never been measured), yet asserts that it *can* be measured. The Megarics associated what is possible so closely with the true as to identify them. The nameless objector of Theta 4 divorces the possible from all available future paths. The Megaric views robs things of powers that are rightfully theirs. The nameless objector of Theta 4 makes the opposite mistake, granting possibilities too generously, "and hence in this way things that cannot be the case escape" (1047b5–6).²³

Aristotle himself, characteristically, takes the middle ground. And it is important for him to emphasize this here. He rejects the Megarics' close association of what can φ and what is engaged in φ -ing. This raises a question about how Aristotle will constrain the range of the possible. Theta 3 and 4 do not offer a fully worked-out theory. Above all, they do not explain the core class of impossibilities, which are presumably manifest, and which serve as the basis for recognizing other impossibilities. But they do show how Aristotle's rejection of Megaricism does not commit him to any particularly generous or wild array of possibilities, and that Aristotle insists firmly on restricting the range of the possible, while letting it include some parts of what is false.

The discussion in Theta 1 through 4 issues in four main kinds of can-statements. First, there is the distinction between the use of 'can' to attribute

²³ Another implausible interpretation takes τὰ ἀδύνατα εἶναι to refer to *all* impossible things, as if the person in question were denying that anything at all is impossible. This is too strong a position to be plausible, and there is no argument in Aristotle's text against this view. And the phrase obviously may refer to some of the impossible things, rather than all of them. This misunderstanding of τὰ ἀδύνατα is associated with a misunderstanding of ὁ μὴ λογιζόμενος τὸ ἀδύνατον εἶναι on which it means 'rejects the notion of impossibility.'

a power and the use of 'can' to assert of a state of affairs that it is possible. And each of these has a further use in connection with the future.

- (1a) The notion of having a power (*dunamis*), that is, of having an active or passive principle of change. In this sense, I can chop down a tree. The powers that things *now* are the basis for a certain range of changes to occur. It is these powers that are the basis for all the ways in which the world might develop immediately. As we will see in considering Theta 5, this notion stands in need of yet further clarification. There, Aristotle will more precisely elaborate the thought, which was central to the rebuttal of Megaricism, that things have powers to φ when they are 'completely ready' to φ .
- (1b) As the world develops, existing powers are lost, and new powers come to be. In this way, the future branches out from the present. The immediate branches are based on the existing powers, and future branches are based on the powers that come to be. Present assertions about what will be the case are true or false, depending on what occurs on every branch, or no branch, of the tree.²⁴ In this sense, I could speak Chinese, since I can come to have the power to speak Chinese.²⁵
- (2a) The notion of a possibility that is not time-relative. This is a broader notion than either of the other two, and it is not particularly connected with having abilities. Something may be impossible in the second sense which is not impossible in this sense. For instance, it is impossible in sense (2) for me to become a world-class pianist. Even if I were to take up the piano, the limitations of my adult body and mind would prevent me from achieving the proficiency of a world-class pianist. The way the world is already rules out my being a world-class pianist, and in that sense I cannot become one. However, it is possible that I be a world-class pianist, in this broader sense. For nothing impossible would follow from my being a world-class pianist.²⁶
- (2b) The notion of a possibility that is time-relative. To my knowledge, Aristotle nowhere separately considers these cases, but their existence

²⁴ There is, of course, a difficulty about what to say about sentences that turn out true on some branches and false on others. One might deny that they are true or false, thus making an exception to the law of the excluded middle. This is what Aristotle suggests in the opening lines of *de Interpretatione* 9 (18a28–34).

²⁵ One might formalize this using something like the accessibility relation on possible worlds. One might formalize the use of 'can' under (1) using an intransitive accessibility relation, and the use of 'can' under (2) with a transitive extension of that relation.

²⁶ The notion I attribute to Aristotle here has no special connection to the contemporary notion of logical or conceptual possibility. It is more closely connected to the contemporary notion of metaphysical possibility. Whether the two notions are the same, is unclear to me.

seems to me implicit in his other commitments. This corresponds to (1b), but whereas (1b) is using 'can' to attribute a power, (2b) is using 'can' to assert the possibility of a state of affairs. These states of affairs are contingently possible. Whether such a state of affairs is possible depends on how the world (contingently) is now. Whether such a state of affairs goes on being possible or not, depends on how the world goes on to change. A contingently possible state of affairs will be *either* (1) one that would be brought about by the exercise of an ability that something now actually has *or* (2) one that would be brought about by the exercise of an ability that something *would* have, given the exercise of one of the abilities mentioned in (1), *or* (3) one that would be brought about by the exercise of an ability mentioned in (1) or (2), ... *or* (n) one that would be brought about by the exercise of an ability mentioned in (1), (2), or ... (n - 1), That is, the branches of the future are generated by considering all changes that there are now powers to bring about; and subsequently all changes that there *would* be powers to bring about, once some combination of the relative changes for which there are now powers has taken place. One might think of this as a sense of 'possible' (*dunaton*) induced by 'able' (*dunaton*) as a predicate of objects, but Aristotle himself nowhere says this. In this sense, it is *not* possible that I be a world-class pianist, since there is no way, given my age, to acquire the relevant powers, and this is so even if, many years ago, it was in this sense possible that I be a world-class pianist.

As far as powers (*dunamei*) are concerned, the first use of 'can' is the primary one. But the notion of possibility is an independent one, and calls for further discussion. Aristotle has given us this, partly to illuminate his argument against the Megarics, and partly to illuminate the notion of power by contrast with the notion of possibility. He has also tersely sketched a rich and sophisticated theory about the relationship between future-tense statements and possibility. This prepares us for his denial, in Theta 8, that eternal things (which *will never* perish) have being-in-capacity. That claim about being-in-capacity is a further development of the claim that Aristotle here makes about possibility and the future.

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The Exercise of Powers (Theta 5)

In Theta 5, Aristotle resumes the topic of rational powers, so important in Theta 2. While Theta 2 had set out his fundamental conception of rational powers, Theta 5 goes on to make a substantial claim about them: in any exercise of a rational power, something else is in control of it.

He opens the chapter in a slightly peculiar way. First, he gives a classification of powers, which appears to be restricted to the powers of ensouled creatures, since it begins with innate powers. Then he makes a claim about the powers that are not innate:

Of all powers, some of which are innate, such as the senses, some of which are [acquired] by habit, such as the power to play the oboe¹, and some of which are [acquired] by learning, such as the arts, it is necessary that some be active in advance, namely those [acquired] by habit and learning, whereas for others, which are not like that, those to do with being acted on,² this is not necessary. (Θ.5 1047b31–5)³

Two classes of powers are mentioned. The first class includes powers that are innate, do not need to be acquired by being “active in advance,” and somehow involve being acted on by something else. These are powers that something ‘just has’; they are not acquired by engaging in the activities that these are powers to perform. The second class includes powers that are not innate, but rather are acquired later by habit or learning, that require activity in advance, and that are not cases of being acted on by something else.

¹ The word αὐλός is usually translated flute, but it was a reed instrument, more like an oboe than a flute.

² The phrase, τὰς δὲ μὴ τοιαύτας καὶ τὰς ἐπὶ τοῦ πάσχειν, is somewhat perplexing, and I have tried to keep my translation neutral. My view is that καὶ τὰς ἐπὶ τοῦ πάσχειν is simply emphasizing that all powers that are not acquired by being active in advance are, just in that sense, to do with πάσχειν. It is not saying (what I take to be manifestly false) that all powers not acquired by being active in advance are passive powers.

³ Ἀπασῶν δὲ τῶν δυνάμεων οὐσῶν τῶν μὲν συγγενῶν οἷον τῶν αἰσθησέων, τῶν δὲ ἔθι οἷον τῆς τοῦ αὐλεῖν, τῶν δὲ μαθησεί οἷον τῆς τῶν τεχνῶν, τὰς μὲν ἀνάγκη προενεργήσαντας ἔχειν, ὅσαι ἔθι καὶ λόγῳ, τὰς δὲ μὴ τοιαύτας καὶ τὰς ἐπὶ τοῦ πάσχειν οὐκ ἀνάγκη. This is the only occurrence of προενεργεῖν in Aristotle. (And there are vanishingly few usages in later Greek: 15 altogether according to the TLG: four in the pseudo-Alexandrian commentary on this passage, one usage each in Clement (*Stromata* 4.24.154.4), Gregory of Nazianzus (*de Filio* 11.22), Proclus (*Institutio Theologica*, 71.8), and Theophilus Protospatharius (*Commentarii in Hippocratis Aphorismos* 2.407.22) and seven on a single page in Simplicius’ commentary on the *Physics* (9.357).)

The picture of animate powers that emerges is this: if a power is not innate, and hence must be acquired, then it is acquired by engaging in the action that it is a power for.⁴ Sometimes, the resulting power is a habit. Sometimes, the resulting power is *rational*, that is, a power that consists in rational comprehension. Theta 2 has already argued that rational powers are of opposites. Theta 5 argues, on this basis, for a further claim about these powers: there is something else in control of them.

7.1 SOMETHING ELSE IN CONTROL

Aristotle continues in a slightly peculiar way, for he broadens the class of powers in question to include the powers of inanimate things. He again contrasts rational and non-rational powers, and he argues for the new conclusion that, in each exercise of a rational power, something distinct from the power must be in control of the power.

(1) Since (a) what is capable is capable of something and at some time and in some way and whatever else it is necessary to add in the specification [of the power in question], and (b) some things are able to bring about change in virtue of an account and their powers are rational, while others [are able to bring about change] without having reason and their powers are non-rational, and (c) it is necessary that the first sort of powers be in an animate creature, while the others are in both [animate and inanimate things], [therefore] (d) it is necessary, for such [i.e., non-rational] powers, when what can act and what can be acted on meet in the way appropriate to the power in question, that the one acts and the other is acted on, but that is not necessary for powers of the other class. (2) For each one of all these latter powers is capable of producing one thing, whereas those are of opposites, with the result that they would produce opposites at the same time—but this is impossible. (3) Hence there must be something else which is in control [of the power]. (Θ.5 1047b35–48a10)⁵

Aristotle draws on the conception of rational powers that he sketched in the Theta 2. Rational powers, by contrast with non-rational powers, derive their principle of motion from something else: a soul. Rational powers have

⁴ It is not entirely clear that the two-fold division is supposed to be exhaustive. It does seem that certain powers, e.g., the power to reproduce, are neither innate nor acquired by engaging in the activity in question. This suggests that the division is not exhaustive.

⁵ (1) ἐπεὶ δὲ (a) τὸ δυνατόν τι δυνατόν καὶ ποτὲ καὶ πῶς καὶ ὅσα ἄλλα ἀνάγκη προσεῖναι ἐν τῷ διορισμῷ, καὶ (b) τὰ μὲν κατὰ λόγον δύναται κινεῖν καὶ αἱ δυνάμεις αὐτῶν μετὰ λόγου, τὰ δὲ ἄλογα καὶ αἱ δυνάμεις ἄλογοι, (c) καὶ κεῖνας μὲν ἀνάγκη ἐν ἐμψύχῳ εἶναι ταύτας δὲ ἐν ἄμορφῳ, (d) τὰς μὲν τοιαύτας δυνάμεις ἀνάγκη, ὅταν ὡς δύνανται τὸ ποιητικόν καὶ τὸ παθητικόν πλησιάζωσι, τὸ μὲν ποιεῖν τὸ δὲ πάσχειν, ἐκεῖνας δ' οὐκ ἀνάγκη· (2) αὗται μὲν γὰρ πᾶσαι μία ἐνὸς ποιητικῆς, ἐκεῖνας δὲ τῶν ἐναντίων, ὥστε ἅμα ποιήσει τὰ ἐναντία· (3) τοῦτο δὲ ἀδύνατον. ἀνάγκη ἄρα ἑτερόν τι εἶναι τὸ κύριον.

a two-component structure, involving both knowledge and a soul, whereas non-rational powers do not.⁶

This difference has important consequences for the way in which both rational and non-rational powers are exercised. The consequences are spelled out in (1d), where Aristotle says that non-rational powers are necessarily exercised “when what can act and what can be acted on meet in the way appropriate to the power in question,” but that this is not true of rational powers. Not everything with the power to φ has the power to φ under the same conditions. Bleach has the power to make something’s color fainter, but it must come into contact with the thing. The sun can make colors fainter without coming into contact with them. In each case, because the power is a power to bring about only one result, the conditions for the action of the power are sufficient for the power to act.

Aristotle says that the agent necessarily acts and the patient necessarily is acted on (1048a6–7). What does this mean? It means, at least, that the agent’s active power and the patient’s passive power are exercised. When red-hot rocks are dropped in cool water, then the rocks necessarily exercise their power to heat the water, and the water necessarily exercises its power to be heated by the rocks. But there is no reason to think that, necessarily, the water ends up hot. The water might be heated ever so slightly, yet not become hot, perhaps because the water was very cold, or because the rocks are quickly removed from the water. At least intuitively, it even seems possible for the water to be heated, and yet not to become warmer at all, if some further item is simultaneously engaged in cooling the water.⁷ It is not in general true that, if something exercises its power to make other things F , then something becomes F . As we will see, this is confirmed by Aristotle’s treatment of interference.⁸

Rational powers, by contrast, are powers to bring about either of two results. And hence, for rational powers, there is no way for the agent and patient to meet such that the agent necessarily acts on the patient. Any rational

⁶ Note that perception, for instance, involves a soul, but is not a rational power. In such cases, the soul is not a separate, motion-contributing component of a two-component power. The power is, so to speak, integral to the soul, rather than something distinct from the soul but conjoined with it.

⁷ However, it is not entirely clear that Aristotle can accept this. For he argues that the agent’s doing something to the patient just is the change that the patient undergoes (*Physics* III.3). But if the water’s temperature remains the same, then the water is not changing (in that respect). But if there is no change in the water, then there is no action by the stone. One might say that the water is changing: it is getting warmer *and* getting cooler, and these two changes cancel one another out. I am not aware of any textual basis for attributing this view to Aristotle. However, Aristotle does think that often, when A acts on B , B also acts on A . If some hot stones and some cold stones are in the water, then the water will presumably be acting on the stones. And thus it is hard to see how the stones could possibly fail to act on the water, whether or not the water’s temperature changes.

⁸ See §7.4 on page 147 below.

power is a power to produce some F^+ and to produce its opposite, F^- . If there were some way for agent and patient to meet such that the rational power is necessarily exercised, the power would then produce both F^+ and F^- in the patient: (2) because rational powers are of opposites, “they would produce opposites at the same time—but this is impossible.” When a doctor and a sick person “meet,” even under optimal conditions for treatment, the doctor might exercise the art of medicine either to cure the patient’s illness or to worsen it, but not both at once.

It is helpful, I think, to reformulate the argument as a *reductio ad absurdum*. Suppose there were some way for a doctor and a patient to meet such that, just in virtue of meeting in that way, the doctor *necessarily* exercises his power to heal the patient (and not to make him ill). Then, under the circumstances in question, it is impossible that the doctor do anything other than cure the patient’s illness. Contrary to hypothesis, such a power could not be a rational one. For a rational power consists in an account, lodged in a rational soul, which is a principle of motion. It is certainly conceivable that there be a healing power that is, under certain conditions, necessarily exercised. But such a power would not be the art of medicine, nor any other rational power. Not being a rational power, it would not consist in an account. Not consisting in an account, it would not be a power for opposites. It would be an ordinary, non-rational power.

This way of putting the argument brings out one of Aristotle’s assumptions. For one might wonder why we need to assume that, given that the power is necessarily exercised, it is necessarily exercised *so as to bring about a certain one of the two results*. One might have thought that, in the appropriate circumstances, the power is necessarily exercised somehow or other. But this does not mean that necessarily, whenever it is exercised, *either* it is exercised so as to bring about F^+ *or* it is exercised so as to bring about F^- .⁹

Aristotle’s argument presupposes that this is false. For he presupposes that, when the power is necessarily exercised, it is not a matter of chance whether it is exercised so as to bring F^+ or F^- . In every case, there is something else that determines which result is produced.

Aristotle does not say why he assumes this, but it is very reasonable. First, the view of rational powers developed in Theta 2 has highlighted the soul’s role as a moving principle. Thus, when a rational power is exercised, it is exercised voluntarily, for the sake of some end that the rational animal has in view. This end will determine which way the power is exercised. Second, if we were to allow that, in some cases, there is nothing that determines which way the power is exercised, then the result of the process will end up bizarrely uncaused, in a way that goes far beyond ‘normal’ chance events. In a normal chance event, there is a cause of the result, but the cause acts for the sake of

⁹ I am indebted to Ursula Coope for raising this question.

the result only incidentally (*kata sumbebēkos*), not per se. In this case, there is a cause (the human agent), but citing merely this cause leaves unexplained why the given result occurred rather than the very opposite.¹⁰ For the agent in question is perfectly able to bring about the opposite result. Thus it would violate the fundamental causal structure of the world to allow that the power in question is necessarily exercised, without insisting that it is necessarily exercised so as to bring about one of the two results and not the other.

One might think that Aristotle commits himself here to an implausible view, namely that, whenever a person is in a position to exercise a rational power at all, that person is in a position to bring about both of the relevant opposites. But Aristotle need not assume this, and it will often fail to hold for substance-producing arts, such as housebuilding: housebuilders regularly deal with heaps of bricks (so disorganized that the art of housebuilding could *only* engage in building) and houses (so organized that the art of housebuilding could *only* engage in destroying the house). Housebuilders also encounter lots of materials that are in some sort of intermediate state: a half-built house together with appropriate supplementary materials provides an occasion for exercising the art of housebuilding in either way. But these cases do not present a problem for Aristotle's claim, which is only that any rational power enables its possessor to bring about opposite results in the appropriate circumstances. In every case, the appropriate circumstances for bringing about the one opposite result will differ from the appropriate circumstances for bringing about the other. There will be at least the following difference: when the one opposite is fully present, *it* cannot be brought about. And there may well be other circumstances as well, in which neither of the two opposites is present, but, due to constraints in the circumstances, only one can be brought about. (Imagine a partially built house, that, for some reason, cannot be completed, but can be torn down.)

Aristotle draws the conclusion: "(3) Hence there must be something else which is in control [of the power]." The power does not itself determine which of the two opposites is produced. Yet one and only one of the two is produced, and, Aristotle assumes, it is not random which is produced. Thus something other than the rational power must determine which of the two opposites is produced.

7.2 DESIRE

On the basis of this conclusion, he goes on to say what, in particular, is in control of rational powers.

¹⁰ This is precisely the mess that Socrates is trying to avoid at *Phaedo*, 96e–97b.

By this I mean desire or choice.¹¹ For whichever of the two it desires decisively, it will do that when it is in the state appropriate to the power and it meets what can be acted on. (Θ.1 1048a10–13)¹²

There is no argument that the controlling item must be desire. But this claim flows naturally out of the picture of rational power that Aristotle has formulated.

This is because there is a systematic connection between animate motion and desire. The crucial difference between rational and non-rational power is that, while non-rational powers just consist of some relevant form, which is itself the principle of motion, rational powers consist in accounts, such that a rational animal can direct its motions in accordance with them. The soul is the moving principle of the animal, and the soul is conjoined with the account. A rational animal's voluntary movements are brought about by its desires. So we would expect desire to be what controls the rational power. Desire is, as it were, the exercise of the moving principle that is the soul.

Aristotle formulates a criterion for the necessary exercise of rational powers in terms of desire. This criterion is in parallel with the criterion for the necessary exercise of non-rational powers in (1d).¹³ For rational powers, the criterion is this:

Therefore everything that is able in virtue of an account, when it desires something it has the power to bring about and it is in the relevant state, necessarily does this. And it has [the power in question], when what can be acted on is present and is in some particular condition; if not, then it will not be able to act. (Θ.5 1048a13–16)¹⁴

Suppose an agent is in a position to exercise a rational power to bring about either opposite result. The agent may have only one relevant desire, in which case he acts to bring about the appropriate result. For instance, a doctor, confronted with a treatable patient, may desire to heal, and have no other relevant desires, in which case the doctor necessarily acts to heal the patient. On the other hand, the agent in question may have several conflicting

¹¹ By 'choice,' Aristotle means a desire of a certain kind, a desire appropriately related to deliberation (cf. the definition of choice as *βουλευτική ὁρεξις*, *Nicomachean Ethics* III.3 1113a11, VI.2 1139a23). Choice, *βουλευτική ὁρεξις*, is characteristic of rational animals—the only sorts of animals that can have rational powers at all. He mentions both choice and desire to remind us of the whole range of phenomena that come into play—desires of all kinds, including brute desires for pleasure and rational choices. For this reason, in the main text I will speak exclusively of desire.

¹² λέγω δὲ τοῦτο ὁρεξιν ἢ προαίρεσιν. ὁποτέρου γὰρ ἂν ὁρέγηται κυρίως, τοῦτο ποιήσει ὅταν ὡς δύναται ὑπάρχῃ καὶ πλησιάζῃ τῷ παθητικῷ.

¹³ See the quotation on page 140.

¹⁴ ὥστε τὸ δυνατόν κατὰ λόγον ἅπαν ἀνάγκη, ὅταν ὁρέγηται οὗ ἔχει τὴν δύναμιν καὶ ὡς ἔχει, τοῦτο ποιεῖν· ἔχει δὲ παρόντος τοῦ παθητικοῦ καὶ ὡδὶ ἔχοντος [ποιεῖν]· εἰ δὲ μὴ, ποιεῖν οὐ δυνήσεται. I agree with Ross, following Christ, that the bracketed *ποιεῖν* is an emblem from the previous line, and I therefore omit it from my translation.

relevant desires. In that case, the agent necessarily does whatever he desires decisively.

For both rational and non-rational powers, there are conditions under which they are necessarily exercised. In both cases, the appropriate patient must be present and in its appropriate condition, and the agent and patient must meet in the relevant way, and under the relevant circumstances. In the case of a rational power, there is the additional condition that the agent decisively desire to perform the action.

Must there be a decisive desire in every case? Apparently not. Aristotle allows that there are desiderative states that do not lead to action:

(1) Therefore, if [an agent] wishes or desires¹⁵ at one and the same time to do two things or opposite things, he will not do them. (2) For he does not have the power to do them in that way, and the power is not the power to do them at one and the same time, since he will do the things he is capable of in the way that he is capable of them.¹⁶
(Θ.5 1048a21–4)¹⁷

This passage vindicates an assumption I have been making all along. The desires that control the power in question not only determine which way the power is exercised, but also whether the power is exercised at all. For Aristotle here allows for states of the soul on which the agent with the power simply does not exercise it. Suppose a doctor, confronted with a treatable patient, simultaneously wants to heal the patient and wants to make the patient sicker, and suppose that neither of those desires is decisive. Then the doctor neither heals the patient nor makes the patient sicker. Perhaps he does nothing with the patient at all. In this case, the agent does not do either of the things for which he has a desire, but he may well do something (for instance, deal with another patient). Presumably, we should also allow that the doctor might fail to heal or to sicken the patient because the doctor desires to do something quite different—say, sleep—and has no desire to deal with the patient at all.

¹⁵ The two verbs, βούλεσθαι and ἐπιθυμεῖν, suggest a case in which the agent is caught between a rational desire and a desire for pleasure.

¹⁶ It is worth noting that this passage shows Aristotle's awareness of the difference between having, at a certain time, the power to perform two actions, and having the power to perform two actions at a certain time. This is connected with my discussion of the Megarics. One interpretation of Megaricism presupposes that powers are time indexed, not only in the sense that things have powers at certain times, but in the sense that powers are powers to perform actions at certain times. On this assumption, it may then seem that Aristotle illegitimately disregards or misunderstands these indices (cf. [28, p. 66]).

¹⁷ διὸ οὐδ' ἐὰν ἅμα βούληται ἢ ἐπιθυμῇ ποιεῖν δύο ἢ τὰ ἐναντία, οὐ ποιήσει· οὐ γὰρ οὕτως ἔχει αὐτῶν τὴν δύναμιν οὐδ' ἔστι τοῦ ἅμα ποιεῖν ἡ δύναμις, ἐπεὶ ὧν ἐστὶν οὕτως ποιήσει.

7.3 INTERLUDE: NON-RATIONAL POWERS OF ANIMATE CREATURES

Oddly, Aristotle ignores the non-rational powers of animate creatures in Theta 2 and 5. He speaks as if all powers are either animate and rational or inanimate and non-rational. Yet there are many powers that do not fit into this two-category scheme—all the powers of non-rational animals: to push, to pull, to claw, to dig, to snatch, to bite, to kill. Some animals have powers that are strikingly craft-like: birds can build nests, beavers can construct dams, spiders can weave webs, bees can make honey. And human beings have similar powers (to eat, for instance). Aristotle is, of course, entitled to focus his discussion on some sorts of powers rather than others. But he introduces both Theta 2 and Theta 5 with classifications that appear to be exhaustive, and yet that have no place for non-rational animate powers.

The classification at the opening of Theta 5 is particularly difficult to reconcile with these problem cases. According to that classification, there are two categories of powers: (1) some powers are (a) innate, (b) do not need to be acquired by activity in advance, and (c) are somehow cases of being acted on by something else; (2) other powers are (a) not innate, but rather are acquired later by habit or learning, (b) must be active in advance, and (c) are not cases of being acted on by something else. Chapters 2 and 5 have made two substantial claims about powers of the second class: that they are of opposites and that something else is in control of them.

A beaver's power to make a dam has some properties of the first class: it is (1a) innate and (1b) does not require being active in advance. But it does not appear (1c) to be connected with being acted on by something else. More troubling is that the beaver's power does not seem to be rational, and for that reason, it does not seem to be a power of opposites: beavers are not expert dam destroyers. Yet on the other hand, a beaver's power to make dams does appear to have something else in control of it. The power is not like fire's power to heat, necessarily exercised simply due to the conjunction of certain circumstances. The beaver has to want to make the dam. Imagine a beaver in almost perfect dam-building conditions: the proper trees are at just the right distance from the water, the river has just the right width, the water level and rate of flow are just right, the weather is temperate, and so forth. The only hindrance to building the dam is some human activity. The human beings do not in any way threaten the beaver or its habitat. But the beaver finds the noise noxious, and so, does not build a dam. We say about this case, "The beaver did not build a dam because it did not want to." But we do not think that the beaver engaged in rational deliberation.

Similar questions can be raised about other animal behaviors: bees' honey making, birds' nest making, lions' hunting, bears' protecting their young, and so forth. The point of these examples is not that any of Aristotle's arguments

in Theta 2 or 5 is invalid. Rather, the presentation of those arguments suggests, although it does not strictly presuppose, a general picture of powers that cannot be correct, namely that all powers are either rational and animate or non-rational and inanimate.

I have interpreted those arguments as if powers had either the one-component structure of brute natural powers or the two-component structure of rational powers. These problematic cases show that a complete theory of powers would need a more nuanced picture, in which three aspects are distinguished: a pattern for action, a directive principle, and a trigger for the exercise of a power. In the case of rational powers, the soul, as directive principle, applies the pattern for action—the account of F^+ —in order to bring about F^- . The soul is also the seat of the desire or choice that is part of the trigger for action. For non-rational inanimate powers, these three factors are inseparable: there is in fire a single principle that is directed towards heating (and only heating), and the triggering of the power is a function of fulfilling the criteria built into this principle. In the case of non-rational animate powers, there is a desiderative but non-rational soul, so that the soul is involved as a trigger for action, but not so that it is able to redirect its principle of action (e.g., dam-making ‘expertise’) away from its proper end.

7.4 NECESSITY AND INTERFERENCE

We have now seen two criteria for a power’s necessarily being exercised, one for non-rational powers and one for rational powers. A question naturally arises about what precisely it is that, according to Aristotle, necessarily comes about. He gives a partial answer to this question in a parenthesis:

(1) For¹⁸ it is not necessary to specify in addition, ‘given that nothing external hinders.’ (2) For it has the power insofar as it is a power to act, but it is not [a power to act] no matter what, but [a power to act] given that things are a certain way, among which ‘external things hindering’ will also be excluded. (3) For some of the things present in the specification [of the power] preclude these [external interferences].

(Θ.5 1048a16–21)¹⁹

It is important to be cautious about how one interprets these remarks. The condition ‘nothing external hinders’ does not concern whether something has

¹⁸ These remarks are introduced by ‘for,’ γάρ, because they justify Aristotle’s *not* having added such a condition as ‘nothing external hinders’ to the criterion for the necessary exercise of rational and non-rational powers.

¹⁹ τὸ γὰρ μηθενὸς τῶν ἔξω καλύοντος προσδιορίζεσθαι οὐθὲν ἔτι δεῖ· τὴν γὰρ δύναμιν ἔχει ὥς ἔστι δύναμις τοῦ ποιεῖν, ἔστι δ’ οὐ πάντως ἀλλ’ ἐχόντων πῶς, ἐν οἷς ἀπορισθῆσεται καὶ τὰ ἔξω καλύοντα· ἀφαιρεῖται γὰρ ταῦτα τῶν ἐν τῷ διορισμῷ προσόντων ἔνια.

a power at all—as if, given that something prevents some hot stones from heating some water, the stones did not have the power to heat in the first place. This is the Megaric position. Rather, Aristotle is saying that the following formulation is verbose:

Necessarily, if stones have the power to heat the water, and the stones and the water meet in the appropriate way, and *nothing external hinders*, then the stones heat the water.

The problem with this formulation is not that it expresses a falsehood, but that the qualification ‘nothing external hinders’ is already covered by the first two conditions. This is what he means by saying, “(3) For some of the things present in the specification [of the power] preclude these [external influences].” For instance, Theodorus’ power to teach Theaetetus about incommensurability cannot be effectively exercised while Socrates distracts Theaetetus with a question about the nature of knowledge. But Theodorus’ power to teach Theaetetus is not impugned by his failure to do so under *those* circumstances. For it is a power to teach Theaetetus *under the condition* that he is paying attention to Theodorus, and that excludes Theaetetus’ attempting, at the same time, to answer a difficult question asked by Socrates. Aristotle has already indicated, earlier in the chapter, that the conditions under which a power operates are part of the specification of the power: “what is capable is capable of something and at some time and in some way and whatever else it is necessary to add in the specification [of the power in question].”²⁰ Thus one thing (a hot stone) might have the power to heat while submerged in water, and something else (a flame) has the power to heat, but not while submerged in water.

This text does not commit Aristotle to a robust or interesting form of the view that whatever happens does so necessarily, or even that, for any event, it necessarily occurs given the antecedent conditions. The primary point of the text is *negative*: to deny that a certain sort of qualification needs to be added to his claim that powers necessarily act. Aristotle’s point is about when a power is necessarily exercised—not about when the result the power aims at is necessarily brought about. Let’s consider an example more carefully in order to get clearer about this.

Suppose some *aqua regia* dissolves a precious golden ring. Aristotle has not yet given any reason to think the following: ‘Necessarily, the *aqua regia* dissolved the golden ring.’ What about the following, similar claim: ‘Necessarily, given the way the world had been up until that time, the *aqua regia* dissolved the golden ring’? Whether Aristotle must accept this depends on how we take the phrase ‘dissolved the golden ring.’ *Aqua regia* has the (non-rational) power to dissolve certain kinds of things under certain conditions.

²⁰ Sentence (1a) from the quotation on page 140.

When the acid and the golden ring meet in the appropriate way (namely, by being in contact), then it necessarily follows that the *aqua regia* dissolves the ring. This sounds vaguely deterministic. But it only means that the *aqua regia* necessarily did some dissolving, and not that the ring ended up dissolved. Determinism would involve the thesis that the result could not have been otherwise. The state of the world determines not only that a bit of dissolving occurs, but also how it turns out. These passages from Theta 5, at least, do not commit Aristotle to such a view.

Furthermore, this text strongly suggests that Aristotle would deny that claim, on the grounds that other things might have intervened. For instance, someone might have removed the ring from the acid before it could be dissolved, or someone might have coated part of the the ring with a substance that is not soluble in *aqua regia*.

Aristotle's interest in Theta 5 is connected with the rebuttal of Megaricism. I suggested that the Megarics might have reached their view by reflecting on the nature of causation. Aristotle is here arguing about the role of powers in causation. There are several important morals. First, no power is, on its own, a cause. Powers are involved in causation (particularly efficient causation for active powers and material causation for passive). But the power on its own stands in need of external circumstances in order to be exercised. This is true equally for rational and non-rational powers.

Second, Aristotle does seem to think that you can tell a lot about what powers things have by considering what they do on some single occasion. This is as it should be. The Megarics extended this idea so far that it means: a thing has the power to do only whatever it is doing now. Aristotle does not extend it so far. However, his remarks about 'necessary exercise' tend in a similar direction. Let's restrict ourselves to non-rational powers for the moment. Given that something is not now exercising a non-rational power, you cannot infer (with the Megarics) that it does not have the power at all, but you can infer something about the power. You can infer that some condition mentioned in the full-specification of the power has not been fulfilled.

Recall the elaborate example, from our discussion of the Megarics, of a stick that is not burning. We can reinterpret that example, in its various forms, in the light of what he says here. Aristotle is perfectly free to maintain that the stick has the power to burn, even when it is at the bottom of the sea. But he has to allow that every case in which the stick fails to burn reflects the non-fulfillment of some condition on its burning: that it not be immersed in a non-flammable liquid; that it not be soaked with water; that it be heated to a certain degree. These conditions need not be independent of one another, of course. It might burn at one temperature under certain conditions, at another temperature under other conditions. Conversely, whenever something does exercise a non-rational power, we can infer that, under the circumstances, it necessarily does so. Of course, very extensive study and experimentation

may be necessary in order to specify with precision what the relevant circumstances are.

It would be easy to overestimate the metaphysical significance of Aristotle's insistence that, under certain conditions, powers are necessarily exercised. I think that this is not a bold claim about the necessitating character of causation but rather a reasonable thought about the point of the concept of a power. The point is to pick out those properties that a thing has to have in order to be intrinsically completely ready to play the role of agent or patient in a change. Once it has the power, only external circumstances need to change for the power to be exercised. If something about the object in question has to change too, then it doesn't fulfill the conditions on having a power.

Importantly, Aristotle maintains the distinction between rational and non-rational powers in this formulation. He does not treat the rational agent's desire as merely another circumstance, to be built into the specification of the power. This is intuitively appealing. When the relevant circumstances in question do not obtain, then there is a sense in which the power cannot be exercised. Someone might say, "I cannot navigate the straits *in this weather*." But when the relevant desire is absent, this is not what we say. We would 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." So one reason to distinguish the circumstances from the desire is that the two conditions on the exercise of a power bear differently on the truth of *can*-statements.²¹ The desire, unlike the circumstances, is external. Moreover, the role of desire seems to be independent of the particular rational power in question. Desire plays the same role for all rational powers. But the circumstances in question will not be independent of the power in question. Different rational powers are specified in connection with different sets of circumstances.

Furthermore, the whole point of the discussion has been to point out that the desire plays a role that the circumstances do not play. For the circumstances only determine whether the power can be exercised, but the desire determines not only whether the power is exercised, but also how it is exercised (which result is brought about).

7.5 LOOKING FORWARD

This is the culmination of Theta 1–5. With this, Aristotle has clarified and made more precise our talk about 'can.' This is not entirely obvious. After all, Aristotle has articulated criteria for the necessary exercise of rational and non-rational powers. But these criteria also turn out to be criteria for when something has a power at all, and this is the clarification that Aristotle has

²¹ Again, I am indebted to Ursula Coope.

sought. If we are not appropriately precise about it, then we are liable to wander into the sorts of difficulties that the Megarics ran into. They claimed that things have powers *only* when they are exercising those powers.

Theta 5 enables us not just to reject Megaricism, but also to see clearly the nature of the Megaric confusion. The Megarics confused the criteria for exercising a power with criteria for having a power. But Aristotle preserves something of Megaricism. Something has the non-rational power to φ if, given that the relevant conditions obtain, it necessarily φ -s. Something has the rational power to φ if, given that the relevant conditions obtain *and* its decisive desire is to φ , it φ -s. This puts us in an excellent position to figure out about the powers things have, if we know which powers we are looking for. For instance, we can test whether a liquid has the power to dissolve gold by submerging some gold in it. If we can arrange for the satisfaction of the relevant conditions to be fulfilled, then all we need do is check whether the thing in question exercises the power in question. If not, then it lacks the power.

Testing for rational powers presents further complications. For rational powers are not necessarily exercised in the relevant circumstances. (This is a reason for distinguishing the desire from the circumstances.) For this reason, they are a particularly dramatic counterexample to Megaricism, which is perhaps why housebuilding is Aristotle's first example in his rebuttal of the Megarics. We can check on the rational powers of things only in circumstances when the possible possessor of the rational power desires to exercise the power in question. This is a reason why systematic tests of rational powers are connected with rewards and penalties (e.g., the opportunity to receive a certain certification).

As I have emphasized, the powers of things are intrinsic properties, and intrinsic properties change. Something that now lacks the power to φ may acquire it. And thus it may be that what lacks the power to φ can φ . A teenager, who is just learning to play basketball and who has the talent to become the best basketball player of her generation, does not *yet* have the power to play basketball well (in Aristotle's sense). That is because she is not yet such that, given the appropriate circumstances and her own desire to play well, she plays well. She needs to practice. Doing so is the acquisition of a property—a power.

In several ways, Theta 5 thus lays the groundwork for the subsequent discussion, which, unlike the discussion up to this point, contributes directly to the science of being as such. First, Theta 5 first makes an issue of the *exercise* of powers, and thus starts to make a transition to the discussion of *energeia* (which can mean 'exercise' of a power) in Theta 6. There, the example of housebuilding will play a crucial role.

Second, Aristotle will draw directly on this clarification of the notion of power in treating *being-in-capacity*. Theta 5 is essential preparation for that

subsequent discussion. In particular, Aristotle will exclude from *being-in-capacity* *F* whatever has to undergo further change before being ready to become *F*. In cases involving powers, this is simply tantamount to the thesis espoused here. And the thesis espoused here serves as the basis for Aristotle's expanding his claim to covering cases of *being-in-capacity* that do not involve powers.

Third, these criteria also have an extremely important consequence for the principles of reality. We have begun to see why those principles could not be powers. For no power is, just on its own and as such, a cause. Powers are not exercised, unless certain conditions obtain. The inadequacy of powers for bringing about any result on their own is perhaps best exemplified by rational powers. They are exercised only when their possessor so desires.

With these results, together with the result of Theta 2 that even rational powers have an intrinsic orientation towards a single end, we are ready to turn to the theory of being.

PART III

BEING-IN-*ENERGEIA* AND
BEING-IN-CAPACITY

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Actuality, Activity, Ambiguity: Preliminary Considerations on *Energeia*

In the sixth chapter of *Metaphysics* Theta, Aristotle resumes direct engagement with the science of being as such. The entire text up to this point has been preparatory. He now undertakes first to explain being-in-*energeia* (Theta 6) and then the contrasting notion of being-in-capacity (Theta 7). The distinction between them is not of interest only because of the ways in which it can be exploited to solve other problems. The distinction itself involves deep claims about the structure of being. Grasping the very concept of being-in-*energeia* requires insight.

That insight is not easy to achieve. There are fairly complicated obstacles in the way of our grasping the concept of *energeia* properly. Some of them derive from our historical situation (by contrast with that of Aristotle and his contemporaries), and some of them derive from the concept itself. Rather than turning directly to Theta 6, I undertake, in this preliminary discussion, first to remove those obstacles and then to introduce a more helpful context for the explanation in Theta 6.

The inaccessibility of the concept of being-in-*energeia* is, as we will see, one reason why Aristotle has pursued an indirect strategy in *Metaphysics* Theta, devoting so much attention to the notion of a power. One reason for this is that '*energeia*' is not a Greek word in normal use, whereas '*dunamis*' ('power') is.

But that is not a sufficient account of the problem. Although '*energeia*' is a made-up word, it is merely an abstract noun from a familiar adjective (*energōs*). Why should it be more difficult to grasp than the notion of, say, frustratingness would be for an English-speaker? And why should power require so much discussion?

It is easy to think that this need not concern us, since we are much better off than Aristotle's contemporaries. For we are the inheritors of a philosophical tradition that has been profoundly influenced by Aristotle's thought. The terms 'actuality' and 'potentiality' are readily available to us as translations for '*energeia*' and '*dunamis*' because of the pervasive influence of Aristotle's philosophy. Perhaps these modal terms provide us with precisely the resources that Aristotle missed in his Greek, and had to fashion for himself.

I do not think so. We ought to be very cautious about using this modal vocabulary in interpreting Aristotle, even though some of it can be traced back to him. This follows from the simple fact that the philosophical and interpretive tradition we inherit has been shaped by many factors that did not influence Aristotle himself. I will go on to argue that this vocabulary is liable to trap us in a misunderstanding of the basic issues in Aristotle's account. For now, I am merely saying that we cannot assume in advance that these contemporary terms will make clear Aristotle's meaning, rather than obscuring it.

It is particularly difficult for us to grasp the concept of *energeia* because it does not correspond to any concept that is readily available to us. There is no English term or phrase that has the meaning of '*energeia*.' But more than this, the concept of *energeia* is not a composite of concepts that we already have. This makes it categorically different from, say, the Vietnamese word, *xanh*, meaning 'green or blue.' I think that this is no surprise. It is not that we happen to lack a concept that the Greek had. Rather, Aristotle requires, for philosophical purposes, a concept so broad and encompassing that it is hard to see how it might play a role in ordinary language. Our problems in grasping the concept are not uniquely ours. Aristotle expected his own audience to have to work hard to grasp the concept, too, and that is why he explains it at some length.

8.1 *ENERGEIA* AS ACTIVITY AND ACTUALITY: THE TRADITIONAL VIEW

Let us begin by considering more closely how we might use the vocabulary and concepts we already have to translate the term '*energeia*' and to understand *energeia*. There are two traditional translations: 'actuality' and 'activity,' both of which are English derivatives of Latin terms used to translate '*energeia*.'

These two translations suggest two quite different correlates for *energeia*. The correlate to actuality is potentiality, and 'potentiality' is a traditional translation of *dunamis*. The correlate to activity is change (*kinēsis*). Activities are complete at any instant when they occur, whereas changes are not complete at any instant during their occurrence, but rather cease with their completion. So the distinction between *energeia* as actuality, and *energeia* as activity, is thought to correlate with the supposed fact that *energeia* sometimes contrasts with potentiality (*dunamis*), but sometimes with change.¹

¹ For example, Burnyeat implicitly assumes that *energeia*, when it contrasts with *dunamis*, means 'actuality' [27, p. 223].

Moreover, both these distinctions are thought to correlate with a third distinction. This is the *syntactic* distinction between '*energeia*' used to modify the verb 'to be' and '*energeia*' used as an ordinary noun (most often nominative). In the former case, '*energeia*' is thought to mean 'actuality' (contrasting with 'potentiality'), in the latter 'activity' (contrasting with 'change').

There is a corresponding distinction between '*dunamis*' used to modify the verb 'to be' (when it means 'potentiality') and '*dunamis*' used as an ordinary noun (when it refers to powers to bring about changes). There is something slightly peculiar about the way in which *dunamis* correlate both with actualities and with changes. And there is also the peculiarity that there seem to be *dunamis* not only for changes, but also *dunamis* for non-change activities. But these are not serious problems for the view.

If one thinks of *energeia* in this way, then it is tempting to read the structure of *Metaphysics* Theta as reflecting the very distinction between the two meanings of *energeia*. First, Aristotle discusses powers to bring about changes. He is clearly not talking about the use of either '*energeia*' or 'capacity' to modify the verb 'to be,' and he clearly is talking about changes—neither activities nor actualities, on this view. Then he explains the syntax of '*energeia*' as a modifier of the verb 'to be,' meaning 'actually,' by contrast with 'potentially.'²

More important than anything else for the appeal of this view is the way in which it helps us to make sense of passages throughout Aristotle's writings. Sometimes, when Aristotle uses the word '*energeia*,' it seems simply impossible to translate it with 'actuality.' For instance, in saying that pleasure is an *energeia*, Aristotle is surely not saying that pleasure is an actuality, but rather that it is an activity. Happiness, the *energeia* of virtue, is an activity, not an actuality. It is the exercise of theoretical knowledge or, secondarily, of practical wisdom. In Theta 6 itself, Aristotle explicitly divides the class of 'doings' (*praxeis*) into changes and *energeiai*—again, 'activities' is intelligible, but 'actualities' is not. Someone who has a body of knowledge, but is not using that body of knowledge, is actually a knower—but Aristotle denies that such a person is a knower in *energeia*. This makes sense if being a knower in *energeia* is *using* one's knowledge, i.e., engaging in the relevant thinking, by contrast with merely having the knowledge.

On the other hand, it is sometimes impossible to translate '*energeia*' as activity, but 'actuality' makes sense. For instance, Aristotle claims that the infinite has being only in potentiality, not in actuality. It would not be illuminating to translate, "the infinite is not in activity." Similarly, the points on an undivided line are there only in potentiality, not in actuality. The association between form and *energeia*, and between matter and *dunamis*, also seems to require formulation in terms of actuality and potentiality, not activity and capacity. The idea seems to be that the matter is not, in its own right, actually

² For the view, see, e.g., Dancy [34, p. 92].

the thing that it potentially constitutes, and does constitute once it has the relevant form. The form, by contrast, is the actuality of the composite in that the form is that in virtue of which the composite is actually, and not merely potentially, what it is. It is exceedingly difficult to see how these claims could be construed if *energeia* were taken to be activity by contrast with change.

Another passage that has been thought to fall into this group is Aristotle's definition of change in *Physics* III.1. If one takes Aristotle to define change as a certain *actuality*, then one has strong reasons indeed for thinking that Aristotle, at least here, uses '*energeia*' to mean actuality. (This is a widespread view; see, e.g., [54].) However, I do not accept this interpretation of the definition of change, and I think it causes a serious distortion of our understanding of *energeia*.³ I cannot here offer a full-fledged interpretation of the definition, but I can indicate the line of thought I take to be correct. The difficulties about interpreting the definition of change derive not only from conceiving of *energeia* as actuality contrasted with potentiality, but also from conceiving of *energeia* as activity contrasted with change. Below, I will argue against the assumption that *energeia* ever contrasts with change (see Chapter 10). If we think that changes are some of the *energeiai*, then the definition of motion may well be contrasting the *energeiai* that are changes with other *energeiai*. The question would then be how to mark off those *energeiai* that are changes from the others in a non-circular way. Perhaps his idea is that either the *energeiai* themselves, or the capacities whose exercise they are, are incomplete or imperfect (*atelēs*).⁴ But one need not accept much of my remarks about the definition of change in order to agree with what I am saying about *energeia* in general. One need only accept that '*energeia*' in the definition of change does not mean actuality.

8.2 THE TRADITIONAL VIEW REJECTED

Despite its appeal, the traditional view should be rejected. One reason for this is that the traditional view makes '*energeia*' ambiguous. I will later argue that '*energeia*,' in the phrase 'being in *energeia*,' cannot be equated with actuality (§9.8), as the traditional view does.

The traditional way of translating '*energeia*' strongly suggests that the term is ambiguous. I take this to be a decisive problem for any view on which the traditional translations accurately capture the meaning(s) of '*energeia*.' To my

³ For some further reflections on the definition of change, see §9.4.4 on page 200. For criticism of the traditional interpretation of the definition of change, see page 204, n. 64.

⁴ For references, see page 204, n. 63.

knowledge, almost no one has faced this problem squarely, although some commentators have noted it.⁵

The mere fact that there are two English words for translating '*energeia*' does not make '*energeia*' ambiguous. Consider, for instance, the word, *kalon*, translated by 'beautiful,' 'fine,' 'noble.' Or the word, *logos*, translated by 'speech,' 'statement,' 'argument.' These translations do not exhibit the ambiguity of the Greek word, because they are attempts to capture in English a unitary concept that does not correspond to any single English word.

On the view in question, '*energeia*' turns out to be ambiguous not merely because it has multiple translations. The ambiguity derives from two further facts as well. First, the two translations are associated with distinct syntactic structures and with distinct complementary concepts, as I explained in introducing the view. Second, the two translations are unrelated to one another. Activity and actuality are apparently independent concepts. In some cases, things are *actually* active, but in other cases, they are *potentially* active. Things are not only *actually* active, but also *actually* inactive and inert, *actually* in possession of powers and capacities, or *actually* in possession of properties that have nothing to do with activity. The ambiguity, if there were one, would be like that of 'pot.'

This ambiguity of '*energeia*' is an unacceptable consequence of such an interpretation. It would be utterly astonishing if Aristotle had coined a term, given it an importance second to none in his writings, and then used it in a systematically ambiguous way, without any comment whatsoever on that fact. It may well be that Aristotle did not coin the term '*energeia*,' but adopted it from discussions in the Academy.⁶ But even if that is so, it would be hardly less astonishing for Aristotle to use '*energeia*' ambiguously without comment.

⁵ Kosman, for instance, acknowledges the problem that some passages require one translation, some passages another, but his positive suggestion about how to achieve a unitary conception of the many relevant cases comes down to this: "I'd like 'activity' to be heard throughout my readings of 'actuality'" [55, p. 121, n. 1]. (Kosman seems to have changed his view. In a later paper, he opts for 'activity' as against 'actuality,' and gives an account of substantial being as activity [56].) Dancy translates *energeia* mostly by 'actuality' but confesses that "it often sounds better translated as 'activity'" [34, p. 92]. Burnyeat uses 'actuality' for *energeia* in translating 1050a23–b6, although it sounds odd and makes the passage unintelligible independent of Aristotle's definition of change [27, p. 223]. The same goes for 1048b18–35 [pp. 251–3]. The translation of *Nicomachean Ethics* VII.12 1153a7–12 [p. 266] sounds particularly startling—pleasures are actualities? Notably, he switches to 'activity' in translating *Nicomachean Ethics* X.4 1117b14–17 [p. 268–9]. Perhaps this is a slip, but it is a slip that betrays the undeniable strain of the translation 'actuality.' Makin seems to me to face the problem squarely in his commentary on Theta 6 [19, especially pp. 128–35].

⁶ This seems to me quite likely, for two reasons. First, Aristotle is not shy about taking credit for his philosophical achievements, but he never takes credit for inventing the word '*energeia*' (or '*entelekheia*'). Second, he speaks in Theta 3 (1047a30–2) and Theta 8 (1050a21–3), as if the term '*energeia*' had a meaning before he got to it. It is also possible

Moreover, Aristotle's explanation of '*energeia*' in Theta 6 gives us positive reason to think that '*energeia*' is not ambiguous. Aristotle tells us so. He tells us that the term is analogical—that is, that its many instances are analogous to one another, rather than simply having one thing in common. (I discuss this idea at some length in my detailed treatment of Theta 6.) Furthermore, the examples of *energeia* in the sense, whatever it is, of the phrase 'to be in *energeia*,' include cases of activity. Thus the use of '*energeia*' in the phrase 'to be in *energeia*' does not correspond to the translation 'actuality.' Instead, the use of '*energeia*' in the phrase 'to be in *energeia*' cuts across the cases of actuality and the cases of activity. In fact, I think that the examples in Theta 6 are chosen specifically to cover this broad range. To mistake '*energeia*' for an ambiguous term is, therefore, to miss its very point. It is supposed to cover, without ambiguity, both the cases naturally thought of in terms of activity and the cases naturally thought of in terms of actuality.

8.3 A NEW APPROACH

I have now argued against the ambiguity of '*energeia*,' but I have also granted that there are powerful reasons to translate '*energeia*' in two apparently unrelated ways. How should we proceed?

One would have hoped that Aristotle would simply tell us what he means. After all, '*energeia*' is Aristotle's word. Even if he did not coin it himself, he was the first philosopher to make it a central technical term. But Aristotle cannot tell us what *energeia* is, as he tells us explicitly. "What we want to say is clear on the basis of the particular cases, by induction, and one should not seek a definition of everything, but should also comprehend some things by analogy" (Theta 6 1048a35–37). Analogy, I will suggest, is the key to our access to the concept of *energeia*. It is not that *energeia* can be understood on an analogy with something else, but that the diverse cases of *energeia* are analogous to one another. This allows the term '*energeia*' to cover the vast range it does. It will also answer the question that looms over every interpretation of *Metaphysics* Theta, why Aristotle discusses powers in great detail before discussing *energeia*.

The problem is how to understand the term *energeia* in such a way that it is not ambiguous and yet does cover all of the cases Aristotle wishes to cover, including both cases easily understood in terms of activity and cases easily understood in terms of actuality. Thus the question is: what is the analogy in virtue of which all the cases of *energeia* deserve one and the same name?

but unlikely that the word existed in ordinary Greek before Aristotle, and happens not to have been preserved in any texts.

8.4 ORIENTATION

Up to this point, I have been clearing the way towards a substantive account of *energeia*. What I have said is almost purely negative. It would be helpful, however, to have at least a rough orientation for how to understand *energeia*, before considering the text of Theta 6 itself. Aristotle himself seems to assume that his terminology is not entirely unfamiliar.⁷ We have three main guides: (1) the etymology of the word ‘*energeia*’; (2) certain early uses of the term ‘*energeia*’ in Aristotle’s work; and (3) the discussion of powers in *Metaphysics* Theta itself.

I will argue that the original notion of *energeia* was the notion of the exercise of capacity to do something.⁸ The exercise of the capacity is the doing of something, and the doing itself is an *energeia*. In such cases, ‘activity’ is, of course, a natural and intelligible translation. The use of the word *energeia* to modify the verb ‘to be,’ is a subsequent innovation. Indeed, it is precisely the innovation that Aristotle is trying to help us understand here.

8.4.1 The Etymology of *Energeia*

The word ‘*energeia*’ is an abstract noun from an ordinary Greek adjective, *energos*. The adjective ‘*energos*’ is itself derived from the preposition, *en*, meaning ‘in,’ and the noun, *ergon*, meaning ‘job, work, function, deed.’ Something is *energos*, according to LSJ (the authoritative Greek dictionary), if it is “at work, active, busy, effective, vigorous.” Plato says that jurors and navigators should not take even a drop of wine when they are *on duty*: *energos ontas* (*Laws* II 674b). There is an entire class of uses in which the term is applied to fertile or productive land, and, on this basis, the word is applied to productively invested capital (*khreēmata*).

If *dunamis* contrasts with *energeia*, one might have thought that *dunatos* would contrast with *energos*. But this is not the case. On the contrary, it would be more natural to expect the same things to be both powerful (*dunatos*) and “at work, active, busy, effective, vigorous.” The Greek term that most naturally contrasts with *energos* is not *dunatos*, but rather *argos*.⁹ Aristotle plays on this opposition in *Nicomachean Ethics* I.7. Beginning to inquire what the *ergon* of a human being is, he asks rhetorically whether a human being is *argos*: lazy, lacking a job to do. And of course he goes on to conclude that our *ergon* is to engage in our distinctive *energeia*.

⁷ See, again, Theta 3 (1047a30–2) and Theta 8 (1050a21–3).

⁸ On this point, I am much indebted to Stephen Menn’s paper on *energeia* [69].

⁹ An adjective formed by the addition of an alpha-privative to the noun *ergon*. In the entry on *energos*, LSJ mentions *argos* as an antonym of *energos* only in its agricultural sense, but a glance at the entry for *argos* shows that in fact it is an antonym of *energos* in the whole range of uses.

Aristotle makes two terse comments on the word ‘*energeia*’ in *Metaphysics* Theta:

The word, ‘*energeia*,’ which is composed with a view to fulfillment, has been extended from, especially, changes to other things. For *energeia* seems above all to be change... (Θ.3 1047a30–2)¹⁰

The function is the end and the function is the activity, which is why the very word, ‘*energeia*,’ is said in accordance with the function and extends to *entelekheia*.
(Θ.8 1050a21–3)¹¹

In both passages, Aristotle takes pains to point out the connection between *energeia* and *entelekheia*. (I will return to this issue below in §9.9.) Two things are important for us, as we try to gain our bearings in grasping the concept of *energeia*: the connection to change and the connection to teleology (*ergon*).

Aristotle emphasizes in the first passage that *energeia* extends beyond change. This imposes a complex constraint on any account of *energeia*. The account must, obviously, not make all cases of *energeia* changes. Less obviously, the account must make it somehow reasonable or at least understandable that *energeia* “seems above all to be change.” It is hard to see how an account of *energeia* as actuality could do this. No one would ordinarily think that actuality is change. Even if someone somehow did, it is just false that the primary meaning of ‘actuality’ is change, and that its use has been extended from changes to other things. An account of *energeia* as activity fares better on this score. One might easily think that all activities either are changes.

In both passages, Aristotle emphasizes the connection between ‘*energeia*’ and teleology. In the first passage, he connects ‘*energeia*’ directly with ‘fulfillment’ (*entelekheia*). In the second passage, he connects ‘*energeia*’ and ‘*entelekheia*’ via a third concept, that of a function (*ergon*). This connection with ‘*ergon*’ was also drawn in the very first lines of *Metaphysics* Theta (1045b34). It is easy to see how this builds on the ordinary usage of the adjective ‘*energos*’. Fields, money, and professionals like navigators and jurors all have a function to fulfill, and they are *energos* to the extent that they are performing their function. In general, the idea is that if things are *energos*, they are carrying out or fulfilling their function (*ergon*), and hence they are in fulfillment (*entelekheia*). This presumably is supposed to help us see how it is that there are cases of *energeia* (the fulfilling of an end) that are not changes. In some cases, the function in question is not the performance of any action (think of a house).

¹⁰ ἐλήλυθε δ’ ἡ ἐνέργεια τοῦνομα, ἡ πρὸς τὴν ἐντελεχείαν συντιθεμένη, καὶ ἐπὶ τὰ ἄλλα ἐκ τῶν κινήσεως μάλιστα· δοκεῖ γὰρ ἡ ἐνέργεια μάλιστα ἡ κίνησις εἶναι...

¹¹ τὸ γὰρ ἔργον τέλος, ἡ δὲ ἐνέργεια τὸ ἔργον, διὸ καὶ τοῦνομα ἐνέργεια λέγεται κατὰ τὸ ἔργον καὶ συντείνει πρὸς τὴν ἐντελεχείαν.

Related ideas are implicit in a remark about divine pleasure in the *Nicomachean Ethics*. “God always enjoys one simple pleasure, since there is not only *energeia* of change, but also of changelessness” (VII.14 1154b26–7).¹² Aristotle clearly thinks the reader is likely to equate *energeia* with change, but that this mistake is liable to create serious mistakes about the nature of pleasure and of divine activity. Again, Aristotle works against the presumption that every *energeia* is a change. Presumably, the oneness and simplicity of God’s *energeia* is important partly because God is supposed to be unchanging because perfect.¹³

In the next section, I will return to the tension between *energeia* as change and *energeiai* other than change. For the moment, on purely linguistic grounds, we expect *energeia* to be the ‘property’ in virtue of which something is “at work, active, busy, effective, vigorous.” This ‘property’ might be some single universal, instantiated by everything that is at work. But it might, instead, refer to engaging in being at work in some particular instance—for instance, to the navigator’s navigating, to the juror’s judging, to the land’s production of grain. As we will see, it is this construal that is borne out by Aristotle’s early uses of the term.

8.4.2 Some Telling Uses of *Energeia*

Aristotle appears to have introduced the term *energeia* as a near synonym for *chrēsis*, ‘use.’ His purpose was not to solve metaphysical problems, but to elucidate a certain conception of the human good.

The problem that Aristotle was addressing had already been articulated in Plato’s *Euthydemus* (278e–282d). There, Plato has Socrates formulate the following problem: putative goods, such as wealth, are not beneficial—not good—for someone who has them unless he *uses* them well. Thus it appears that wisdom is some kind of knowledge about how to use things that, rightly used, are good. Furthermore, wisdom appears to be the consummate good, because it makes all potentially good things actually good, by using them rightly.

There is a striking parallel between these considerations from the *Euthydemus* and a definition of wealth Aristotle gives in the *Rhetoric*. In this definition, it appears that *energeia* means ‘using’ or ‘putting to work’: “In general, being wealthy is more in using than in possessing. For putting such things

¹² διὸ ὁ θεὸς αἰεὶ μίαν καὶ ἀπλὴν χαίρει ἡδονήν· οὐ γὰρ μόνον κινήσεώς ἐστιν ἐνέργεια ἀλλὰ καὶ ἀκινήσεως. The *energeia* of changelessness must be an activity, not a mere inert state, since it either is or is like an action (*praxis*; 1154b25).

¹³ This is a direct response to the inference drawn at *Sophist* 248e–249b. See my discussion in §1.2.

[money and property] to work, and using them, is wealth” (I.5, 1361a23–4).¹⁴ Aristotle, unlike Socrates in the *Euthydemus*, is not particularly concerned to distinguish right use from just any use. But he is concerned with the way in which the goodness of supposed goods like wealth derives not from their just sitting there, but from their being put to work. For our purposes, the passage from the *Rhetoric* shows that *energeia* is not only the use of knowledge or virtue or other such elevated things, as we will see below, but also the use of ordinary objects, such as money and property. This is a very long way from the modal notion of actuality. It is not so far from the notion of activity.

Aristotle, in the *Protrepticus*¹⁵, wants to show that the highest human good is not a thing, like food or wealth, but is knowing—not in the sense of *having* some knowledge stored away in your mind, but in the sense of *using* your knowledge to understand the world (B17). He introduces the term ‘*energeia*’ as a label for what one is doing in exercising the capacity that consists in a body of knowledge:

It appears there are two ways that things are said to live, one in the sense of capacity, one in the sense of *energeia*. For we say that those animals see which have vision and are by nature able to see, even if they happen to have their eyes shut, as well as those [animals] that are *using* their power and applying their vision. And likewise, both knowing and recognizing—in one case, we call using knowledge, i.e., contemplating, [knowing], and in one case, we call possessing the power to contemplate, i.e., having the knowledge, [knowing]. (B79; my emphasis)¹⁶

He further elaborates this view about life by way of perception, considered as a capacity or as an *energeia*:

If, then, we distinguish life from non-life by the possession of perception, and perceiving has two senses—properly of using one’s senses, in another way of being able to use them (it is for this reason, it seems, that we say even of a sleeping man that he perceives)—it is clear that living will correspondingly be taken in two senses: a waking man must be said to live in the true and proper sense; as for a sleeping man, because he is capable of passing into the activity in virtue of which we say that a man is waking and perceiving something, it is for this reason and with reference to this that we describe him as living. (B80)¹⁷

¹⁴ ὅλως δὲ τὸ πλουτεῖν ἐστὶν ἐν τῷ χρῆσθαι μᾶλλον ἢ ἐν τῷ κεκτῆσθαι· καὶ γὰρ ἡ ἐνέργειά ἐστι τῶν τοιούτων καὶ ἡ χρῆσις πλοῦτος.

¹⁵ An apparently early work, which has not survived, except in fragments quoted by other authors. I here follow the standard edition of Düring [12], and cite fragments according to his numbering.

¹⁶ Φαίνεται διττῶς λέγεσθαι τὸ ζῆν, τὸ μὲν κατὰ δύναμιν τὸ δὲ κατ’ ἐνέργειαν· ὁρῶντα γὰρ εἶναι φαμεν ὅσα τ’ ἔχει τῶν ζώων ὅψιν καὶ δυνατὰ πέφυκεν ἰδεῖν, καὶ μύοντα τυγχάνη, καὶ τὰ χρώμενα τῇ δυνάμει καὶ προσβάλλοντα τὴν ὅψιν. ὁμοίως δὲ καὶ τὸ ἐπίστασθαι καὶ τὸ γινώσκειν, ἔν μὲν τὸ χρῆσθαι καὶ θεωρεῖν λέγομεν, ἔν δὲ τὸ κεκτῆσθαι τὴν δύναμιν καὶ τὴν ἐπιστήμην ἔχειν.

¹⁷ Εἰ τοίνυν τῷ μὲν αἰσθάνεσθαι τὸ ζῆν διακρίνομεν καὶ τὸ μὴ ζῆν, τὸ δ’ αἰσθάνεσθαι διττόν, κυρίως μὲν τὸ χρῆσθαι ταῖς αἰσθήσεσιν ἄλλως δὲ τὸ δύνασθαι (διόπερ

In part, these passages respond to certain simple but striking facts about the Greek language. When he mentions what “we say,” he does not mean, ‘we philosophers,’ but ‘we who speak Greek.’ In Greek, there is no progressive verb form, no distinction between, ‘She thinks’ and ‘She is thinking.’ In English, the sentence, ‘she thinks,’ does not create any presumption that she is now engaged in thinking. It is something much more like an attribution of a capacity (although presumably one would not say ‘she thinks’ if she never exercised her capacity to do so). There is, in Greek, a sentence indistinguishable from, “She is thinking,” which is true even when she is not using her capacity to think.

One might have construed this phenomenon in various ways. One strategy, for instance, would be to attribute a certain ambiguity to the Greek verb, ‘to think.’ Aristotle invites us not to think that ‘to think’ is ambiguous, but rather to think that there are two quite different things that *thinking* or *being a thinker* can amount to: either having the power to think, or using that power.

This brings us to a second important point. Quite clearly in each case, there is a capacity (*dunamis*)—thought or perception—and this capacity on some occasions is used or exercised. It is put to work. The point of the term ‘*energeia*’ (used only at the beginning of the passage) is precisely that, in exercising the capacity, one puts it to work, i.e., the capacity carries out the task towards which it is intrinsically directed. In the case of thought, this means thinking, in the case of vision, seeing.

The same structure obtains in the central case for the *Protrepticus*: knowledge. The knowledge in question is a capacity. (Aristotle calls it a *dunamis*.) When the knower uses their knowledge to understand something, then they are putting that knowledge to work, engaging in the activity of contemplation.

Aristotle is presumably solving the following problem. On the one hand, the human good cannot be a capacity, since a capacity is for the sake of something further, but the human good would be a final end. On the other hand, the human good had better not be either (1) the use of the capacity for some *further* end, over and above the use itself (since then the same problem arises again) or (2) any kind of change leading to some further state (which, again, would itself then have greater claim to be called the human good than the change itself). The word ‘use’ suggests exploitation for the sake of a further end. But the word ‘*energeia*’ does not. It is a ‘doing,’ the exercise of a capacity rather than the mere possession of it, but it is an end, the performance of one’s work (*ergon*), and not a use for further purposes or a change.

It is the tension between these two aspects of *energeia* that is reflected in Aristotle’s own etymological remarks, quoted at the end of the last section.

φαμὲν αἰσθάνεσθαι καὶ τὸν καθεύδοντα λέγοντες, ὡς ἔοικε), ὁῦλον ὅτι καὶ τὸ ζῆν ἀκολουθήσει διττῶς λεγόμενον· τὸν μὲν γὰρ ἐγρηγοῦντα φατέον ζῆν ἀληθῶς καὶ κυρίως, τὸν δὲ καθεύδοντα διὰ τὸ δύνασθαι μεταβάλλειν εἰς ταύτην τὴν κίνησιν, καθ’ ἣν λέγομεν ἐγρηγορέναι τε καὶ τῶν πραγμάτων αἰσθάνεσθαι τινος, διὰ τοῦτο καὶ εἰς τοῦτο βλέποντες <sc. φατέον ζῆν αὐτόν>.

Energeia seems to be primarily change, but the word is applied in the first instance to cases in which there is ‘doing’ or ‘activity’ but not change.

The same concern is presumably in the background of the later *ergon* arguments of the *Nicomachean* and *Eudemian Ethics*. Aristotle writes in the *Eudemian Ethics*, “For to do well and to live well are the same as being happy, and each of them—both living and acting—is a using [*khṛēsis*] and an activity [*energeia*]” (II.1 1219b1–3). In the *Nicomachean Ethics*, Aristotle first concludes that the human work is “a certain practical [life]” (1098a3; *praktikē tis* [*zōē*]). Then he insists that practical life is “spoken of in two ways,” and that a practical life in the sense of activity (*energeia*) is meant (1098a5–7). The *ergon* arguments in both works echo the *Protrepticus*. They show that the human good, whether it is knowledge, or virtue, consists in the exercise of the relevant capacity: becoming a virtuous human being is not achieving the highest good, if that means simply acquiring the virtues; the highest good is not simply the excellences that one might acquire, but the ‘use’ of those excellences.

The virtues make especially vivid Aristotle’s reasons not to be satisfied with the term ‘use’ (*khṛēsis*), and to coin another term. It sounds peculiar to say that a courageous person, in acting courageously, *uses* his courage—as if he exploits it for some further end. Surely Aristotle’s point is rather that the contribution courage makes to a flourishing life does not simply consist in some state of the soul, but consists rather in putting your courage to work in your life—and that means living in a courageous way. But it doesn’t mean using your courage to achieve something over and above living and acting courageously.

Thus the concept of *energeia*, even from the beginning, is not simply identical with the concept of use. This will prove important for Aristotle’s later, metaphysical application of the concept. For he will want to claim that there are cases of *energeia* where there is no underlying capacity that is put to work.

8.4.3 Powers in *Metaphysics* Theta

The etymology and the early ethical uses of the notion of *energeia* have suggested that the term originally refers to the exercise of a capacity to do something, such as to make purchases or to act courageously. This is much closer to the notion of activity than to the modal notion of actuality. The connection to capacities for action, rather than actual truth, is further supported by the immediate context within *Metaphysics* Theta.

The support comes from the conspicuously puzzling feature of *Metaphysics* Theta: the indirect approach to being-in-*energeia* and being-in-capacity. Aristotle begins by announcing that he is undertaking the next stage of his inquiry into being. Having disposed of being in the figures of the categories—being

a substance, being qualified, being quantified, and so on—he turns now to being-in-capacity and being-in-*energeia*. But he does not take up this topic directly. Instead, he deals first with a narrower notion, which he calls ‘capacity connected with change’ (*dunamis kata kinēsin*).

If we think that ‘*energeia*’ (modifying ‘to be’) means ‘actuality,’ then we are liable to have serious difficulties understanding why Aristotle has begun in this way, first talking about powers—capacities to bring about change—and only then telling us about potentiality and actuality. But, having noticed the connection between *energeia* and using a capacity like virtue or knowledge, we can see why powers would be closely connected with *energeia*. For powers, in general, are exercised in bringing about changes—in actively doing something. An acid exercises its dissolving power on something soluble. Isolated in its glass beaker, the acid does not exercise this power. Powers would also seem to be the simplest kind of capacities: principles of bringing about change in another thing, or in oneself as another thing, and correlative principles of undergoing change. Hence the exercise of a power in bringing about a change is an especially straightforward example of an *energeia*—much more straightforward than, say, any alleged *energeia* there might be in being something.

Thus the lengthy preface to the discussion of being-in-*energeia* in *Metaphysics* Theta confirms our preliminary understanding of the term. *Energeia* does not seem to mean actuality, nor is its correlate possibility (even a restricted version of possibility, that one might take for potentiality). Rather, there is in the background a certain view about change: items have powers to act on and be acted on by one another. Sometimes they exercise those powers, and sometimes they do not. Their exercising of a power is their *energeia*. We can then use our understanding of these cases when we go on, in Theta 6 and following, to consider other (alleged) cases of the exercising of capacities that are not powers.

If we approach being-in-capacity and being-in-*energeia* as if they were potentiality (meaning some restricted form of possibility) and actuality, then we place them in the wrong context, and so find Aristotle’s procedure baffling. We would expect reflection about propositions, or truth-bearers, or (actual or possible) states of affairs. Rather, the term ‘capacity’ (*dunamis*) in application to being comes from explanations of changes in ordinary objects. On the basis of an understanding of the explanatory basis of *change*, presented in chapters 1 through 5, Aristotle undertakes to present a certain understanding of *being*.

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Being-in-*Energeia* (Theta 6)

The preliminary considerations, from the previous chapter, create a presumption that ‘*energeia*’ did not mean ‘actuality’ in its original use, and that it would be extraordinary if later, in application to being, it came to mean ‘actuality.’ (This does not, however, create a presumption that ‘*energeia*’ meant ‘activity’ in its original use.) Let us turn now to the passage of greatest importance for any interpretation of the notion of *energeia*: Theta 6. It is there, and only there in the entire extant corpus, that Aristotle undertakes to say as fully and clearly as he can what *energeia* is.

I divide the text into three parts: (1) the introductory lines (§9.1); (2) a preliminary set of remarks about *energeia*, which contrast it with being-in-capacity (§9.2); (3) a set of analogous cases of *energeia*. But I will treat (3) in two stages. For in (3), Aristotle not only makes his best attempt to help us understand *energeia*, he also tells us—rather disappointingly—that there is no explicit definition of *energeia* to be given. All we can do is to grasp *energeia* by considering the analogy among the various cases of *energeia*. In order to understand this claim about the semantics of ‘*energeia*,’ I discuss analogy (§9.3), and then turn to the analogous cases (§9.4).

9.1 INTRODUCTORY LINES

Aristotle introduces the chapter by announcing that he is finally turning to the topic in which we—and he—are really interested: capacity and *energeia* insofar as they are connected with ways of being. This contrasts with the previous discussion of *dunamis* not as a way of being, but as a power to bring about change. It is notable that, from the outset, Aristotle couples being-in-*energeia* with being-in-capacity. This was also the case in Theta 1, when he introduced the topic of *Metaphysics* Theta (1045b34 ff.).

Yet being-in-*energeia* and being-in-capacity do not get equal treatment. *Energeia* is the center of attention, but additional light will be shed on capacity:

(1) Since we have spoken about capacity that is said [of something] in connection with change, let us make determinations about *energeia*, what it is and what it is like.¹

¹ This locution, coupling ‘what it is’ and ‘what it is like,’ is a standard one. In this set phrase, there is no special metaphysical point to the contrast between what something is and what it is like. It indicates simply that one should expect a fairly full treatment of the

(2) Still², ‘capable,’ too, will at the same time be clear to us as we make distinctions [about *energeia*],³ that we call ‘capable’ not only that which is naturally such as to change something else or to be changed by something else (whether simply or in a certain way), but also in another way. (3) It is because of this other way that, in making our inquiry, we discussed these [other senses of capacity] too. (Θ.6 1048a25–30)⁴

In (1), Aristotle indicates that he is turning from the topic of power (*dunamis kata kinēsin*) to that of *energeia*.

In (2), Aristotle explains that this focus on *energeia* does not mean that capacity has been simply forgotten. The train of thought (signalled by καὶ γάρ) is this: “Now we’re going to talk about *energeia*, but don’t worry, there will be additional clarification of capacity along the way.”

Moreover, Aristotle already tells us a bit about what we are going to learn about capacity. It will become clear that we call things ‘capable’ (*dunaton*) not only in the sense of ‘having a power.’ This signals that the use of the term ‘*dunamis*’ is to be modified, and this in at least two ways.

First, there are capacities that are not powers, i.e., not principles of change in another thing. For instance, the matter of a living organism has a capacity to live, but this capacity is not a power, for it is a principle of change in itself as such. The exercise of the capacity to contemplate is not the bringing about of a change in something else, indeed, it is not a change at all, not even in the knower. By enabling us to see living and contemplating as *energeiai*, Aristotle also enables us to see the correlative properties as capacities (*dunameis*), although they are not powers. This is an expansion of the extension of the term ‘*dunamis*,’ roughly from power to capacity.

But there is also another kind of innovation in the use of the term ‘*dunamis*,’ not an expansion of its extension but a new way of using the term. This is what Aristotle means by “another way” in which things are called “capable” (*dunaton*): using the noun, *dunamis* to modify the verb ‘to be,’ to say that

subject, something that goes beyond merely explaining the meaning of the term in question. Cf. *Metaphysics*, 1041a6, Τί δὲ χρὴ λέγειν καὶ ὁποῖόν τι τὴν οὐσίαν; *EE*, 1234b18–21, περὶ φιλίας, τί ἐστὶ καὶ ποῖόν τι, . . . ἐπισκεπτέον; *PA*, 649a34–b1, Τὸ δὲ τί θερμὸν καὶ ποῖον θερμότερον, ἐπεὶ δὲ λέγεται πλεοναχῶς, οὐ τὸν αὐτὸν τρόπον ὑπάρξει πάσιν; *Politics*, 1053b8, τί ἕκαστον καὶ ποῖον δεῖ εἶναι; *Rhetoric*, 1356a23–24, τί τε ἕκαστόν ἐστιν τῶν παθῶν καὶ ποῖόν τι.

² This non-standard translation of γάρ is perfectly within the word’s range of meaning [35, pp. 86–9]. See the main text just below for my explanation of the sentence.

³ This translation of διαροῦσιν is expansive, but it is clearly what Aristotle means. He has just said that we are going to “make determinations” about *energeia*, and we will presumably make determinations by making distinctions (διαρεῖν).

⁴ ἐπεὶ δὲ περὶ τῆς κατὰ κίνησιν λεγομένης δυνάμεως εἴρηται, περὶ ἐνεργείας διορίσωμεν τί τέ ἐστιν ἡ ἐνέργεια καὶ ποῖόν τι. καὶ γάρ τὸ δυνατόν ἅμα δῆλον ἐστὶν διαροῦσιν, ὅτι οὐ μόνον τοῦτο λέγομεν δυνατόν ὃ πέφυκε κινεῖν ἄλλο ἢ κινεῖσθαι ὑπ’ ἄλλου ἢ ἀπλῶς ἢ τρόπον τινά, ἀλλὰ καὶ ἐτέρως, διὸ ζητοῦντες καὶ περὶ τούτων διήλθομεν.

something *is in capacity*. That this is what Aristotle means, is borne out by the subsequent course of the chapter. And it is also suggested by the precise formulation of sentence (2). For Aristotle does not speak of other capacities, but rather of another way of using the term ‘capable.’

Thus we should not conclude from this that Aristotle first talked about some items—the powers—and that he is now talking about a distinct class of items—the potentialities—that are relevant to being.⁵ The text says only that things are called ‘capable’ (*dunaton*) in another way from the way they are called *dunaton* when a power is attributed to them. This leaves open that, say, the power (*dunamis*) to build a house is perfectly sufficient on its own to qualify it to be-in-capacity a housebuilder. The very same thing—the power the housebuilder has—can be considered either as a principle of bringing about change in something else (*dunamis kata kinēsin*) or as the way in which the thing itself *is* a housebuilder. In (3), Aristotle goes on to say that it was for the sake of this different and broader use of the word ‘capacity’ (modifying ‘to be’) that we discussed the narrower sense, power, in the first place.

This introduction to Theta 6 follows the program Aristotle set out in Theta 1. There he said that he would give a preliminary treatment of capacity in its strict sense, namely power, and then turn to capacity and *energeia* in the broader sense (Θ.1 1046a1). Already in Theta 1, he said that he would not treat capacity and *energeia* equally, but rather that through dealing with *energeia* we would get clear about the remaining senses of capacity (Θ.1 1046a2–4). This is the very strategy Aristotle reiterates here at the beginning of Theta 6.

9.2 TWO WAYS OF BEING

The way of being that is called *energeia* is introduced as the complement of being-in-capacity (*dunamei*):

(1) So then: *energeia* is a thing’s being around not in the way we say [something is around] in capacity.⁶ (2) We say, for instance, that (a) a herm⁷ in wood [is around] in

⁵ See Ross [74, pp. cxxiv–cxxv and, vol. 2, p. 241]. Ross traces this confusion back to Bonitz.

⁶ I translate ὑπάρχειν with ‘to be around’ (as in, ‘There are a lot of kangaroos around here,’ or ‘I don’t care whether my intellect will survive my death. I care whether I’m still going to be around’). There are two standard translations for ὑπάρχειν: to belong (as in ‘A belongs to B,’ a locution common in Aristotle’s logical works) and to exist. I do not think that ὑπάρχειν can meaningfully be translated ‘belong’ here. I agree that ὑπάρχειν has a use as a one-place predicate, where it means something like ‘exists.’ But I do not think that ordinary Greek or Aristotle’s use of the term ὑπάρχειν entitle us to introduce a systematic distinction between existence (ὑπάρχειν) and being (εἶναι). My colloquial English is supposed to do justice to these various considerations.

⁷ I translate ‘herm’ rather than, with Ross and Makin, ‘statue of Hermes.’ A herm is not a full-body bronze or marble statue of Hermes, but a representation, usually carved in

capacity and (b) a half line within a whole line [is around in capacity], because it could be cut off,⁸ and (c) even that someone who is not contemplating is [in capacity] a knower, if he is able to contemplate.⁹ (3) And [all these things are around] in *energeia* too. (Θ.6 1048a30–5)¹⁰

I propose to approach this complex and difficult sentence painstakingly.

The clear central point is to contrast being-in-*energeia* with being-in-capacity, and thereby at least to begin the task of illuminating what *energeia* is. Aristotle is presupposing that capacity and *energeia* are correlative terms that *exhaust* the relevant range of ways of being. If there were a host of relevant ways of being, then Aristotle could not illuminatingly say that being-in-*energeia* is not being-in-capacity. Imagine someone trying to elucidate the category of substance by saying that it is not the category of quantity. This is perfectly true, but it does not illuminate substancehood, since it fails to differentiate things' ways of being substances from their ways of being, for instance, qualified. But Aristotle here speaks as if contrasting being-in-*energeia* with being-in-capacity were enough to give us at least a preliminary grasp of the concept. If he has in mind that there are just two relevant ways of being, then that makes sense.¹¹

wood, usually of Hermes, and usually of his head alone. (There was, however, significant variation among herms, as well as changes in them over time.) Because the passage associates the *hermēs* with wood, it seems more likely that Aristotle has herms in mind, rather than just any statues of Hermes.

⁸ As far as the grammar is concerned, ὅτι ἀφαιρεθείη ἄν might be taken solely with the line example, or with both the line and the herm. I take it only with the line example, which is more obscure and hence in need of further explanation. Moreover, if we took the phrase with both, then Aristotle would, strangely, be speaking of removing (ἀφαιρεῖν) the *herm*, rather than the wood around it.

⁹ My translation treats this phrase as an anacoluthon. The syntax of the last example is not parallel with the previous ones. Here, we have an expressed subject, καὶ τὸν μὴ θεωροῦντα, and a predicate, ἐπιστήμονα, whereas before there were only subjects. The translation is awkward, but it reflects the awkwardness of the Greek. However one translates the sentence, the point is clearly that the predicate *knower* can be rightly applied even to someone who is *not* exercising his knowledge—so long as he *can* exercise his knowledge.

¹⁰ ἔστι δὴ ἐνέργεια τὸ ὑπάρχειν τὸ πρᾶγμα μὴ οὕτως ὥσπερ λέγομεν δυνάμει· λέγομεν δὲ δυνάμει οἷον ἐν τῷ ξύλῳ Ἑρμῆν καὶ ἐν τῇ ὅλῃ τὴν ἡμίσειαν, ὅτι ἀφαιρεθείη ἄν, καὶ ἐπιστήμονα καὶ τὸν μὴ θεωροῦντα, ἂν δυνατὸς ᾗ θεωρῆσαι· τὸ δὲ ἐνέργεια.

¹¹ One might worry whether Aristotle's strategy here is inconsistent with his later claim that *energeia* is prior to capacity in account (Θ.8 1049b12–17). But there is no need to worry. Aristotle introduces the notion of *energeia* here by way of the notion of capacity, and this strategy is importantly connected with the nature of *energeia* and of capacity: one fails to grasp the concept of *energeia* if one fails to grasp it by contrast with that of capacity. But this way of using the concept of capacity to approach the concept of *energeia* does not presuppose that *energeia* is posterior to capacity. Similarly, one must grasp the concept of singularity by contrast with the concept of plurality, but singularity is nonetheless prior to plurality, not vice versa.

Sentence (1) strongly suggests, although it does not quite say, that being-in-capacity and being-in-*energeia* are not only contrasting but also incompatible: if something is *F* in *energeia*, then it is not *F* in capacity, and conversely, if something is in capacity *F*, then it is not *F* in *energeia*. This interpretation is borne out by *Physics* III.1, where Aristotle says outright that no thing is, at some time, both in capacity and in *energeia* *F*.¹²

An alternative, and rather strained, reading of (1) would take the two ways of being to be contrasted, but not incompatible. One might think that Aristotle ought to reject the view that they are incompatible, because of an argument like the following: ‘Part of the explanation of why these bricks continue to constitute this house is that, even while the house exists, they are a house in capacity. They can constitute *this* house in virtue of their ability to constitute some house or other. They might later constitute a different house, if a builder were to demolish this one and build a new one from the same materials. Thus the bricks are in capacity a house, even while they constitute a house.’¹³

This argument is based on a mistake about the relationship between having a power or capacity and being-in-capacity. To say that something is *F* in capacity is to specify a certain way of being *F*—if you like, a certain degree to which it is *F*, by contrast with any other degree of being *F*. In particular, it is to say that it is *F* *merely* in that it has the relevant capacities for being *F*, and *not* in that those capacities are exercised. Having the capacity to be made into an *F* is not, on its own, sufficient for being-in-capacity an *F*. A further condition is that those capacities not be now at work so that an *F* is constituted. But this is not to say that, in the production of an *F* from something that has the power to be made into an *F*, the thing’s power to be made into an *F* is thereby destroyed.¹⁴

¹² The sentence reads, “Since, in some cases, one thing may be in capacity and in fulfillment *F*—although not simultaneously, or not in the same respect, but it may, for instance, be in capacity hot and in fulfillment cold—therefore many things will act and be acted on by one another” (201a20–3; my translation; ἐπεὶ δ’ ἐνία ταῦτά καὶ δυνάμει καὶ ἐντελεχείᾳ ἐστίν—οὐχ ἅμα δέ, ἢ οὐ κατὰ τὸ αὐτό, ἀλλ’ οἷον θερμὸν μὲν δυνάμει ψυχρὸν δὲ ἐντελεχείᾳ—πολλὰ ᾗδ’ ποιήσει καὶ πείσεται ὑπ’ ἀλλήλων). It has been suggested to me that Aristotle’s remarks here are restricted to capacities for *becoming*, rather than capacities for *being*. The distinction between capacities for being and for becoming raises significant complications, which I will discuss later. For now, let me dogmatically say that I think Aristotle recognizes only capacities for change (broadly construed so as to include seeing, contemplating, and thinking). He does not recognize capacities for being (except insofar as cause or undergoing a change is itself a case of being). His notion of being-in-capacity is neither tantamount to, nor an acceptance of, capacities for being alongside the capacities just mentioned.

¹³ This view is espoused by Michael Frede in [41, pp. 191–2]. I borrow from him the case of the bricks and the house.

¹⁴ This, I think, is the view that Frede is primarily interested in combating in [41, pp. 191–2] (also cited in the previous note). By allowing that the truth of ‘*x* has the power to be made into *F*’ is compatible with the falsehood of ‘*x* is in capacity *F*’ we can reject the view Frede wants, for good reasons, to combat, while insisting that being-in-capacity

This is not merely a point about implicature. It is misleading but true to say that you have two children when you have three. By contrast, to say of something that it is in capacity *F*, when it is in *energeia F*, is simply false. To say of something that it has being-in-capacity is to contrast its way of being with another way, namely being-in-*energeia*. Likewise, to say of something that it has being-in-*energeia* is precisely to contrast its way of being with being-in-capacity.

Following the general statement about the relationship between being-in-*energeia* and being-in-capacity in (1), Aristotle illustrates that claim with some examples of being-in-capacity in (2). How should we understand these examples?¹⁵

The example of the herm seems to mean something like this: a block of wood is in capacity a herm because it is the kind of thing that could be made into a herm. Imagine a hermmaker showing you around her workshop: she says, pointing at rough-hewn blocks, “That’s a herm, and that’s a herm, and that’s a pedestal.” Some blocks of wood are suitable for being made into herms, others are not. A heap of dry, loose sand is not in capacity a herm, for it could not be made into a herm. Such a heap does not have the required properties. For instance, the sand does not cohere in such a way that one could form a head for the herm. And portions of the sand cannot be used to support weight, so that (say) a nose or an ear could be held up by the rest of the sand.

A block of wood is in capacity a herm because it does have the required capacities. For instance, when a hermmaker carves into the wood with a chisel or knife, the wood does not crumble. The wood cannot have been excessively dried, or otherwise damaged so that it would crumble under the hermmaker’s knife. Such a damaged block of wood is not in capacity a herm. The product of the hermmaker’s work is then, presumably, a herm in *energeia*. The block’s capacities make up the passive power to be made into a herm, in the strict and precise sense clarified in Theta 1–5. They are principles of undergoing a change brought about by a distinct agent.

and being-in-*energeia* are incompatible. The good reasons include: (1) the plausibility of cases such as the bricks and the house, described above; (2) cases in which the capacity in question is an active, not a passive, one, such as the capacity to get from here to there, or the capacity to play the piano; (3) the compatibility of the claims (a) the matter of a thing is in capacity that thing (*Metaphysics* H.6 1045a29–34 and b16–23) and (b) the matter of the thing is still around after the thing has come into being. The matter need not lose the capacities in virtue of which, before taking on the relevant form, it is in capacity the composite. Nor need the matter cease to exist. It simply stops being the case that the matter is merely in capacity something of the relevant sort, and starts being the case the the matter is in *energeia* something of that sort.

¹⁵ All three also occur in $\Delta.7$ 1017a35–b8. There is one very slight difference between the treatments in Delta and Theta, which I will discuss in the main text below.

In order to understand the example of the half-line, we need to review an aspect of Aristotle's philosophy of mathematics. First, in this context, a line is something bounded at both ends, so that it has a definite length. What Aristotle calls a line, contemporary mathematicians call a line segment.¹⁶ For Aristotle, the distinction is superfluous, since he doesn't believe in infinitely large things. Second, even on a (finite) line, there are not, according to Aristotle, infinitely many points. Rather, a line is such that it can be divided anywhere. By dividing the line—for instance, marking a point on it with another intersecting line—a mathematician brings into being a point that had been there only in capacity.

In the case we are to imagine, a certain line gets marked at its mid-point, and the half-line is thereby divided off from the whole. The half-line is brought into being by the marking of this mid-point. Its end-points are already around, and the length between that end-point and the mid-point has already been marked. According to Aristotle, until the mid-point of the original line is marked, neither that mid-point nor the half-line bounded by it is around.

This case should be understood like the herm. In each case, some item (a block of wood, a certain line) has properties in virtue of which it can be changed in certain ways. They can be changed so that new items come into being: a herm or a half-line. Because the block and the whole line have the properties that make them suitable starting points for the production of a herm and a half-line, those of the herm and the half-line are already around, albeit merely in capacity, as soon as the block or the whole line is around.

The last example, that of the knower, is a touchstone for the notion of *energeia*. As I argued above (§8.4.2), there is reason to think that the notion of *energeia* was originally introduced in order to make a point about the sense in which knowing is the highest human good.¹⁷ In later writings, the case of knowing, in particular the contrast between having and using knowledge, occurs again and again in connection with being-in-capacity and being-in-*energeia*.¹⁸ Because of the centrality of this example for Aristotle himself, it is a test for interpretations of *energeia*: proposed interpretations should not have to strain to make sense of it.

¹⁶ This appears to be true in Greek mathematics generally. While Greek mathematicians do sometimes invoke lines' being extendable *ad infinitum*, they never, at least in extant texts, invoke lines' being actually infinitely long.

¹⁷ Cf. the passages cited above from the *Protrepticus* (p. 164).

¹⁸ Cf. *de Anima* II.1, 412a9–11, and II.5, 417a21–b2; *Metaphysics* Δ.7, 1017b2–5; *Physics* VIII.4 255a33–b5. In some of these contexts, Aristotle is explaining how the state of possessing knowledge can be taken to be either a case of being-in-capacity (because the possessor of knowledge is capable of exercising it) or a case of being-in-*energeia* (because the state is the outcome of a process of change, namely learning).

But construing *energeia* as actuality makes this example terribly difficult to understand.¹⁹ The problem is that someone who knows geometry but is not using that knowledge is actually a knower of geometry. There is no sense of ‘actually,’ either in ordinary English or in contemporary modal theory, according to which such a person is not actually a knower of geometry. Yet Aristotle clearly denies, both here and elsewhere, that such a person is in *energeia* a knower of geometry. The correct and simple conclusion to draw is that *energeia* does not mean ‘actuality.’

One might think that *energeia* means (roughly) activity in the knower example, but in some other contexts means ‘actuality.’ But I have already argued against the ambiguity of ‘*energeia*.’

One might, alternatively, think that Aristotle is advancing a daring, counterintuitive thesis about what counts as actual knowing. On this daring view, merely having the knowledge is not actually knowing. But there is no antecedent conception of *energeia* in ordinary Greek about which Aristotle might advance this bold claim. Furthermore, the knower example is not any old case to which the distinction between being-in-capacity and being-in-*energeia* should apply. It is a central case. It is the case for which Aristotle appears to have introduced the term ‘*energeia*’ in the *Protreptics*. And it is the case that Aristotle repeatedly uses to sketch quickly for the reader the contrast between being-in-*energeia* and being-in-capacity, when he wants to use that distinction to solve other problems. Our interpretation should not make the case somehow peculiar or exceptional, but rather easily accessible and straightforward.

One might reply to this argument as follows: “But Aristotle clearly *does* want to say something like the following: the person who merely has but is not using their knowledge is a knower to a lesser degree, or less fully, and that the person who is using their knowledge is fully, really, truly, and in the highest degree a knower. It is this thought that gets expressed by the otherwise counterintuitive translation, ‘actually.’”

I agree that Aristotle wants to say such things, but the question is whether they are explicating the meaning of ‘*energeia*,’ or advancing claims about *energeia*. These claims are neither put forward nor presupposed here, in the introductory lines of Theta 6, before the positive account of being-in-*energeia* has even begun. Rather, these claims are made in Theta 8, as the conclusion of an explicit argument for the conclusion that *energeia* is prior in being (*ousia*) to capacity. This is, to put it anachronistically, a synthetic claim. It is the substantive conclusion of a robust argument. The argument is not anything like, ‘Just think about what “*energeia*” means. Then you’ll see that to be in *energeia* is to be really, truly, and fully!’ The argument is based on a number of assumptions about for-the-sake of relations. If one rejects those assumptions, then one might well deny Aristotle’s claim, and assert

¹⁹ The Londinienses, for instance, run into this problem [28, p. 126].

that capacity, not *energeia*, has priority. In fact, Aristotle countenances the conceivability, indeed the plausibility, of this view.²⁰ Although he rejects it, he does not reject it as incoherent or absurd. We are supposed first, in Theta 6, to grasp the notion of *energeia*, and only later, in Theta 8, to grasp the argument for the priority of *energeia* in being.

Therefore, we cannot motivate a reading of the knower example by appeal to this subsequent conclusion. If we do so, then we will have garbled the logical structure. Even worse, we will also have robbed Aristotle of the logical room for making his argument. In order to make his argument for the priority of *energeia*, Aristotle needs some way of thinking about it that is contentful and definite, but doesn't already presuppose priority.

How then should we think about the relationship between the knower in capacity and the knower in *energeia* at this early moment of the exposition? A cue from the chapter on being in *Metaphysics* Delta can help. There, Aristotle gives these three examples, as well as some others. He emphasizes, in each case, that there is a single property—in this case, being a knower—that can be had in two ways: “we say that . . . both the person who can use their knowledge and the person who is using their knowledge know” (Δ.7 1017b2–5).²¹ Consider, for instance, *being a knower of geometry*. There are two ways of having this property. There is the way characteristic of geometers at lunch: they have the knowledge of geometry, and are able to understand any geometrical fact you present them with, but they are not then using their knowledge of geometry to understand anything. And then there is the way characteristic of geometers at work: they are using their knowledge of geometry to understand (say) why the curves that solve the three-line locus problem are conic sections. Aristotle thinks that using one's knowledge of geometry is not merely a *sign* that one is a knower of geometry, but constitutes, in its own right, being a knower of geometry. (It may be quite difficult to tell, in particular cases, whether ‘doing geometry’ is exercising the knowledge of the geometry or acquiring that knowledge.)

It is not part of this thought that one way of knowing geometry is the authentic, real, or full-fledged way of being a geometer. The thought is merely that, at least for some properties, there are two ways of having the property. Of course, even this is a substantive view that might be rejected. One might think that there is only one way of, say, being a geometer (namely, having the science), and that the exercise of the science does not constitute a further distinct way of being a geometer. But Aristotle's view is not a ludicrous one.

Thus far, we have considered three examples of beings-in-capacity: the herm in the wood, the half-line in the whole, and the knower when not contemplating. There is some wood: a mere block. But it could be made into a

²⁰ Δ.6 1017b22–4.

²¹ φαμεν . . . ἐπίστασθαι . . . καὶ τὸ δύναμενον χρῆσθαι τῇ ἐπιστήμῃ καὶ τὸ χρώμενον.

herm. The sense in which a herm is now there in the wood is *not* the sense in which the herm might be there in *energeia*. There is a whole line. But it could be divided in half. The sense in which the half-line is there in the whole line is not the sense in which the half-line might be there in *energeia*. There is a knower, asleep but with the ability to contemplate; the sense in which she is a knower is not the sense in which she might be a knower in *energeia*. What is the general concept of *energeia* that we are to grasp through taking note of this contrast?

9.3 ANALOGY: THE SEMANTICS OF *ENERGEIA*

Aristotle explicitly refuses to answer this question directly. I have already quoted one of Aristotle's remarks to this effect, but I here quote the passage in full, so that the reader can see the continuous text. I will initially discuss only parts (1) and (4). Parts (2), (3), and (5) will come in as our analysis proceeds (in §9.4 on page 189):

(1) What we want to say is clear on the basis of the particular cases, by induction, and one should not seek a definition of everything, but [should] also comprehend by analogy, (2) that, (a) as something that is building a house is to something that can build a house, so is (b) what is awake to what is asleep, (c) what is seeing to what has its eyes shut, but has vision, (d) what has been separated out of the matter to the matter, (e) what has been worked up to what has not been worked on. (3) Within this distinction [between the members of each analogous pair], let *energeia* be marked off as one part, what is able as the other. (4) Not everything is said to be in *energeia* in the same way, but [only] by analogy—as *this* is in something else or in relation to it, so *that* is in something or in relation to it. (5) For, in some cases, it is as a change is to a capacity, in others, as a substance is to some matter. (Θ.6 1048a35–b9)²²

²² (1) δῆλον δ' ἐπὶ τῶν καθ' ἕκαστα τῇ ἐπαγωγῇ ὁ βουλούμεθα λέγειν, καὶ οὐ δεῖ παντὸς ὅρον ζητεῖν ἀλλὰ καὶ τὸ ἀνάλογον συνορᾶν, (2) ὅτι ὡς τὸ οἰκοδομοῦν πρὸς τὸ οἰκοδόμικον, καὶ τὸ ἐγρηγορῆσθαι πρὸς τὸ καθεύδον, καὶ τὸ ὄρων πρὸς τὸ μῦον μὲν ὁψιν δὲ ἔχον, καὶ τὸ ἀποκεκριμένον ἐκ τῆς ὕλης πρὸς τὴν ὕλην, καὶ τὸ ἀπειργασμένον πρὸς τὸ ἀνέργαστον. (3) ταύτης δὲ τῆς διαφορᾶς θατέρω μορίῳ ἔστω ἡ ἐνέργεια ἀφωρισμένη, θατέρω δὲ τὸ δυνατόν. (4) λέγεται δὲ ἐνέργεια οὐ πάντα ὁμοίως ἀλλ' ἢ τῷ ἀνάλογον, ὡς τοῦτο ἐν τούτῳ ἢ πρὸς τοῦτο, τόδ' ἐν τῷδε ἢ πρὸς τόδε. (5) τὰ μὲν γὰρ ὡς κίνησις πρὸς δύναμιν, τὰ δ' ὡς οὐσία πρὸς τινα ὕλην. Jaeger reads τῷ with both instances of ἀνάλογον, not just with the second as Ross does. I am tempted to read τὸ ἀνάλογον both cases. For the first ἀνάλογον, two of the less reliable witnesses have the reading τὸ: A^b and E². As for the second ἀνάλογον, Ross's and Jaeger's apparatus differ. Jaeger reports that E² is the only witness that has τὸ with the second ἀνάλογον, and he reports that E and J both have τῷ. But Ross reports that J has τὸ (as well as E²). Whichever apparatus is correct, the manuscripts are equivocal. According to LSJ, τὸ ἀνάλογον as an adverbial accusative is standard Greek. (The entry makes no reference, unfortunately, to τῷ ἀνάλογον.)

The passage invokes analogy. This notion has its origins in mathematics. An analogy, or proportionality, holds among two pairs of things when, as the first is to the second, so is the third to the fourth. Aristotle extends this mathematical notion so that it becomes (for lack of a better term) another semantic notion, alongside other, perhaps more familiar, notions that Aristotle employs. One sees this clearly, for instance, in a passage of the *Nicomachean Ethics*:

The good is not something common [to various things] in virtue of one form [that they share]. But in what sense then is [the good] said [of various things]? It certainly isn't like chance homonyms. Is it that all [good things] are [good] by being from one thing, or by converging on one thing, or are they, rather, [good] by analogy? For as sight is in the body, so is thought in the soul, and another thing in something else. (I.6 1096b25–9)²³

Being good presents a problem because, while it is clearly not an arbitrary homonym like 'pot,' it is also clearly not, according to Aristotle, univocal. How, then, can we understand the coherence of the class of good things? Analogy is a candidate way.²⁴ Analogy also plays a crucial role in Aristotle's solution to the impasse concerning whether all things have the same principles or different principles.²⁵

Analogy does not function here as a heuristic or explanatory device for explaining an unfamiliar word. A word explained by such an analogy might well apply univocally to all its instances. It is common to use analogies to help explain a term, even when the things to which that term applies are synonyms. For instance, one might explain what a chrysalis is to someone who knows what a cocoon is by saying that a chrysalis is to a butterfly as a cocoon is to a moth. Such an analogy is no reason to think that chrysalises are chrysalises homonymously.

Analogy can also be used more loosely in connection with such terms, as a comparison or metaphor, intended to further explicate a concept. This use of analogy is not foreign to Aristotle. He says, for instance, that the relationship

²³ οὐκ ἔστιν ἅρα τὸ ἀγαθόν τι κοινὸν κατὰ μίαν ἰδέαν. ἀλλὰ πῶς δὴ λέγεται; οὐ γὰρ ἔοικε τοῖς γε ἀπὸ τύχης ὁμωνύμοις. ἀλλ' ἅρα γε τῷ ἀφ' ἐνὸς εἶναι ἢ πρὸς ἐν ἅπαντα συντελεῖν, ἢ μᾶλλον κατ' ἀναλογίαν· ὥς γὰρ ἐν σώματι ὄψις, ἐν ψυχῇ νοῦς, καὶ ἄλλο δὴ ἐν ἄλλῳ.

²⁴ Aristotle nowhere takes an explicit stand on the question of how the good things all deserve one name. I argue in Ch. 14 that he thinks the good things, like the *energeiai*, are analogously the same. In fact, it will turn out that there is an intimate connection between *energeia* and goodness.

²⁵ For the impasse, see B.4 999b24–1000a4 for one version (whether principles are one in form or in number) and 1000a5–1001a3 for another (whether the principles of perishable and imperishable things are the same). For yet another version of the difficulty, with a solution, see A.4 and 5 *passim*.

between the best and the world is like the relationship between a general and an army (Λ.10 1075a11–14).²⁶

But Aristotle is not employing an analogy merely as the most convenient or helpful way to grasp the concept of *energeia*. He is not even setting up an analogy between *energeia* and something else. Rather, he is claiming that the concept of *energeia* *cannot* be explained in a way that applies univocally to all of its instances (b6–7). The analogy obtains among the various cases of *energeia*, and grasping the analogy is the way to grasp the unity of those many cases, the way in which they belong together and deserve one name.

The analogical unity of the kind *energeia* is to be contrasted with Aristotle's other semantic notions. There are at least three: synonymy, core-dependent homonymy, and unqualified homonymy. I have already discussed them in §3.1 (p. 33 ff.) and §3.1.1 (p. 37 ff.). I will not repeat that discussion here, but I will quickly review some key ideas.

By calling these notions semantic, I mean that they are accounts of the sense in which a number of distinct items deserve the same name. While the meanings of words are not irrelevant to homonymy, they are not the central concern.²⁷ The central concern is, rather, with the way in which various items can belong together in a kind deserving of a name. We wonder whether the *items* have something in common in virtue of which they deserve this single name.²⁸ Cases of homonymy represent one extreme, in which there is a single name for items that do not in any sense belong together in a single kind.²⁹

At the other extreme, there are synonyms such as human beings. The sense in which each of the items called 'human being' is a human being is the same.

²⁶ This is what Kosman, for instance, takes Aristotle to be doing. He writes, "Aristotle's practice merely exhibits the necessary transgression of synecdoche" [56, p. 213]. He says that *energeia* "figures" being and is the "ruling metaphor" for it (ibid.). Kosman makes broad claims about metaphysics here. Maybe he is right, but if so, Aristotle is wrong, because Aristotle did not understand his claims about being and *energeia* as a figure of speech. See also the Londinienses, p. 126. They take it that being is an *energeia*, and that the explication of this *energeia* is our concern, as part of the inquiry into being as such, and that, to this end, Aristotle sets up an analogy between this *energeia* and change.

²⁷ Cf. my remarks about meaning on page 36 ff.

²⁸ To that extent, it might be slightly misleading to call these notions semantic. They are semantic insofar as they are concerned with the connection between words and things.

²⁹ This criterion is the more aptly formulated one: homonymous items do not constitute a kind. In some cases of homonymy, such as 'pot,' there is no particular reason why the various items are called by the same name. It appears perfectly arbitrary. But in some cases, there is a straightforward explanation of why homonyms have the same name. A line is called a *dunamis* because the square on it has a certain size; thus the line has, in an extended sense, the power to produce a square of a certain size, so it comes to be called a *dunamis* itself. (Cf. the "certain similarity" mentioned at 1046a7.) But a fire's ability to heat and a certain line are, nonetheless, only homonymously *dunamis*, because they do not share a nature and are not in any sense members of any kind, *dunamis*.

This means: what it is to be a human being for Socrates and what it is to be a human being for Kallias are no different (and likewise for all other human beings). Again, Aristotle's basic concern is with items (human beings), not words ('human beings'), and with what they have in common, namely being human. This is the primary and paradigmatic case of many things deserving one name.

A second way in which diverse items deserve a single name is core-dependent homonymy. Aristotle calls it "being called [by the name in question] with respect to one thing" (*legesthai pros hen*).³⁰ To use Aristotle's famous example, 'medical' applies neither synonymously nor homonymously to its various instances.³¹ It does not apply synonymously because there is no one thing that the many medical things have in common. For instance, a scalpel, which is a medical instrument, is medical in a different sense from a doctor, who is a medical man. Yet it would clearly be rather coarse to group 'medical' with 'pot,' and to conclude that scalpels and doctors are merely homonymously medical. The many medical things are not so-called in virtue of one thing they have in common; but all of the applications of the term 'medical' contain implicit reference to the medical *art*. Thus the medical items, by contrast with human beings, form a kind with an only qualified unity, and with a complex structure. But we would be missing something important about how they belong together if we had a variety of adjectives for them, instead of the one word 'medical.' This is not the case with homonyms like 'pot' and 'bank.'

In what sense do all the cases of *energeia* fall together in a group deserving a single name? They do not do so by having something in common, as all human beings do. Nor do they fall together the way all the instances of 'medical' do: by being understood with reference to a single primary usage. The cases of *energeia* fall together by being analogous to one another. There is no one sense in which all *energeiai* are *energeiai*, as there is one sense in which all butterflies are butterflies, nor is there a primary sense of *energeia* with reference to which all the other cases of *energeia* are *energeiai*. (This will be quite important later.) Yet the various *energeiai* are not called by the same name merely homonomously. They deserve to share the same name.

9.3.1 Analogy in the Biological Works

Analogy also figures importantly in the biological works, in ways that confirm the analysis I have already given. In the programmatic opening book of *de Partibus Animalium*, Aristotle says we must take account of what various animals have in common. But it turns out that 'having something in common'

³⁰ For one example among many, see *Metaphysics* Γ.2.

³¹ Ibid.

is more complicated than one might think. There are various ways of having something in common and analogy is one of them: “For some things have something in common in virtue of analogy, others in virtue of their genus, others in virtue of their species” (I.5 645b28–9).³²

Having something in common by analogy is contrasted with two other ways of having something in common: belonging to the same genus and belonging to the same species. Both of these are cases of synonymy (so that it turns out that synonymy, too, is more complex than one might have thought at first). Core-dependent homonymy is not mentioned in this context. Aristotle contrasts analogically common features with specifically or generically common features. Two things can have something in common analogically, even if they have quite radically different things in common. By contrast, generically common features differ only by more and less:

Some may find it puzzling that general usage has not combined water-animals and feathered animals into one higher genus, and adopted one name to cover both, seeing that in fact these two genera have certain features in common. The answer is that in spite of this the present grouping is the right one; because while genera that differ only ‘by excess’ (that is, ‘by the more and less’) are placed together in one group, those which differ so much that their characteristics can merely be called analogous are placed in separate genera. As an illustration: one bird differs from another bird ‘by the more,’ or ‘by excess’: one bird’s feathers are long, another’s are short; whereas a

³² τὰ μὲν γὰρ ἔχουσι τὸ κοινὸν κατ’ ἀναλογίαν, τὰ δὲ κατὰ γένος, τὰ δὲ κατ’ εἶδος. My translation. Throughout, I use the Loeb text for quotations from Aristotle’s biological works; where not otherwise noted, I use the Loeb translation as well. For a helpful discussion of analogy in Aristotle’s biology see ch. 2 of Malcolm Wilson, *The Unity of Science* [84]. We are in agreement about several important things. For instance, that the point of the concept of analogy is to provide a theoretical basis for terms that cut across genera: “In the face of the injunction against *metabasis* or kind-crossing, analogy provides us with the means of treating subjects that are generically different in a parallel way” [84, p. 10]. I accept his defense of the view that Aristotle uses the concept of ‘genus’ in a systematic and consistent way, and that there is systematic contrast between analogical commonality and generic commonality [84, pp. 60–67]. Whether a given commonality counts as generic or analogous is not relative to Aristotle’s (or anyone else’s) immediate concerns, but is a fact about the world. However, I disagree with Wilson about the relationship between analogy and *pros hen legomenon*. I subscribe to the traditional view that they are exclusive alternatives, where Wilson thinks that they are not only compatible but that analogy presupposes focality [84, p. 12]. Pace Wilson, I do not find any “explicit interaction between focality and analogy” in the account of being-in-capacity in *Metaphysics* [84, p. 189]. Focality is invoked in the discussion of powers. Once Aristotle turns to being-in-*energeia* and being-in-capacity, focality is left behind and only analogy plays a role. Wilson infers from 1049b12–17 that focality is present [84, p. 192], but this is not a warranted inference. He presupposes that every case of definitional inclusion is a case of focality, but that cannot be correct. In this case, the focality would make *energeia* and capacity themselves part of a single analogous kind—which I take to be a *reductio* of the suggestion. I also disagree with Wilson’s view that focality and analogy both play a role in Aristotle’s account of the good [84, pp. 194–206], for reasons I explain in ch. 14.

fish and a bird differ by analogy: for what a feather is to the one, a scale is to the other. It is not easy to do this in all cases, for the analogous parts of most groups of animals are identical. (I.4 644a14–24)³³

Scales and feathers are similar; both are protective coverings attached to the skin. They differ not merely in size, but in kind.³⁴

In *On the Generation of Animals*, Aristotle recapitulates the idea that analogous features are merely similar and not the same:

The creatures that cannot move about, like the testacea and those which live by being attached to some surface, are in their essence similar to plants, and therefore, as in plants, so also in them, male and female are not found, although they are called male and female just by way of similarity and analogy, since they exhibit a slight difference of this sort. (I.1 715b17–22)³⁵

The passage goes on to explain the nature of the analogy. In some species of plants, certain individuals bear fruit, and others do not bear fruit, but do contribute crucially to the production of the fruit by the former individuals. The relation between these two sorts of plant is analogous to the relation between female animals, which bear young themselves, and male animals, which do not bear young but do contribute essentially to procreation.³⁶

Other examples of analogous characteristics are the bones of land animals and the bones of fish. Fish bones presumably differ from land-animal bones by being flexible, but both fish bones and land-animal bones are for protecting

³³ Translation modified. Ἀπορήσειε δ' ἂν τις διὰ τί οὐκ ἄνωθεν ἐνὶ ὀνόματι ἐμπεριλαβόντες ἅμα ἐν γένος ἄμφω προσηγόρευσαν οἱ ἄνθρωποι, ὃ περιέχει τὰ τε ἔνυδρα καὶ τὰ πτηνὰ τῶν ζώων· ἐστὶ γὰρ ἕνια πάθη κοινὰ καὶ τοῦτοις [καὶ τοῖς ἄλλοις ζώοις ἅπασιν], ἀλλ' ὅμως ὁρθῶς διώρισται τοῦτον τὸν τρόπον. ὅσα μὲν γὰρ διαφέρει τῶν γενῶν καθ' ὑπεροχὴν καὶ τῷ μᾶλλον καὶ ἥττον, ταῦτα ὑπέζευκται ἐνὶ γένει, ὅσα δ' ἔχει τὸ ἀνάλογον, χωρὶς λέγω δ' οἷον ὄρνις ὀρνιθὸς διαφέρει τῷ μᾶλλον ἢ καθ' ὑπεροχὴν (τὸ μὲν γὰρ μακρόπτερον τὸ δὲ βραχύπτερον), ἰχθυὲς δ' ὀρνιθὸς τῷ ἀνάλογον (ὃ γὰρ ἐκεῖνυ πτερόν, θατέρω λεπίς). τοῦτο δὲ ποιεῖν ἐπὶ πᾶσιν οὐ ῥάδιον· τὰ γὰρ πολλὰ ζῶα ἀνάλογον ταῦτο πέπονθεν.

³⁴ Wilson shows that there are cases of analogy among items that differ merely by more and less [84, p. 69]. For further discussion of the general issue, see Wilson [84, pp.38–52]. Wilson's term, 'commensurability,' should not be confused with commensurability in its geometrical use. Terms that are geometrically incommensurable are commensurable in Wilson's sense; he means something more like 'comparable.' (Comparability may not be restrictive enough, however. Consider the criterion given by Euclid, *Elements* V def. 4, "Magnitudes are said to have a ratio to one another which can, when multiplied, exceed one another." This is presumably meant to deny that, say, a line and a point, or the angle between a circle and a tangent and any straight angle [cf. *Elements* III.16], have a ratio.)

³⁵ ὅσα δὲ μὴ πορευτικά, καθάπερ τὰ ὀστρακόδερμα τῶν ζώων καὶ τὰ ζῶντα τῷ προσπεφυκέναι, διὰ τὸ παραπλησίαν αὐτῶν εἶναι τὴν οὐσίαν τοῖς φυτοῖς, ὥσπερ οὐδ' ἐν ἔκείνοις, οὐδ' ἐν τοῦτοις ἐστὶ τὸ θῆλυ καὶ τὸ ἄρρεν, ἀλλ' ἥδη καθ' ὁμοιότητα καὶ κατ' ἀναλογίαν λέγεται· μικρὰν γάρ τινα τοιαύτην ἔχει διαφοράν.

³⁶ According to Wilson [84, p. 60, n. 14], this is the only passage in which Aristotle speaks of whole animals (rather than parts of animals) as analogous.

the soft parts of the creature (PA II.6 653b33–7).³⁷ The octopus's *mytis* is not a heart, but it is analogous to the heart because of its location in the body (PA IV.5 681b29–32). Snakes do not have necks: “since ‘neck’ is the name given to the part of the body between the head and the shoulders, the serpent would appear to be the very last of these creatures to possess one: at any rate, if the neck is to be defined by the limits mentioned above, he has merely something analogous to a neck” (PA IV.11 691b28–32).³⁸

The biological works confirm that analogy is a technical term, connected in a way in which two things can have something in common. The notion of analogy is important for capturing common features that cut across the division of things into biological kinds. This connects with the importance of the notion in mathematics. In the fifth book of Euclid's *Elements*, we find Eudoxus' universal theory of proportion. According to the theory, only magnitudes of the same kind stand in a ratio to one another. But the ratios are not themselves magnitudes, and thus a pair of magnitudes of one kind (e.g., distances) can stand in the very same ratio as a pair of magnitudes of another kind (e.g., times). The articulation of this theory of proportion, and especially of a definition of same ratio that can deal with incommensurability, was a great mathematical achievement, due to Eudoxus.³⁹

Of course, in many instances from the biological works, there is no already existing common term, whose application Aristotle is explaining. He points out nameless but real analogies, and shows no interest in introducing names for the analogically common features he identifies. It is, thus, slightly peculiar to call analogy a semantic notion in this context. It is different for the grand cases of analogy: goodness, *energeia*, capacity, matter, and form. These are already established terms that apply to a wide range of things, and the notion of analogy explains the sense in which the things each term names deserve a single name.

9.3.2 Definition and Analogous Universals

Analogy is not merely a convenient means of grasping the concept of *energeia*. There is no definition of *energeia* to give. For the notion of *energeia*, we cannot do better than to consider the particular cases and to comprehend them by analogy (Θ.6 1048a35–7).

³⁷ Many modern languages have different words for fish bones and animal bones. For detailed analysis of this particular case, which has aroused controversy, see [84, pp. 83–86].

³⁸ Ἐπεὶ δὲ τὸ μεταξὺ κεφαλῆς καὶ ὤμων κέκληται αὐχὴν, ἥμιστα τῶν τοιούτων ὁ ὄφις δόξειεν ἂν ἔχειν αὐχένα, ἀλλὰ τὸ ἀνάλογον τῷ αὐχένι, εἴ γε δεῖ τοῖς εἰρημένους ἐσχατοῖς διορίζειν τὸ μῶριον τοῦτο.

³⁹ See Wilson for further discussion of the bearing of the Eudoxus' theory of proportion on Aristotle's concept of analogy [84, pp. 24–9].

There are two parts to this claim: (1) that the cases of *energeia* are unified by the analogy they have with one another and (2) that they do not have any stronger kind of unity. Aristotle defends both parts. The series of analogies given in Chapter 6 constitutes his defense of the first part. This we will discuss below.

He defends the second part by pointing out that there are whole groups of radically different cases: “Not everything is said to be in *energeia* in the same way, but only by analogy—as *this* is in something or in relation to it, so *that* is in something else or in relation to it. *For*, in some cases, it is as a change is to a power, in others, as a substance is to some matter” (Θ.6 1048b6–9; my emphasis).⁴⁰ We will need to discuss this sentence again later, taking account of the other analogies. At the moment, we should simply notice that Aristotle undertakes to *defend* the claim that there is no definition of *energeia*, and that he does so by citing cases in which the *energeiai* in question, changes and substances, are assumed to be obviously so radically diverse that no definition could capture both.

To understand how this argument works, it would be helpful to consider a more down-to-earth example of an analogical concept, say the concept of winning. In tennis, winning (a match) is winning a majority of sets. In a foot race, winning is crossing the finish line before the other runners. In blackjack, winning is having the score closest to, but not greater than, 21. In the various games, what it is to win is utterly different. Yet winning plays an analogous role in the various games. For this reason, the cases of winning deserve to share a single name.

One might compare an analogical concept with Wittgenstein’s family resemblance concepts.⁴¹ And they are, in fact, similar insofar as both are ways of rejecting the claim that, for a term to apply in a range of cases without ambiguity, there must be something that all those cases have in common. But there is a crucial difference. The idea of a family resemblance concept is intended to show that there may be no strong unity to the class of cases that fall under a name. Wittgenstein also makes this point with the metaphor of a cable, composed of many overlapping threads, such that no single thread runs through the cable. Any given pair of threads may or may not overlap, although there will be a chain of overlapping threads connecting them. Similarly, any two given members of a family may or may not have physical features in common (although the metaphor seems to assume that there is a connecting chain of people with features in common).

Aristotle’s central point is quite different. The notion of analogy is a way to secure the unity of the class, while allowing for quite extensive diversity.

⁴⁰ This is sentence (4) from the long quotation at the beginning of this section, where the interested reader can find the Greek (p. 178).

⁴¹ See *Philosophical Investigations* §67, among others.

For him, the notion of analogy explains how, despite the cases of *energeia* not having anything in common, '*energeia*' can nonetheless name a unified kind. The most straightforward kind of unity is that of a kind whose members have something in common. Then there are cases of focal meaning, in which, although there is no common feature, there is some common thing with reference to which all the relevant instances are rightly called what they are called. With the notion of analogy, Aristotle extends the range of ways in which items can be unified under a concept yet further, to cases in which there is nothing in common and no common case to which all others refer. He wishes to say that even a concept whose instances do not have something in common can have a unity in a strong sense.⁴² Although no two cases have something in common, pairs of cases are analogous, and thus the instances of an analogical concept have unity that the instances of a mere family resemblance concept do not have.

9.3.3 The Logic of Analogy

Aristotle says disappointingly little about the structure of an analogical kind. This leaves many questions open. Perhaps the most important question is whether all of the members of an analogical kind are on a par with one another.

There are various ways in which the members of the kind might fail to be on a par with one another. Analogy is one of two sorts of non-synonymous groupings of objects. The other is core-dependent homonymy. In core-dependent homonymy, the various members of the kind are clearly *not* on a par with one another. This is the very point of the notion of core-dependence. There is a core class of cases that are non-derivative members of the kind. All the others are members of the kind in virtue of their relation to the primary case. For instance, according to Aristotle, the active powers are primarily powers. All other powers are powers in virtue of standing in some relation to the active powers. The active powers are non-derivatively powers, whereas the other powers, including the passive powers, are derivatively powers.

Given that analogy is distinct from core-dependent homonymy, there is every reason to expect no such structures of dependence among the members of an analogical kind. This expectation is not defeated by any direct evidence to the contrary.

The stakes of this question are very high. It would be convenient for certain views if there were a primary class of *energeiai*, with the other *energeiai* depending on them. For then one could claim that substantial being is distinct from other modes of being, and has priority over them, because there is a special, core case of *energeia* present in cases of substantial being, and other

⁴² Wittgenstein would surely agree; I take that to be part of the point of his discussion of games. See *Philosophical Investigations* §§68–71, especially §70.

energeiai depend (for their status as *energeiai*) on that core case. Additionally, one might claim that the eternal, imperceptible, unchangeable intellects that move the heavenly spheres are also paradigmatic entities (*onta*) because they are paradigmatic *energeiai* (perhaps in a way that no perishable substance is). They have a claim to be paradigmatic *energeiai* because their very being (*ousia*) is *energeia*. Both of these strategies for exploiting the notion of analogy are blocked by its distinction from core-dependent homonymy.

Nevertheless, it is compatible with this restriction that a certain class of cases in an analogical kind plays a special role for our grasp of the kind. For core-dependent homonymy, the dependence of the non-core cases on the core cases is an ontological, mind-independent dependence. It is not merely that our understanding of the derivative cases presupposes our understanding of the non-derivative ones. Rather, the non-derivative cases depend, for being as they are (in the relevant respect), on the core cases. For instance, non-substantial properties depend, for their status as beings, on substances. In the context of analogy, one might allow that a certain case plays a privileged role for our grasp of the kind, without thinking that the other members of the kind depend on this case for their being members of the kind.

This would seem possible if we distinguish direct and indirect analogy. The direct cases of analogy are those we have discussed so far. Scales and feathers are analogous in this way. Indirect analogy, by contrast, is an analogy by way of a further analogous case. In abstract terms, k_1 is analogous to k_3 in as much as k_1 is analogous to k_2 and k_2 is analogous to k_3 .

The distinction presupposes that analogy is not transitive. For if we assume that analogy-relations are transitive, then this distinction loses its point. For it would simply follow, from k_1 and k_2 being analogous as well as k_2 and k_3 being analogous, that k_1 and k_3 are directly analogous.⁴³ But the proposal is that they are not directly analogous. Yet they do not fail to be analogous. They are analogous by way of k_2 . But neither case depends on k_2 for being a member of the relevant kind.

There is a similar question whether the analogy has to apply to any arbitrary pair of members of the kind. There are at least two possibilities.

TIGHT ANALOGY For any two members, k_1 and k_2 , of an analogical kind K , k_1 and k_2 are directly analogous to one another.

LOOSE ANALOGY For any two members, k_1 and k_2 , of an analogical kind K , k_1 and k_2 are either directly or indirectly analogous to each other.

In **LOOSE ANALOGY**, two members of the kind may fail to be directly analogous to one another. However, they will nevertheless be analogous, albeit indirectly. For there is some third member of K , k_3 , such that k_1 and k_3 are analogous to one another, and k_2 and k_3 are analogous to one another. Again,

⁴³ I am assuming that analogy relations are symmetric.

the distinction between the two options loses its point if analogy-relations are transitive. The transitivity of analogy-relations would make any case of LOOSE ANALOGY a case of TIGHT ANALOGY. If k_1 and k_3 are analogous, and k_2 and k_3 are analogous, then k_1 and k_2 are analogous.

Of course, in mathematics, proportion is transitive. That is, if $a_1 : b_1$ is the same ratio as $a_2 : b_2$ and $a_2 : b_2$ is the same ratio as $a_3 : b_3$, then $a_1 : b_1$ is the same ratio as $a_3 : b_3$. I have used the locution 'same ratio' to bring out that this relation can be understood as an identity-relation. The expression, $a_1 : b_1$ picks out a ratio, and this very same ratio obtains between a_2 and b_2 and between a_3 and b_3 .

However, there is another locution for proportions, which allows for more flexibility. This is the locution, 'as... is to..., so ... is to...'. To borrow an example from the passage quoted above: as sight is to the body, so is thought to the soul. It is easy to think that as a_1 is to b_1 , so is a_2 to b_2 , and as a_2 is to b_2 , so is a_3 to b_3 , and yet it might not follow that, as a_1 is to b_1 , so is a_3 to b_3 . This is because, outside mathematics, there is some vagueness to the relation picked out by the phrase 'as... is to...'. The relation that holds both between a_1 and b_1 and between a_2 and b_2 might not be the same as the relation that holds both between a_2 and b_2 and between a_3 and b_3 .

The intuition behind the notion of indirect analogy is that, even in such a case, there is an analogy between a_1 and a_3 . The analogy requires the mediation of a_2 . It is indirect, but it is there.

A loosely analogous kind may contain a single privileged case, or class of cases. Although not every member of the kind is directly analogous to every other, every member of the kind is directly analogous to the privileged case (or to every member of the privileged class).

PRIVILEGED CASE: There is some subset, P , of the loose analogical kind, K , such that every member of k is analogous to every member of P .

I specify that the analogical kind in question is loose, because the case is of no interest for tightly analogical kinds. In a tightly analogical kind, every member of the kind is 'privileged' because every member is analogous to every other. Only within a kind in which *not* every arbitrary pair is analogous does it make sense to think of some member as privileged by being analogous to all other members. The privileged cases hold such a kind together. They enable us to see the analogy between the other members of the kind. But they are not thereby paradigms or primary cases, on which the other cases depend.

The notion of an analogical kind is richly suggestive and could be explored further. Unfortunately, Aristotle offers essentially no help whatsoever in the way of a general account of analogy. I will favor a view of *energeia* that employs the nuances I have developed here: the cases of *energeia* constitute a loosely analogical kind, in which there are indirect analogies, via a privileged

Table 9.1. Analogies from Θ .6

Being-in-energeia	Being-in-capacity
(1) something that is building a house	something that can build a house
(2) what is awake	what is asleep
(3) what is seeing	what has its eyes shut, but has vision
(4) what has been separated from the matter	the matter
(5) what has been worked up	what has not been worked on
(6) herm	some wood
(7) half-line	whole line
(8) knower engaged in contemplating	knower not contemplating
(9) x in or in relation to y	y
(10) change	power
(11) substance	some matter

class of cases.⁴⁴ As it turns out, the privileged class of cases is that of the exercise of an active power, e.g., the exercise of the art of housebuilding in building a house.

9.4 THE ANALOGOUS CASES OF *ENERGEIA*

Aristotle explicates the notion of *energeia* with an array of particular cases. We can also draw on two other sets of analogies, which do not constitute the explication of *energeia*, but nonetheless are clearly relevant to it. These are the analogies that are implicit in the examples of being something in capacity (already discussed), and the analogies given in support of the claim that *energeia* is an analogous universal.⁴⁵ I collect these analogies in Table 9.1.

Before we consider the analogies, we need to take account of two important textual details. First, in the main group of analogies, not all of the cases are on a par. The passage introduces the analogies with a primary case—that of the housebuilder—and then enumerates the other cases: as what is building a house is to what can build a house, so is A to B and C to D and E to F and In English, too, if one says, “as one is to two, so also two is to four,” the first pair, one and two, is used to pick out a relationship, which is then

⁴⁴ Makin might be suggesting something similar with his remarks about “why different relations are brought under a common pattern only through analogies” [19, p. 133].

⁴⁵ The first and third sets of analogies are to be found in sentences (2) and (5) of the passage quoted at the beginning of §9.3, p. 178. The second set is to be found in the passage quoted at the beginning of §9.2, on pp. 171–2. The order in the table does not follow the order in the text. My (1) through (5) are the analogies from the main list (1048a37–b4), but (6) through (9) were given first (at 1048a33–5). The general formulations of (10) and (11) followed (at 1048b6–9).

attributed to the other pair, two and four, as well.⁴⁶ We are to understand the other cases on the basis of an already highly developed understanding of the housebuilder. That case is better known to us, and hence it is the starting point for our grasp of *energeia*. More importantly, the case is privileged in the sense defined above. The other cases are analogous to one another via the case of the housebuilder. At least, so I will argue.

The second textual point concerns Aristotle's own summary comment on the analogous cases, which contains an unexpected detail.⁴⁷ (Note the third-person imperative verb form, appropriate for stipulating the meaning of a technical term.)

Within this distinction [between the members of each analogous pair], let *energeia* be marked off as one part, what is able as the other. (Θ.6 1048b4–6)

Oddly, Aristotle opposes *energeia* and what is able (*to dunaton*). With *energeia* as the first term, we expect capacity (*dunamis*) as the second; if what is able (*to dunaton*) is the second term, we expect what is active (*to energoun*) or what has being-in-*energeia* (*to energeiai on*) as the first term.

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. In the case of the housebuilder, there is what can build, i.e., has the power to build, and what is engaged in building, i.e., exercising the power to build. There is also the *energeia* of housebuilding, which constitutes the difference between the one and the other.

These two observations tell us how we should read the list of analogies. We should first establish a lucid account of the primary case, that of the housebuilder. Then we should understand the other cases on analogy with that case. Throughout, we should look for something that has a capacity, the *energeia* that is the exercise of the capacity, and the entity that is exercising the capacity. But as it turns out, we will not find an *energeia* in every case, and this will present a problem for the analogy. The problem can be solved by

⁴⁶ The Greek emphasizes the housebuilder case by associating it alone with ὥς. One could take the Greek differently, reading ὥς as meaning 'for example.' On this construal, one then gets a list in which all of the items are on a par; all of the items, including the housebuilder, are simply linked by καί. But it seems to me that the context, in which we are speaking about proportion, creates a very strong presumption in favor of my construal: one expects a proportion to have this form. The passage cited above (p. 179) from the *Nicomachean Ethics* provides a parallel: ὥς is used without οὕτως in a list of analogies with more than one member (although the first item on the NE list is not introduced with καί, as the first item on the Θ.6 list is). Most importantly, my construal coheres well with the larger course of *Metaphysics* Theta, which also gives pride of place to the housebuilder example, and with the fact that the housebuilder example stands out as the only example of a full-blooded change.

⁴⁷ It has already been quoted on p. 178, sentence (3), but I repeat the translation here.

taking the analogy to be loose and indirect, revolving around the privileged case of the housebuilder.

9.4.1 The Housebuilder

By starting with the housebuilder example, Aristotle can draw on the discussion of powers in general and rational powers in particular from earlier in *Metaphysics* Theta.

Sometimes, the housebuilder exercises the power to build a house, and sometimes not. Sometimes, the housebuilder fails to exercise her power because she is not in appropriate circumstances: she lacks suitable materials, or a suitable building site, or some other circumstances, such as storms or warfare, interfere with building. Even given suitable circumstances, a housebuilder chooses whether or not to exercise the art of housebuilding.

We see here part of the point of Aristotle's refutation, in Theta 3, of the peculiar views of the Megarics. For the Megarics hold that only when something is engaged in φ -ing does it have the power to φ . The distinction between the qualified housebuilder and someone building a house would disappear on their view. Only given the falsehood of their view, can Aristotle exploit the example of the householder to explain *energeia*—which involves the exercise of a power—by contrast with mere having of a power. Aristotle's distinction between being-in-*energeia* and being-in-capacity would be moot if the Megarics were right.⁴⁸

It is of great importance that the housebuilder example involves a power. This shows decisively that, in some cases, the contrast between being-in-capacity and being-in-*energeia* is the contrast between merely having the capacity to bring about a change and exercising the capacity to bring about the change. But, as I argued in §8.4.2, *energeia* is a near synonym for exercise of a capacity. Therefore, the exercise of the capacity is the *energeia*. Thus the contrast between being-in-capacity and being-in-*energeia*, in this case, is the difference between engaging in a certain *energeia* and merely having the power to do so.

Moreover, it is perfectly reasonable to assume that the exercise of the art is the production of the house.⁴⁹ One might have thought that this production, on the part of the builder, is distinct from the turning-into-a-house, on the part of the materials. But Aristotle argues in *Physics* III.3 that the agent's action on the patient, and the patient's undergoing of the change, are one and the same event (albeit different in being) (202b5–16). The production of a house

⁴⁸ As he himself explicitly recognizes in Θ .3 at 1047a17–20.

⁴⁹ The relations among the Greek words make this even easier. The *oikodomikon* is something with a power to *oikodomein*, and when it exercises this power, it is engaging in *oikodomēsis*.

is clearly a ‘full-blooded’ change that unfolds in time, and is not complete while it is occurring.

The builder building is in *energeia* a builder. The builder’s *energeia* is a change, the exercise of a power. It will, moreover, be crucial for the further development of the analogous cases that the power is a principle of bringing about change *in something else*. Doctors also have such capacities, but doctors are also such that, in special circumstances, they are suitable patients, i.e., they have the passive power that correlates with their own active power. For that reason, a doctor might on occasion exercise their healing power on themselves. This is never possible for a housebuilder, simply because a housebuilder could never serve as the material for a house. Thus a housebuilder’s power is not a power to bring about a change in themselves, and the building of the house is not a change in the housebuilder.⁵⁰

Building a house is the housebuilder’s *energeia*, the proper exercise of the relevant power. It is the housebuilder’s job (*ergon*) to build a house. This is a complex end: the *house* that the housebuilder produces is the end, but so is the *production* of the house. If the house fails to come into being, then the housebuilder has failed, in a sense, to achieve their end. But depending on the reason why this is so, there may be another sense in which the housebuilder has achieved their end: the perfect production of a house. After all, if the house fails to come into existence because it is torn down by thugs just before it is completed, that is not the housebuilder’s fault. To the extent that the housebuilder’s end is the source of norms for good and bad performance, such a housebuilder has fulfilled their end. This is connected with the fact that the *energeia* is *not* a change in the housebuilder. The production of a house is a change, of course, in the materials. For those materials, *qua* materials for a house, are not already as they ought to be. But the production of a house is not a change in the housebuilder because it is just the exercise of a capacity that the housebuilder already has.

The fact that the *energeia* of housebuilding is a change, and the capacity to produce a house is a power, shows that we should reject the following sort of reading of *Metaphysics* Theta. “In the first part of Theta, Aristotle discusses certain capacities (call them ‘powers’) that are principles of change. In the second part of Theta, Aristotle discusses certain *other* capacities (call them ‘potentialities’) that are *not* principles of change (but rather, presumably, principles of being).” In the case of the housebuilder, the capacity relevant to being-in-capacity is one of the capacities discussed already in Theta 1–5. And this fact is taken for granted by Aristotle, receiving no special comment.

⁵⁰ Note that it is another matter entirely whether the following is true: necessarily, a housebuilder, when building a house, undergoes changes. What is important is not whether a person can build without changing at all, but whether *the building* is a change in the builder. To this, Aristotle’s answer is clearly no. See *Physics* III.3, *loc. cit.*, and *de Anima* II.5 417b5–9 (where Aristotle mentions the very case of the housebuilder).

This strongly suggests, and nothing will call into question, that all powers are equally relevant for being-in-capacity.

Alan Code gives a different characterization of the contrast between the capable housebuilder and the housebuilder building, which may sound essentially the same as mine, but is crucially different. Due to the problems with taking *energeia* as activity, he takes *energeia* to be actuality. He sees clearly that there is then a problem about how to explain the status of the builder building. He writes, “A house is an *energeia* [clearly, since *energeia* is actuality], but so too is the actual house-builder who made it” [33, p. 253]. Just a few sentences later, he points out the problem we have already touched on: intuitively, actual housebuilders are those people who have acquired the art of housebuilding, not those who are exercising that art. So Code offers an alternative account on Aristotle’s behalf of the sense in which the builder building is in *energeia* a housebuilder:

Just as it is a potential being by virtue of a capability it possesses, so it is an actual being by doing the very thing that it is capable of doing. In this type of case what makes it actual (and hence an actuality), as opposed to merely a potential being, is that *what it is doing is something actual*, and not just something that it could do.

[33, pp. 254–5; my emphasis]

So actuality (*energeia*), on Code’s view, attaches to the builder building not because she herself is actually a builder, but because her action is actual. By contrast, when she is sleeping, her action is merely potential.

There is something importantly right about Code’s view: the housebuilder in capacity and the housebuilder in *energeia* have something in common, namely the act of producing a house, but the one is engaged in performing that act whereas the other merely has the capacity to do so. But his account of the housebuilder gets the logical structure wrong. As I have argued, the original meaning of ‘*energeia*’ was not ‘actuality,’ nor does there seem to have been an already existing Greek word for ‘actuality,’ about which Aristotle was advancing a theory. For that reason, I think it is a mistake to take ‘actual’ and ‘potential’ as the initial concepts, and explain how they apply to the housebuilder. We should not have to strain at all to make sense of the housebuilder. Our basic approach to *energeia* and capacity should make this case easy and natural to understand, not problematic. The case is being used as a touch-stone here, to help us grasp the analogy among the other cases.

The structure of Code’s discussion reflects this difficulty. He does not begin with the housebuilder—first on the list of analogous cases from *Theta* 6. Rather, he begins with the finished house and with the process of building a house, both of which are *energeiai* [33, p. 253]. These cases are easily understood in terms of actuality. Code then offers an excellent suggestion about how to extend the use of *energeia* from these two cases to the case of

the housebuilder himself. But I think this is the wrong extension to make. We should, rather, begin with the housebuilder and extend from there.

It might be helpful to say something about how it can possibly make sense to see *building a house* as a way of being a housebuilder. This view is liable to seem strange to those who are accustomed, in the style of the Battle of the Gods and Giants, to thinking of change and being as opposed. Both Gods and Giants might have thought of being a housebuilder as consisting in having the power to build houses. Aristotle seems, rather, to think that housebuilders build houses. This is to ascribe not a power but an *energeia* to housebuilders. Of course, Aristotle allows that some housebuilders are builders in capacity. Their power qualifies them as housebuilders. It does so because having this power is a way of being something that builds houses, namely, being in capacity something that builds houses.

A similar idea had already been sketched in the opening lines of book Z, where Aristotle suggests that “what walks and what sits and what is healthy are among the beings” (1028a24–5). If what walks and what sits and what is healthy are among the beings, then surely what is building a house is, too.

This is not the truism that nothing can build unless it exists, and hence nothing can be a housebuilder unless it exists. Rather, the claim is that to predicate *being engaged in building a house* of something is, among other things, to predicate being of it. The *energeia* of the housebuilder—housebuilding—is what constitutes its being the kind of being it is, namely something engaged in building a house. So housebuilding takes on the extravagant significance that, by engaging in it, one gains not only shelter, but also being (albeit not of the primary sort, since to be a housebuilder is not to be a substance).

Such considerations are in the background of a question raised in the same context. Aristotle says, “someone might well be at a loss whether walking and being healthy and sitting each signifies a being or not, and similarly in any other case of this sort, too” (Z.1 1028a20–1). On the one hand, walking, sitting, and being healthy seem to be names, like the names Aristotle has just been discussing, such as white, hot, and three-cubits-long.⁵¹ On the other hand, they do not seem to be the name of *things*. As Aristotle goes on to say, not these words, but certain associated terms (participles in Greek) are names of things: the walking [thing], the being-healthy [thing], the sitting [thing].⁵² But in the background is the thought that, just as being hot qualifies something as a being, even though to be hot is not to be a substance, so also walking qualifies somethings as a being, even though to walk is not to be a substance.

⁵¹ The similarity is more dramatic in Greek: *to badizein*, *to hugiainein*, and *to kathēsthai* are nouns, as signalled by the article, *to*, and are not conspicuously different from *leukon*, *thermon*, and *tripēkhu*.

⁵² In Greek, *to badizon*, *to kathēmenon*, and *to hugiainon*.

Metaphysics Theta picks up on this thought, and treats housebuilding as that which constitutes an item as a being, in particular, as something-building-a-house. We miss this if we think that Aristotle is simply saying only that housebuilders in capacity are things that can build houses and housebuilders in *energeia* are things that are building houses. Rather, housebuilding belongs to a housebuilder, and thereby constitutes something as a housebuilder, in two ways: in the way it belongs to what can build (the *oikodomikon*), namely through the power, and in the way it belongs to the builder building (the *oikodomoun*), namely through the *energeia* of housebuilding.

To summarize:

1. To be a housebuilder in capacity is to have, but *not* to exercise, the power to build a house.
2. To be a housebuilder in *energeia* is to exercise this power.
3. The exercise of the power is an *energeia*, namely the production of a house.
4. The production of a house is a change in the materials for the house but not in the housebuilder.
5. The production of a house is the housebuilder's end.

Different points will be important in connection with different subsequent examples.

9.4.2 The Sleeper Wakes

In this case, the being in capacity is what is asleep; the being in *energeia* is what is awake⁵³; and the *energeia* is *being awake* or *waking* (in its old-fashioned, intransitive sense) (*egrēgorsis*).

Intuitively, sleep is the passive state of the animal, and waking the active one. This gives some appeal to the thought that waking is an *energeia*. But what does it mean precisely? That the animal, when it is asleep, moves less often or less noticeably? The essential point is, rather, that only when awake is the animal active in the ways that properly and fully express what the animal is. For only then does it move in the voluntary ways that show its cognitive response to its environment. The similarity between sleep and death is striking: the activities that express a specifically *animal* life—perception and self-locomotion—are waking activities, and when they are absent, one is liable to find it difficult to tell whether a creature is alive at all. Aristotle remarks on this in *On the Generation of Animals*:

⁵³ While the root sense of *egeirō* is 'to rouse,' the perfect form used in this passage means, 'to be in a state of having been roused.'

...the transition from not-being to being is effected through the intermediate state, and sleep would appear to be by its nature a state of this sort, being as it were a borderland between living and not-living: a person who is asleep would appear to be neither completely not in being nor completely in being: for of course it is to the waking state *par excellence* that life pertains, and that in virtue of sensation.

(V.1 778b23–33)⁵⁴

This passage already anticipates the priority of the waking state: it constitutes full-fledged or authentic being. The other state verges on non-being. This is because sleep is not merely the non-exercise of a capacity, but a temporary incapacitation. Furthermore, it is the temporary loss of not just any capacity, but of a capacity that is essential to animals: perception.

This emerges from *de Somno* 2, where Aristotle characterizes sleep as a certain inability (*adunamia tis*) to perceive. He means, first, that sleeping is a temporary loss of the ability to perceive; and second, that not just any loss of the ability to perceive is sleep (a coma, for instance, is not sleep), but when this occurs because of certain causes.

It is indeed evident from many considerations that sleep does not consist in the mere fact that the senses do not function or that one does not employ them, nor even in the inability to exercise the senses; for such is what happens in cases of swooning. A swoon means just such incapacitation of perception, and certain other cases of unconsciousness also are of this nature. . . . But sleep supervenes when such incapacity of exercise has neither arisen in some chance organ of sense, nor from some chance cause, but when, as has been just stated [before the passage quoted], it has its seat in the primary organ with which one perceives objects in general. (455b3–13)⁵⁵

Thus sleep is an incapacity of a certain sort, one brought about by some sort of problem with the primary organ of sense. The underlying ‘machinery’ of perception remains in basically working order, and, for that reason, the animal does not, strictly speaking, lose the capacity to perceive. Just as a calculator whose battery is worn out in a sense does but in a sense does not lose its capacity to be used for calculation, so a sleeping animal in a way has and in a way has not lost its capacity to perceive. Thus Aristotle does not think of

⁵⁴ Translation modified. . . . ἔτι δὲ διὰ τὸ τὴν μεταβάσιν ἐκ τοῦ μὴ εἶναι εἰς τὸ εἶναι διὰ τοῦ μεταξὺ γίνεσθαι· ὁ δ’ ὕπνος εἶναι δοκεῖ τὴν φύσιν τῶν τοιοῦτων, οἷον τοῦ ζῆν καὶ τοῦ μὴ ζῆν μεθόριον, καὶ οὔτε μὴ εἶναι παντελῶς ὁ καθευδων οὐτ’ εἶναι. τῷ γὰρ ἐγρηγορέναι τὸ ζῆν μάλισθ’ ὑπάρχει διὰ τὴν αἴσθησιν.

⁵⁵ φανερόν δὲ ἐκ πολλῶν ὅτι οὐκ ἐν τῷ τὰς αἰσθήσεις ἀργεῖν καὶ μὴ χρῆσθαι αὐταῖς ὁ ὕπνος, οὐδ’ ἐν τῷ μὴ δύνασθαι αἰσθάνεσθαι (καὶ γὰρ ἐν ταῖς λειποψυχίαις τοιοῦτόν τι συμβαίνει· ἀδυναμία γὰρ αἰσθήσεως ἢ λειποψυχία, γίγνεται δὲ καὶ ἔκνοιαι τινες τοιαῦται· ἔτι δ’ οἱ τὰς ἐν τῷ αὐχένι φλέβας καταλαμβάνοντες ἀναίσθητοι γίγνονται), ἀλλ’ ὅταν ἡ ἀδυναμία τῆς χρήσεως μήτ’ ἐν τῷ τυχόντι αἰσθητηρίῳ, μήτε δι’ ἣν ἔτυχεν αἰτίαν, ἀλλά, καθάπερ εἴρηται νῦν, ἐν τῷ πρώτῳ ᾧ αἰσθάνεται πάντων· ὅταν μὲν γὰρ τοῦτ’ ἀδυνατήσῃ, ἀνάγκη καὶ τοῖς αἰσθητηρίοις πᾶσιν ἀδυνατεῖν αἰσθέσθαι, ὅταν δ’ ἔκεῖναι τι, οὐκ ἀνάγκη τοῦτο.

sleeping as something we do, but rather as not doing (namely, not perceiving), due to a temporary incapacitation.

It seems, then, that the animal has a capacity to wake, which is either simply the same as, or somehow closely related to, the capacity to perceive. When the animal sleeps, the capacity to wake is not exercised, and the capacity to perceive is somehow disrupted, so as to be temporarily lost. But it is lost in such a way that it reliably returns again, namely when the animal awakes. A sleeping animal can wake up again. The temporary character of the incapacitation is essential to sleep, distinguishing it from a coma. What cannot wake, cannot sleep either. To sleep is to wake in capacity but not in *energeia*.

The analogy between housebuilding and waking consists in the presence of this capacity (to wake). In cases of being-in-capacity, this capacity is not exercised, and the animal sleeps. In the case of being-in-*energeia*, this capacity is exercised, and the animal wakes. For this case, it is less clear than it was for the housebuilder, that there is an *energeia*. But it would seem that the *energeia* is waking, where this is the exercise of the capacity to perceive.

As in the case of the housebuilder, there is a single property that can be possessed in two ways: *living an animal life*. The sleeping animal is living an animal life in a way, but something interferes with its exercising an essential capacity: its capacity to perceive. The waking animal exercises that capacity. Because perception is essential to animals and perceiving is a way of being an animal, Aristotle is entitled, in the passage from *On the Generation of Animals*, to say that sleep is a halfway house between being and non-being.

There are, however, important differences between this case and the previous case, such that they are *merely* analogous. First, the capacity in the case of waking is not a power. This is because it is not a principle of bringing about change in something else. If it is a principle of change at all, it is a principle of change in the very animal that has it. Through the analogy between this case and the case of the housebuilder, there is also an analogical extension of the notion of a power to the notion of a capacity: the property that the animal exercises in waking.

It might be thought that there is also the following difference: the production of a house is a full-blooded change, whereas waking is not, even if it is an activity. In that case, the capacity in question would not be a capacity for change at all (never mind whether the change is in the thing with the capacity or something else). In some contexts, Aristotle denies that perceiving is an ordinary change.⁵⁶ There are, however, other contexts where Aristotle uses the word 'change' more inclusively, and does count perceiving as a change.⁵⁷

⁵⁶ See *de Anima* II.5. A related point is made in a highly disputed passage of *Theta* 6 at 1048b18–35. See Ch. 10 for my discussion.

⁵⁷ See *Physics* VII.2 244b11–12, *de Somno* 454a8–10. Waking is called a change at *Protrepticus* B80 (see p. 164). I am indebted to Stephen Menn for the citations. Menn also

Independently of any sophisticated ideas about the temporal structure of change, it would seem strange for ‘waking’ to be a case of changing. In waking, the animal is not going from one state to another. (Remember that waking is not waking up, but rather being awake.) It is natural to think that, necessarily, a waking animal undergoes changes. But it seems odd to think of the waking itself as a change in the animal.⁵⁸

To summarize:

1. To be a waking animal in capacity is to have, but *not* to exercise, the capacity to wake, which is not a power inasmuch as it is not a principle of change in something else.
2. To be a waking animal in *energeia* is to exercise this power.
3. The exercise of the power is an *energeia*, namely, waking.
4. Waking seems *not* to be a change at all, neither in the waking animal nor in another thing.
5. Waking is the end of the capacity for waking.

This list brings out the similarities and differences with the housebuilder. One point should be made explicit: the end served by the art of housebuilding is oddly double, being the production of a house, whereas the end served by waking is just waking. This is a further reason not to think of waking as a change. If we assume that changes are directed toward ends other than

points out that *Physics* VII and *de Somno* use the phrase, “change that comes through the body [*kinēsis dia tou sōmatos*],” borrowing from *Timaeus* 43c4–5.

⁵⁸ Mary Louise Gill takes a related position. She thinks that all five analogous examples are intended as examples of activities that are not changes [45, p. 216]. I have several reasons for disagreeing. First, the passage of Theta 6 on which she relies probably does not even belong in the text. She does not discuss the very uncertain evidence for the passage. Burnyeat’s recent work has made the passage all the more doubtful. See Chapter 10 for my review of the evidence, or go straight to Burnyeat’s paper [27]. Second, it is untenable to claim that building a house is not a full-blooded change. As Gill herself concedes, it is said to be a full-blooded change in the very passage of Theta 6 that distinguishes full-blooded change from non-change *energeiai* [45, p. 289, n. 10]. And the passage that she cites as saying that housebuilding is not a change (*de Anima* II.5 417b8–9) says nothing of the kind [45, p. 215]. It merely says that the housebuilder is not changed in building a house (as she herself later notes [45, p. 224]). I fully agree that this idea is of crucial importance, as I have emphasized already. But I see no reason to infer from the housebuilder’s not being changed that housebuilding is not a change. It is simply not a change *in the builder*. Moreover, if we take *de Anima* II.5 417b8–9 this way, then there is no reason to worry about whether the housebuilder, when building, necessarily changes (as she does [45, pp. 224–5]). Even if so, the changes in the housebuilder are not the production of the house, which occurs in the materials. Third, as will become clear below, I think that her conception of her second model is flawed, inasmuch as she assumes that being a substance in *energeia* will necessarily involve an *energeia*. She thinks, then, this *energeia* cannot be that it had better not be a change, but rather a non-change *energeia*, of the kind mentioned explicitly in the disputed passage. I argue, in my discussion of the last two examples, that, to comprehend the analogy with being a substance in *energeia*, we need no *energeia* over and above the change that is substance’s generation.

themselves (and why else would something change, if not to become different from how it already is), and that waking is its own end, then waking is not a change.

9.4.3 Seers

The example of something that sees works very much like the example of waking. Something that has vision, but has its eyes shut and for that reason is not using its vision, is in capacity a seer. Something that is using its power of vision is in *energeia* a seer. It is something that is now engaged in seeing. The *energeia* in which the seer engages is, of course, seeing.

It is unclear what to think about the capacity in question. The nature of the capacity depends on the nature of seeing. For instance, if seeing is a change caused in the seer by some external object, then the capacity in question would be a passive power: a principle of change brought about by something else. This seems a fairly natural way of thinking about sight. It is the starting point for Aristotle's remarks about perception in general in *de Anima* II.5 (416b32–5).

There is, however, something peculiar about such a conception of the capacity involved in seeing. If the capacity is a passive power, then seeing is not something that the seer does, but rather something that happens to the seer. The very word, 'seer,' reflects precisely the opposite view: the seer is active in seeing. In seeing its prey, an animal is acted on by the prey, but it is *the animal* and not the prey that is doing the seeing. In normal changes, the thing with the active power is the agent: the change is something the agent does. The thing with the passive power is the patient: the change is something that happens to it. For instance, something's passive power to be heated is activated by another thing that heats it; it is the *other* thing, the thing which has the active power, that heats. But in the case of seeing, it is the 'passively' affected thing that does the seeing. This casts doubt on whether the capacity in question is really a passive power. One might, instead, think it is a queer kind of active capacity—active in the sense that it is a capacity to do something, namely to see. In that case, it would surely not be a power, a principle of bringing about a change in something else, and it is unclear whether it would be a capacity for *change* at all.⁵⁹

As noted above, Aristotle sometimes explicitly denies that perceiving in general, or seeing in particular, is any kind of change that unfolds in time. He holds that it is complete at any instant, and therefore to be distinguished from change. However, nothing in the present context distinguishes between

⁵⁹ In the further course of *de Anima* II.5, Aristotle turns these doubts into an account of how perception is not really a change at all. The agent-patient relations in perception are queer.

changes and other events. For purposes of interpreting Theta 6, then, I treat seeing as a change (*kinēsis*).

If one were to introduce the distinction between changes (*kinēseis*) and other events, which do not unfold in time but are complete at every instance of their occurrence, then seeing would not count as a change. Hence sight would not be a power.⁶⁰ Rather, just as seeing is analogically related to changes such as the building of a house, so is sight analogically related to the power to build a house.

Thus these considerations about seeing, however interesting in their own right, do not make much of a difference for how we interpret the analogies in Theta 6. As in the other cases, there is a single property, *being a seer*, which things have in two ways, either by engaging in the relevant *energeia*—in this case, *seeing*—or merely by having the relevant capacity—in this case, vision.

To summarize:

1. To be a seer in capacity is to have, but *not* to exercise, the capacity to see. It is unclear what kind of capacity the capacity to see is, but it seems not to be a power, inasmuch as it seems to be a principle of agency (the seer is what actively sees), but not a principle of change in something else (and perhaps not a principle of change at all).
2. To be a seer in *energeia* is to exercise this capacity.
3. The exercise of the capacity is an *energeia*, namely, seeing.
4. Seeing may or may not be a change, but it is something that the thing with vision does.
5. Seeing is the end of the capacity for seeing.

9.4.4 What Has Been Separated Out From the Matter

The next case on the list is far less straightforward, precisely because it links the activity-like cases of *energeia* and the actuality-like cases of *energeia*.

Clearly, we are to think of the matter as that which has being-in-capacity, and what has been separated out from the matter as that which has being-in-*energeia*.⁶¹ But it is anything but clear what *energeia* is supposed to belong to the matter, such that what has been separated out from the matter

⁶⁰ Notably, Aristotle's definition of powers in Theta 1 uses the word *metabolē*, not the word *kinēsis* (1046a10–11). *Metabolē* is the word Aristotle uses to cover transitions (such as the transition from not seeing to seeing) that are not changes (*de Anima* II.5 417b9–18).

⁶¹ Aristotle also speaks elsewhere about mixture and separation in terms of being-in-capacity and being-in-*energeia*. Cf. his discussion of mixture in *GC* I.10, and *Metaphysics*, Kappa 6, where Aristotle says that, for Anaxagoras, “everything is present in everything not only in capacity, but in *energeia* and separated off” (1063b29–30; ἐν ᾧ παντὶ πᾶν ὑπάρχει μὴ δυνάμει μόνον ἀλλ’ ἐνεργείᾳ καὶ ἀποκεκριμένον).

could be seen as active. It seems much more natural to think of this case not in terms of activity, but in terms of actuality: what has been separated out from the matter *actually* is.

It will help to consider an example in which something is separated out from some matter. Conveniently, we have already dealt with such a case: the production of a herm. In that case, the matter, a block of wood, is a herm in capacity. The finished herm is a herm in *energeia*. It is tempting to say, 'The block of wood is not actually a herm, but only potentially, whereas the finished herm—the wood with the appropriate form imposed on it—is actually a herm.' But I have argued against taking *energeia* as actuality. Before adopting a certain reading of the example, we should face the question that Aristotle is trying to confront us with: what is the analogy between this case—or rather, this family of cases—and the previous cases, especially the case of the housebuilder?

The block of wood has a passive power to be acted on by a hermmaker in such a way that it becomes a herm. In producing a herm, the hermmaker's hermmaking power is exercised, as are the wood's powers to undergo the changes involved in becoming a herm. For instance, when the block of wood is struck with a chisel, a chip of wood comes off; the block does not crumble into bits.

There is, however, a problem. The *energeia* that is the exercise of this capacity is not a herm, but is rather the process of producing a herm. But we are seeking an analogy between the housebuilder and the *herm*, not the housebuilder and the process of producing a herm. I suggest that the crucial link between the housebuilder in *energeia* and the herm in *energeia* is that neither, as such, changes. So the mosaic of analogies and disanalogies would be spelled out as follows:

1. To be a herm in capacity is to have, but *not* to exercise, the power (*dunamis kata kinēsin*) to be made into a herm.
2. To be a herm-in-*energeia* is to be the outcome of the change that this power is for.
3. The exercise of the power is an *energeia*, namely, the production of a herm, *but it is not in virtue of this energeia that which the finished herm is in energeia a herm*.
4. That which is a herm in *energeia* is not, as such, changing.
5. The herm is the end of the power to be made into a herm.

The finished herm is to the wood as the person who merely possesses the art of housebuilding is to the person exercising the art of housebuilding. Crucial points of analogy are these: the herm in capacity is in possession of a (passive) power as the housebuilder in capacity is in possession of an (active) power. The herm in *energeia* results from the exercise of the power, just as the

housebuilder in *energeia* results from the exercise of their power. Both the herm in *energeia* and the housebuilder in *energeia* are the fulfillment of the ends of the corresponding capacities. Moreover, the herm in *energeia*, like the housebuilder in *energeia*, is not, as such, changing. This is particularly important.

The observation that neither herm nor housebuilder changes solves a problem for the analogies. The problem is that point 3 for this case differs from point 3 for the previous three cases. In each of the previous cases, the *energeia* corresponding to the relevant capacities was what constituted the entity in *energeia* as such: the producing of a house was the *energeia* of the housebuilder in *energeia*, perceiving was the *energeia* of the waking creature, seeing was the *energeia* of the seer in *energeia*. In this case, by contrast, *energeia* of the relevant powers is the production of the herm, and that *energeia* ceases as soon as the herm in *energeia* is around. Therefore it cannot be the *energeia* that is present in the herm in *energeia*.

If the housebuilder building and the herm are analogous inasmuch as they are stable unchanging fulfillments of certain capacities, this explains why, in such cases, the translation ‘actuality’ is so much more appealing than the translation ‘activity.’ Aristotle is not attributing an activity to the finished herm nor saying that it *does* something. But it also explains why the translation ‘actuality’ is misleading. For Aristotle’s view is more robust than ordinary anemic ‘actuality’ and not drawn from a context of contrasting possibilities and actualities. (‘Actuality’ may, nevertheless, be the best translation available for some purposes. I do not know any other translation that is clearly preferable for a general audience that does not know Greek.)

Suppose one finds this unsatisfying, and longs for an *energeia* that will preserve a closer analogy with the housebuilder. This would be an *energeia* that is present in the herm in *energeia*, and the capacity for which is present in the herm in capacity. What could that *energeia* be? One proposal, with which I am sympathetic, starts from the observation that the hermmaker relies on certain capacities that are not powers. For instance, the herm has to have a head supported by a neck; this requires that the neck support the weight of the head. The wood’s weight-supporting capacities are required for the production of a herm. Such capacities are neither active nor passive powers, but they are *dunameis kata kinēsin*: capacities to resist certain kinds of changes that are brought about by active powers. These capacities, too, are required for the block of wood to be in capacity a herm. Perhaps the exercise of such capacities is an *energeia*, on analogy with the exercise of active powers, the primary *dunameis kata kinēsin*. Whether or not we accept this proposal, the herm is analogous to the housebuilder in being the stable and unchanging fulfillment of the relevant capacities.

A different construal of this example is conceivable. One can take the *energeia* of the herm to be just its *being* a herm. The correlative capacity in the

wood is the capacity to be (not become) a herm.⁶² On this view, the relevant capacities of the wood are not capacities for change at all, but capacities for being: capacities to be shaped thus and so. The finished herm is, then, a herm in *energeia* because these capacities for being are exercised and its being a herm is the exercise of those capacities. The exercise of these capacities is a state of being, not a change, because the capacities are capacities for being, not for changing.

This proposal fails to do justice to the fact that being-in-capacity is also *being*. The herm was already around—already had being—before its producer started separating it out from a block of wood. At that stage, it had merely being-in-capacity, but it did have being. Thus if being per se were the activity in question, the herm should already have had being-in-*energeia* when it was in the block of wood.

Moreover, the proposal rests on a dubious distinction between capacities for change and capacities for being. In order for the suggestion to work, the potentialities for being must be distinct from the capacities for becoming, because only then will the two sorts of capacities have distinct *energeiai* (being vs. becoming). This distinction is widely attributed to Aristotle, but it seems to me that scholars have far too readily accepted it. The form of words seduces us. But the Greek '*dunamis*,' unlike the English 'capacity,' is not a word that can naturally be combined with any verb whatsoever. It seems, to judge from Plato's and Aristotle's usage, to be naturally combined with verbs for doing something to something else or undergoing something (a verb for some form *poiein* or *paskhein*). Correspondingly, the range of powers, in Aristotle's usage, derives not from the verbs in the Greek language but from the changes in the world. The notion of a power has a role to play in the theory of change. For each change, there are active and passive powers (except, of course, for changes brought about in a thing by its own nature). There is a family of interlocking concepts (active power, passive power, agent, patient, action, change, circumstances, exercise). And there is an array of intuitive and easily-grasped examples. Not so for capacities for being.

Perhaps capacities for being are superfluous for Aristotle, because there is no need for them over and above capacities for becoming. This would presuppose that Aristotle does not recognize any cases in which there are capacities for being without any correlative capacities for becoming: cases in which something has the capacity to be *F*, but has no capacity to become *F*. This seems a perfectly reasonable view. Let us speak of capacities for being *F*, so long as we remember that the capacities for being *F* are just the capacities for becoming *F*.

In Aristotle's work, there is no compelling evidence that he recognized a distinction between capacities for being and capacities for becoming.

⁶² This is the view of, for instance, Kosman [55].

In Delta 11, when he discusses capacities, he does not mention capacities for being. He recognizes the core-dependent homonymous class of capacities derivative from active powers, but this class does not include capacities for being. He recognizes possibility. He recognizes powers in the mathematical sense. Capacities for being do not come in at any point.

The best textual evidence that Aristotle does recognize the distinction between capacities for being and capacities for becoming is the definition of motion *Physics* III.1. That definition says that change is an *entelekheia*—a fulfillment or, perhaps, actuality—of something that has being-in-capacity as such. But the relevant capacity cannot, on pain of circularity, be a capacity for *change*. Or so it is thought, at least. Hence the capacity must be a capacity for being. The objection presupposes that the capacities for change cannot be identified in any way other than as capacities for change. But perhaps they can be so identified, for instance, as the capacities that are incomplete and imperfect (*atelēs*).⁶³ The *entelekheia* or *energeia* of such a capacity is, in turn, incomplete and hence a change. This contrasts with the exercise of a complete and perfect capacity, such as a full-fledged science. Unfortunately, this must remain a promissory note. I cannot here provide a worked-out reading of Aristotle's definition of motion, but I do believe that Aristotle's definition of motion requires us to accept capacities for being that are distinct from capacities for becoming and whose *energeia* is a case of being, not becoming.⁶⁴

⁶³ The phrase, '*atelēs energeia*,' smacks of contradiction, to the extent that an *energeia* is a *telos* (which it is, to the extent that it is the fulfillment of an *ergon*). This is presumably intentional. The idea occurs at *de Anima* II.5 417a16–17, III.7 431a6–7, and *Physics* III.2 201b31–3. I am indebted to Stephen Menn for this line of thought (conversation and unpublished work [68]).

⁶⁴ One reason why recent interpreters have read the definition of motion in this way is that they accept Kosman's highly influential interpretation of the definition [54]. I myself do not accept his interpretation, although I do see its attraction (and once did accept it). A powerful, and little-noticed, reason to doubt Kosman's interpretation is given by David Charles in *Aristotle's Philosophy of Action* [30, pp. 19–20, n. 11]. "But it is not clear that *being actually buildable* involves actual building; for bricks are actually the buildable before they are built with, since they possess the capacity to be built with (as opposed to some earlier state before they had been made into bricks). . . . Therefore, since [Kosman] gives no further specification of this type of actuality apart from his reference to change, his account fails to capture what distinguishes those actualities which are changes from those which are states or objects." (Kosman distinguishes the actuality of the house from the actuality of the process of housebuilding, but not the actuality of the merely buildable [a state] from the actuality of the buildable being built [a process].) Moreover, Andreas Anagnostopoulos argues convincingly in unpublished work that the phrase "as such" in the definition of motion cannot play the role that Kosman, and other interpreters of the definition, need it to play [6, pp. 3–5]. To these objections, I would add that Kosman's distinction between two kinds of perfection—deprivative and constitutive—cannot play the role he would have it play. This is because the process of achieving deprivative perfection does not culminate in a constitutive perfection. To use Kosman's example, the process of perfecting your stutter deprivatively (making it more exaggerated) does not culminate in

One might have thought that the distinction between passive powers and being-in-capacity just is the distinction between capacities for becoming and capacities for being. But Aristotle begins his list of things that exhibit being-in-capacity with an item (something that can build a house, *to oikodomikon*) that has a power. So this cannot be Aristotle's way of recognizing the distinction. If I am right that we do not need the distinction to interpret the definition of motion, then there is no evidence that Aristotle recognizes the distinction.

The only residual motivation for positing capacities for being that I can see would be to create a closer analogy between the housebuilder and the herm—to provide an *energeia* for the herm, analogous to the process of building for the housebuilder. But this motivation, though understandable, is misguided. For the capacities in question are crucially different in the two cases. I noted this in point 1, but only now does its significance become clear. The builder-in-capacity has an active power: a principle of bringing about change in something else. The *energeia* of that power is not a change in the housebuilder. The powers in the block of wood are *passive*: principles of undergoing change brought about by something else. The *energeia* of that power is a change in the block of wood. It is its transformation into a herm. So we should not expect the *energeiai* to play precisely correlative roles.

Thus I see no reason at all to entangle ourselves in the snares of capacities for being. The analogies in Theta 6 do not need them, nor does Aristotle show any special interest in them elsewhere. A further advantage of this reading is that it helps us to see why Aristotle almost never uses the term '*energeia*' in the nominative as a name for being-in-*energeia*.⁶⁵ He speaks, rather, of what is in *energeia* (*to energeiai on*). This is because the nominative form suggests that what is distinctive of being-in-*energeia* is the presence of an *energeia*. He tends to avoid this locution because the presence of an *energeia* is not necessary for being-in-*energeia*, even though in many cases an *energeia* is present.

9.4.5 Getting Worked Up

We have now carried out the essential work for grasping the notion of being-in-*energeia*. The last member of the list does not present any new difficulties. It is, like the previous case, formulated in highly general terms: what has been worked up in relation to what has not been worked on. Again, it is clear which item is supposed to have being-in-capacity and which being-in-*energeia*. Again, it is not clear what the relevant activity is.

the constitutive perfection of your stutter (eliminating it). But if Aristotle is distinguishing between two perfections, one the change and the other the product, then they must stand in such a teleological relation.

⁶⁵ A notable exception occurs within Theta 6 itself at 1048a30–2.

In this case, too, we already have at hand an example that can help clarify what Aristotle has in mind: the building of a house. Up to this point, we have considered housebuilding from the perspective of the housebuilder. We now take it up from the perspective of the materials that are built into a house. (Treating the last member of the list this way creates a symmetry, since the first member was the housebuilder.)

The housebuilder, like a hermmaker, requires that the materials for a house have a passive power that correlates with their own active power. The housebuilder also exploits certain further capacities of the materials. For instance, they exploit the capacities of bricks to support certain weights, and the capacities of roofing materials to keep out water.

As in the other cases, there is a single property, *being a house*, that the materials for a house, not yet worked on, have in one way, the finished house in another way. The finished house is a house in *energeia* in that it results from the exercise of the passive capacities in the materials

To summarize:

1. To be a house in capacity is to have, but *not* to exercise, the power (*dunamis kata kinēsin*) to be made into a house.
2. To be a house in *energeia* is to have undergone the change that this power is for.
3. The exercise of the power is an *energeia*, namely, the production of a house, *but it is not in virtue of this energeia that the finished house is in energeia a house*.
4. That which is a house in *energeia* is not, as such, changing.
5. The house is the end of the power to be made into a house.

These points make the cases in question analogous with the others, in just the same way that the herm was.

9.5 INDIRECT ANALOGY

The housebuilder plays a special role among the analogous cases, on the account I have given. I have already noted that Aristotle formulates the analogy in a way that leads us to expect this. For he introduces the analogous cases by saying, “As that which can be build a house is to that which is building a house, . . .” He thereby uses the case of the housebuilder to pick out a relationship, which he then finds again in the other cases. This procedure seems to assume that we are more familiar with that case than with the others. And this is a natural assumption in the context of *Metaphysics* Theta, since he discussed powers, and active powers in particular, in the first five chapters.

But there is more to the special role of the housebuilder case than its familiarity to us. The housebuilder case plays the role of a PRIVILEGED CASE.⁶⁶ As one would consequently expect, the cases of *energeiai* constitute a LOOSE analogous kind.

The case of the housebuilder can play this role because it combines several features, not all of which are not both present in all other cases. I repeat here the relevant points:

1. To be a housebuilder in capacity is to have, but *not* to exercise, the power to build a house.
2. To be a housebuilder in *energeia* is to exercise this power.
3. The exercise of the power is an *energeia*, namely, the production of a house.
4. The production of a house is a change, in the materials for the house but not in the housebuilder.
5. The production of a house is the housebuilder's end.

Point (1) is relevant here for clarifying the precise nature of the contrast between what has being-in-*energeia* and what does not.

The housebuilder is analogous to the *subjects* of occurring changes, such as the materials of a house while they are being built into a house.⁶⁷ Points (1), (2), and (3) apply to this case much as to the housebuilder: what has being-in-*energeia* contrasts with what has being-in-capacity by the exercise of a power. Of course, point (4) does not apply to a subject of change: the subject of change is precisely what is undergoing the change. And point (5) does not apply either, since the end of the subject of a change is presumably to become the finished product in question.

The housebuilder is also analogous to the *products* of change. The correlative beings in capacity are the possessors of a power, as in point (1). However, to be in *energeia* the product of a change is not to exercise this power, which is only a power for undergoing a change (cf. point (2)). The products of change are beings-in-*energeia* that, like the housebuilder, are not undergoing a change, much as in point (4). There is also a difference here: in the housebuilder's case, an *energeia* is occurring (the building of a house), whereas in the case of the finished house, there is no *energeia* occurring, neither in the house nor in some other thing (cf. point (3)). In this way, we can see the analogy among the cases, while avoiding the view that being is

⁶⁶ See p. 188 in §9.3.3.

⁶⁷ From *Theta 6* on its own, it is perhaps not entirely clear that the analogy with subjects of change is important or even intended by Aristotle. But the larger context in *Theta* shows that it is intended, since what undergoes a change possesses and exercises a power, just as much as what brings it about. Moreover, Aristotle's definition of motion says that the contrast between merely possessing such a passive power and exercising is precisely the distinction between mere being-in-capacity and being-in-*energeia*.

itself a certain activity, some single *energeia* (which is surely not a change) alongside the others.

The housebuilder is also analogous to eternal things, although this analogy has not yet been drawn. This extension of the analogy comes to light in Theta 8, and it is decisively important for Aristotle's project. In Theta 8, we learn that eternal events are not the exercise of a capacity. Thus eternally active things, such as God or heavenly bodies, share something important with the housebuilder: their being-in-*energeia* consists in the occurrence of an event (e.g., thinking or revolving). In some cases, the event is a change (revolving), in some cases it is not (thinking). In no case is the event the exercise of a capacity. But this, on its own, is surely not enough to qualify them as having being-in-*energeia*. The products of a change share not only (3) with the housebuilder, but they are also the ends of certain changes. They are the ends of the processes of production whereby they are produced. Eternal things are not the ends of any changes. Thus, if they were merely inert, there would be no analogy between them and the other cases of *energeia*. It is thus crucial for their status as beings in *energeia* that they are *active*.

The housebuilder, or any agent exercising an active power, functions as a privileged case, linking the products of change and the subjects of change. Without it, those two kinds of case would not be linked. Precisely this seems to have been Aristotle's crucial insight, the basis for extending the application of the term '*energeia*' from changes to those static states that are the outcomes of changes.⁶⁸ The privileged case has to involve a power—whose exercise is a change—in order to be analogous with the other cases in which the *energeia* is a change. But the privileged case has to involve an *active* power—whose exercise is not a change *in what has it*—in order to provide an analogy with the cases in which there is no change nor even any event occurring. We can see now why powers, and especially active powers, have been so important for Aristotle in *Metaphysics* Theta. It is only by being clear about them, and their role in change, that we can grasp the analogy among these various cases. A similar investigation of natures, which are principles of change in the very thing that possess of them, could not have played this role, since such things are themselves changing to the extent that they exercise these capacities.

9.6 THE INFINITE, THE VOID, AND SUCH

Aristotle makes a few pregnant remarks about the infinite, the void, "and such things," which shed important light on other cases of being-in-capacity. Perhaps their most important consequence is that it is not necessary that every

⁶⁸ See the discussion of the relationship between *energeia*, change, and *entelekheia* in §9.9 below.

case of being-in-capacity correlate with a case of being-in-*energeia*. This is important and interesting in its own right, for what it shows about the role of the analogy between cases of being-in-capacity and being-in-*energeia*. It also prepares the reader for the reverse case, discussed later in *Theta* 8: cases of being-in-*energeia* for which there is no correlative being-in-capacity.

Aristotle distinguishes the way in which the infinite has being-in-capacity from the cases he has so far considered:

The infinite and the void, and other such things, are said to be in capacity and in *energeia* in another way from many other entities, such as what sees and what walks and what is seen. For these things can sometimes be truly said without qualification as well (for what is seen is on the one hand so called because it is seen, and on the other because it is capable of being seen). But the infinite is in capacity, not inasmuch as it is going to be in *energeia* something separate, but in thought. For it is the fact that the division never gives out that makes this *energeia* be in capacity, not its being separated. (1048b9–17)⁶⁹

The rough idea is fairly clear. Aristotle presupposes here his discussion of the infinite in *Physics* III.6, where he argues that the infinite has being-in-capacity, but not being-in-*energeia*. Let us simply accept, from Aristotle, that nothing is infinite in extent. Given this, we need only observe that all lines are divisible into lines. From this, it follows that what results from dividing a line is something divisible. Hence the dividing of a line could never give out, and the line is, in that sense, infinite. But for the same reason, the dividing of a line can never be completed, so that the infinitude of points on a line necessarily has being merely in capacity.⁷⁰ This is what Aristotle means by denying that the infinitude of points could be separate: it is impossible that all of the points on a line become separate in the sense of being marked on the line.

It is harder to see what Aristotle meant by saying that infinite has being in thought (*gnōsei*). Perhaps he means that one can recognize through mathematical argument that the division of a line never gives out.⁷¹

⁶⁹ ἄλλως δὲ καὶ τὸ ἄπειρον καὶ τὸ κενόν, καὶ ὅσα τοιαῦτα, λέγεται δυνάμει καὶ ἐνέργειᾳ <ἧ> πολλοῖς τῶν ὄντων, οἷον τῷ ὁρῶντι καὶ βαδίζοντι καὶ ὁρωμένῳ. ταῦτα μὲν γὰρ ἐνδέχεται καὶ ἀπλῶς ἀληθεύεσθαι ποτε (τὸ μὲν γὰρ ὁρώμενον ὅτι ὁρᾶται, τὸ δὲ ὅτι ὁρᾶσθαι δυνατόν)· τὸ δ' ἄπειρον οὐχ οὕτω δυνάμει ἔστιν ὥς ἐνέργειᾳ ἐσόμενον χωριστόν, ἀλλὰ γνῶσει. τὸ γὰρ μὴ ὑπολείπειν τὴν διαίρεσιν ἀποδίδωσι τὸ εἶναι δυνάμει ταύτην τὴν ἐνέργειαν, τὸ δὲ χωρίζεσθαι οὐ.

⁷⁰ Aristotle does allow the infinite being-in-*energeia* in *some* sense (206a18–25). See Lear [59] and Hussey [16, ad loc.] for further discussion. Following a suggestion of Pieter Sjoerd Hasper's (in conversation), I am avoiding the talk, usual among recent writers, about a process of division. The infinitude of lines derives from their being everywhere divisible. Processes or algorithms by which the line is divided in some determinate way are a distraction. (As usually conceived, such processes would never be thought to divide a line everywhere.)

⁷¹ I think that this reading is tenable, and for this reason am disinclined to accept, with Makin, Burnyeat's proposal to emend γνῶσει to γενέσει [27, p. 228]. The proposal

It is also odd that Aristotle explicitly mentions the void here, since, in the *Physics*, he explicitly denies that the void has being-in-capacity.⁷² Perhaps he thought, when he wrote this, that the void has being-in-capacity in that there is no limit to how closely it can be approximated. Thus the void, like the infinite, cannot be in *energeia*, but is in capacity.

9.7 REMARK: SUBSTANCE AND *ENERGEIA*

Cases involving substances differ from the others in an important way. In the other cases, there is a single individual that has or does not have the *energeia*; for instance, there is a single individual—say, Theaetetus—who, at one time, merely has the knowledge of geometry, and, at another time, uses this knowledge.

This is not true for the cases in which the relevant activity constitutes something as a substance. The reason for this is the following. Suppose that according to Aristotle, for any individual, being the individual that it is is a matter of being the substance that it is. It is impossible for something to continue being the individual that it is, if it ceases to be the substance that it is. It is also impossible for something to have been the same individual as some other (previously extant) individual that it is not now the same as. Suppose for the sake of argument that houses are substances. *Being a house*, cannot belong both in capacity and in *energeia* to one and the same individual. If it did, then that individual would persist through the substantial change that is the genesis of the statue; but, while there is persisting matter, there is no such persisting individual.

The oddness of this state of affairs is especially dramatic for living things. If the matter for a living thing is not in itself a living thing, nor indeed any *single* thing at all, then there is nothing that has the capacity to be alive that is not already living. This strangeness will come up again in the discussion of being-in-capacity in *Theta 7*. Aristotle gives a separate criterion for being-in-capacity for living things, and this is connected with precisely this peculiar state of affairs.

would, however, square nicely with the explanation in the *Physics* of the way the infinite is in *energeia*: τῷ αἰεὶ ἄλλο καὶ ἄλλο γίνεσθαι. I should perhaps add, in defense of the manuscript's reading, that I take the Greek as follows: having said that the infinite is in capacity *not* inasmuch as it is going to be separate *in* *energeia* (ἐνεργείᾳ), he allows that the infinite is in capacity inasmuch as it is going to be separate *in thought* (γνώσει). The datives are in parallel with one another. This admittedly peculiar phrase means that the infinitude of points can never be marked, but it is something that we can think and have knowledge about (e.g., we can know that the infinite collection of points is structured in such a way that between any two points there is another).

⁷² See *Physics* IV.9 217b20–1.

Nevertheless, it is, presumably, the case that there is something (in some suitably broad sense of ‘something’) to which, say, *being a meerkat* belongs first in capacity and later in *energeia*: the matter. The matter would be something, *without being an individual*. In Greek, it would be *ti* but not *tode ti*.⁷³

9.8 ENERGEIA CONTRASTED WITH ACTUALITY

The problems with taking *energeia* to be activity are fairly obvious and straightforward. The problems with taking *energeia* to be actuality are less obvious and straightforward, but they are very important. This is the more seductive and more damaging mistake.⁷⁴

9.8.1 Ordinary English and Ordinary Greek

Any discussion of the issue is complicated by the fact that ‘actuality’ is hardly in ordinary usage, and ‘actually,’ although it is in ordinary usage, is not a simple term to understand in English. It is not easy to say what it would take for a word in another language to have the meaning of ‘actuality,’ and so it is not easy to say whether *energeia* means ‘actuality.’ There is the further complication that recent philosophers have discussed ‘actually’ in highly sophisticated discussions of modality. I am uncertain whether the ordinary use of ‘actually’ and the philosophical use of ‘actually’ are the same.

Philosophical and ordinary usage of ‘actually’ have at least the following in common. Normally, as noted above, the English word ‘actually’ is used to mark what is the case, by contrast with what is not the case. The contrasting falsehood (which is *not* actual) is often a possibility. To translate, ‘to be in *energeia*,’ with ‘to be actually,’ is thus to assume that to be *F* in *energeia* is contrasted with not actually being *F*—that is, with not, in fact, being *F*. One might, at best, claim that the contrast is between being actually *F* and

⁷³ I elaborate somewhat more on these considerations in Chs. 11 and 12.

⁷⁴ For examples of the continuing influence of the translation ‘actuality’ for *energeia*, see Makin [19], Burnyeat [26, pp. 48–53], [27, p. 223], Frede [41, p. 173], the Londinienses [28], Menn [69], and Witt [85, p. 215 *et passim*]. Makin, although he uses ‘actuality’ and ‘actually’ as translations, is appropriately cautious about doing so. Kosman, in his more recent paper [56], seems to take a view somewhat similar to mine about *energeia* and actuality, but for reasons that are different from mine. He writes, “This choice [to translate *energeia* with ‘actuality’] . . . mistakenly makes notions of otherness, change, and becoming central, rather than what are for Aristotle the ontologically primary notions of self-identity and being.” I am uncertain about why the translation ‘actuality’ makes notions of “otherness, change, and becoming” any more central than the translation ‘activity.’ Perhaps Kosman thinks that the contrast between being *actually F* and being *possibly F* is a contrast between being *F* and being not-*F* (in the special way compatible with possibly being *F*), and that the transition from the one to the other is a change.

being possibly *F*.⁷⁵ This is the use in such phrases as: “He actually won the race!” (It was possible, but unlikely, that he win, and now he has in fact done so.) Sometimes, the non-actual state of affairs was conjectured, and ‘actually’ marks emphatically that it does not obtain—as in Bob Barker’s endlessly repeated words on the TV show, ‘The Price is Right,’ “The actual retail price of...” Here ‘actual’ marks the precise and reliable sum, by contrast with the necessarily conjectural and almost certainly approximate guesses of the contestants.

The context for this conception of ‘actuality’ is the truth or falsity of what we say and think. Some sentences or propositions are true, some are false. Some are possibly so, some actually so, some necessarily so. “It’s the truth! It’s actual” goes the song “Zip-A-Dee-Doo-Dah,” reflecting this connection between truth and actuality. (With Leibnizian optimism, the song continues, “Everything is satisfactual.”) Both in ordinary English and in philosophical English, ‘actually’ can be attached to any sentence that does not already contain such a modal term (and perhaps even to some sentences that *do* contain such modal terms).

Two important contrasts between actuality and *energeia* emerge from these reflections. First, ‘*energeia*’ was not an ordinary Greek word, but rather a philosophical term of art. Even if being-in-*energeia* were being actually, it would be important not simply to equate *energeia* with actuality. To do so would be to elide the work that Aristotle is doing in trying to convey the concept to his reader. Aristotle is not relying on an already available notion of actuality in developing his theory of *energeia*, and then advancing a surprising and interesting theory about it. No such notion is already available. The term ‘*energeia*’ was introduced by philosophers, and the question must be whether it was introduced with the meaning ‘actuality.’ So far, every indication is that it was not. This is not only because *energeia* is a made-up word, but because its etymology connects it not with actuality, but with the exercise of capacities.

Second, the ordinary usage of ‘actually’ connects it with a very different context from that in which ‘*energeia*’ is introduced and used. ‘Actuality’ attaches to arbitrary truth-bearers, marking the contrast with mere possibility. ‘*Energeia*’ does not. This is all the more striking since Aristotle does have a concept of possibility—of ‘possible’ as a predicate of states of affairs—the very concept that is the complement to actuality. He contrasted this concept of ‘possibility’ with that of ‘power’ in Theta 3 and 4. Neither there, nor

⁷⁵ In everyday English, ‘actually’ sometimes marks what is properly speaking the case, by contrast with what is only in some qualified sense the case, as in, “He’s actually a plumber [e.g., was trained as a plumber], although he works as a gardener.” This use of the term does not seem to be captured by recent philosophical discussions. (This is only a problem to the extent that the discussion is intended to capture the entire range of the word’s ordinary usage.)

later in *Theta*, nor anywhere else, does Aristotle use *energeia* as the concept complementary to possibility. When he wants to contrast actuality with possibility, he often simply uses the unqualified indicative.⁷⁶ He also has quite elaborate discussions of the logic of necessity and possibility. The term '*energeia*' is never used in those discussions to mark the actual by contrast with the merely possible. The complement to '*energeia*,' viz. '*dunamis*,' is not Aristotle's word for possibility. Aristotle always uses '*dunaton*' or '*endekhomēnon*' for possible, and never '*dunamis*.'⁷⁷

This difference has at least one important consequence. It is perfectly ordinary to use 'actually' in connection with proper names or other terms referring to an individual. For instance: "My oldest child is the President, although things might not have turned out that way." Or: "This man is actually Stiller." This is a natural use of 'actually' because it can attach to any sentence. By contrast, there are no parallels to this in Aristotle's usage of '*energeia*'—i.e., no cases in which Aristotle uses '*energeia*' in predicating being a particular of something. If 'actually' is a modifier that can attach to any arbitrary sentence, emphasizing its truth, then this should be allowed. While 'actually' works that way, '*energeia*' does not. The connection between capacities and *energeiai* makes this easy to understand. Aristotle appears to assume that capacities are not particularized, that is, there are no capacities to bring about or to become particular entities. There are only capacities to bring about or to become entities of some kind (where the kind in question is, in principle, repeatable).

As I argued above, Aristotle carefully constructs a context for introducing the notion of *energeia* in *Metaphysics* *Theta*. This context is powers and their exercise, not the necessary or possible truth of statements. It is, I suppose, thinkable that Aristotle wanted to extend the notion of the exercise of a capacity to a notion that is equivalent to actuality. But I think that there are decisive reasons to reject such an interpretation.

9.8.2 *Energeia* Falls Within the Scope of Actuality

First and foremost, Aristotle's distinction between being-in-*energeia* and being-in-capacity is a distinction *within* the actual. In all familiar cases, it is the distinction between the actual having of a capacity and the actual exercise of a capacity. (The qualification 'in all familiar cases' leaves room for eternal *energeiai* that are not the exercise of any capacity.) It is not the distinction of the actual from something else—the false or the merely possible.

This comes out in two of Aristotle's guiding examples: the knower and the housebuilder. In both cases, Aristotle distinguishes some actual knowers

⁷⁶ E.g., the first sentence of *Prior Analytics* I.8.

⁷⁷ With the exception of *Theta* 3, 1047a24–6.

from others: those who merely possess the relevant knowledge (a theoretical science or the art of housebuilding) are distinguished from those who are exercising the relevant knowledge. One might assert of Andrew Wiles that he *actually* knows Fermat's last theorem. This is to attribute a capacity to him, a capacity that he actually possesses. It is thus attributing actual being-in-capacity to Andrew Wiles. The same applies to the actual possession of the art of housebuilding. This is, I think, part of the upshot of Aristotle's discussion of powers, especially his rejection of Megaricism. Capacities are perfectly actual properties.

Whatever we can say about the possible possession of properties can be said about the possible possession of capacities—and hence also about being-in-capacity and being-in-*energeia*. For instance, one might say of some mud and straw that it is not a house-in-capacity, but that it is possible that it be a house-in-capacity, namely if it is first made into bricks.⁷⁸ Such a thing is also possibly something that is in *energeia* a house, although it is not yet in capacity a house. In such a case, the mud and straw have capacities to undergo changes that eventually result in a house. But this need not be so. Consider some childless person. It is possible that a child of that person be in capacity a great statesman, even though no child of theirs already has the art of statesmanship or even the capacity to acquire that art. It also possible that a child of that person be in *energeia* a great statesman.

We might thus say that the distinction between possibility and actuality is orthogonal to the distinction between being-in-capacity and being-in-*energeia*. It is a distinction within the possible as much as it is a distinction within the actual. But Aristotle shows no interest in applying the distinction to merely possible cases. And this is understandable. For the point of the distinction is to refine what we can say about actual things. It is a distinction within the possible as well, only because what is possible is possibly actual.

There are further ways to bring out the fact that the distinction between being-in-capacity and being-in-*energeia* is a distinction among actual things. When Aristotle elucidates being in *Metaphysics* Delta 7, he does not distinguish possibility, actuality, and necessity. Possibility is discussed in Delta 12 on '*dunamis*.' Necessity does not receive its own treatment. Being, as discussed in Delta 7, is actual being. The distinction between being-in-capacity and being-in-*energeia* is not a distinction between actually possessing a property and not actually possessing a property but possibly doing so. Rather, in each case, Aristotle says that something is a certain way (e.g., is grain), using the normal present indicative, meaning that it is actually that way. But of the things that are that way, some are that way merely in capacity, others in *energeia*.

⁷⁸ I am here presupposing 1049a8–11 and my interpretation of it (§11.3.1).

Aristotle makes the same assumption in a telling passage of Theta 3, where he writes, “Of the things that are not, some are in capacity. But they are not because they are not in fulfillment” (1047b1–2).⁷⁹ It is easy to misread the sentence as saying that what is in capacity is among the things that are not. It does not say that, but rather that of the things that are not, some are in capacity. This is evidently supposed to sound contradictory—because being-in-capacity is a way of being, the contradictory of not-being. So Aristotle adds a quick explanation of how the contradiction is avoided, namely that, in the cases, what is not is not *in fulfillment*. This does show that being-in-capacity is, in some cases, compatible with not-being, but it also shows that being-in-capacity is a way of being—a way of actual being, if you will.

We can also approach the relationship between *energeia* and actuality through the questions about our knowledge of the actual and of being-in-*energeia*. There is something absurd, even incoherent, about asking whether our world, and the objects around us, are actual. Recent writers on modality tout it as a strength of their theories that they vindicate this truth. For instance, David Lewis has recently given an indexical theory of actuality. To say that something is actually so, is to say that it is so in *this here* world (where “this here world” refers to the speaker’s world, whichever one that is). He argues that this makes nonsense of skepticism about whether our world is the actual world (it is tantamount to wondering whether our world is our world), and he claims that this is a strength of his indexical theory of actuality [62, p. 93]. Robert Adams makes a similar claim for his ‘true-story’ theory of actuality [4, p. 226].⁸⁰ To wonder whether the things in our world are actual things is tantamount to wondering whether what is true is true.

It is not so for being-in-*energeia*. It is perfectly coherent to wonder, about the actual objects around us, which ones are what they are in capacity, and which are what they are in *energeia*. It is a question that one might ask, for instance, about a caterpillar. To the extent that the question of the human end is a question about the human *energeia* (NE I.7), it is also a question about which human beings are what they are in *energeia*, and which are what they are in capacity. Aristotle himself shows no concern about the question whether our *world* is what it is in *energeia*, but that is because of his views about the world. For Aristotle, the world is not a single entity, and it is not developing. But someone who thought of the world as a single whole entity, which is now developing into some final complete state, would presumably think that, at the moment, our world is what it is in capacity, and that, later, it will be what it is in *energeia*. This is, for Aristotle, false, but not incoherent or absurd. This shows, again, the distinctness of *energeia* and actuality.

⁷⁹ τῶν μὴ ὄντα ἔνια δυνάμει ἐστίν· οὐκ ἔστι δέ, ὅτι οὐκ ἐντελεχεῖα ἐστίν.

⁸⁰ Lewis objects to Adams’s claim, and presses his own claim that no theory of modality other than Lewis’s own can meet this requirement [62, pp. 93–4]. But his reasons seem to me question-begging.

9.8.3 Actuality and the Argument of Theta 8

Actuality is, intuitively, the primary way of being. Consider, for instance, the close connection of ‘actually’ with ‘really,’ ‘truly,’ and ‘in fact.’ Actual being is, so to speak, authentic being. Something that is actually a cherry pie is really a cherry pie, whereas something that is possibly a cherry pie is something that is not a cherry pie, although it might become one (or might have become one). But the primacy of being-in-*energeia* is the conclusion of a substantive argument. The claim that *energeia* has priority in being is not counterintuitive, but it is not obvious.

One can see this contrast by considering a contemporary discussion about discourse about what is possible. Nearly all participants in the discussion propound something similar to the priority of actuality, but they think that this is a hard-to-deny intuition, not the result of an argument from other, easier-to-accept principles. Kit Fine canvasses four kinds of view one might have about discourse about *possibilia*:

There are four options: (i) the discourse is taken to be unintelligible; (ii) it is taken to be intelligible but nonfactual, i.e. as not in the business of stating facts; (iii) it is taken to be factual but reducible to discourse involving no reference to *possibilia*; (iv) it is taken to be both factual and irreducible. [39, pp. 161–2]

The first three options are clearly committed to the primacy of the actual—indeed, they are committed to much more. The fourth position is neutral on the question of the primacy of the actual, but it is perfectly compatible with it. One might well think that discourse about *possibilia* is not reducible to discourse about actual things, but that nevertheless the *possibilia* depend on the actual things but not *vice versa*. This would be enough to secure the priority of the actual.

David Lewis is the only philosopher I know of who denies the priority of the actual. For him, the actual world has no more priority among possible worlds than *here* has priority among the points of space.⁸¹ This view of Lewis’s often provokes an ‘incredulous stare’ [61, §2.8, pp. 133–135]. The ‘incredulous stare’ shows how much we take for granted the priority of actuality. It is, if not indubitable, a default position.

By contrast, the priority of being-in-*energeia* is far from obvious. It requires argument, indeed elaborate argument, which Aristotle gives in Theta 8, to persuade us of it. The argument in question is not mere elucidation, a complex explanation of an analytic truth. It relies on substantive premises. The conclusion

⁸¹ See [62, §1.9, pp. 92–6]. Lewis originally advanced the position in the paper “Anselm and Actuality” [60] (reprinted in [61]). Stalnaker very helpfully distinguishes between the *semantic* claim that ‘actual’ is an indexical and the *metaphysical* claim that “[o]ther possible worlds are things of the same sort as the actual world” [80, p. 67]. The metaphysical claim, not the semantic one, entails the denial of the priority of actuality.

is a synthetic one. Moreover, the argument rests on teleological premises, concerning what is for the sake of what. Any reading of *Metaphysics* Theta should strive to show how Aristotle's argument for the priority of *energeia* works as an argument for a non-obvious conclusion. The argument should turn out to be a good one. Taking *energeia* to be actuality verges on making the argument pointless. Without some clear opponent (like Lewis) who denies the priority of the actual, why would anyone see the need to argue for it?

9.8.4 Diagnosis

Commentators have been misled into thinking that *energeia* is actuality, in part by a confusion about being-in-capacity. Too much emphasis has been placed on cases in which what is in capacity *F* is not yet *F*. There are such cases. However, being-in-capacity is, in the first instance, a way of *being*. What is in capacity *F* is *F*. It is not merely that it could become *F*. It already is—albeit merely in capacity. It turns out that, in *limiting* cases, being-in-capacity is compatible with not-being. This is important. It is a way of allowing for the compatibility of being and not-being, without breaking the law of non-contradiction. But it does not change the fact that being in capacity *F* is being *F*. I hesitate to say that what is in capacity *F* is *actually F*, because that might be taken to mean that what is in capacity *F* is fully, properly, and in the primary sense *F*—which would be incorrect. But one might well say that what is in capacity *F* is *actually F*, so long as that is taken to mean that what is in capacity *F* is already *F*, and is not merely such that it could become *F*.⁸²

Despite all this, I do think that 'actuality' or 'actually' is sometimes the best translation for *energeia*. For instance, in Aristotle's account of the infinite and perhaps in passages in which he equates *energeia* and form. But I think that this is so much less often than has generally been thought. For instance, I think that it is wrong to take Aristotle's argument about the unmoved mover in $\Lambda.6$ as concluding that the essence of the unmoved mover is actuality. The translations 'actuality' (or 'actually') are dangerous, even—or rather, especially—in cases where the translation seems perfectly sensible.

To some extent, the translation 'actuality' is an accident of history. 'Actuality' is simply an English cognate of a perfectly sensible Latin translation, *actualitas*, derived from *in actu* (which translates *energeiai* or *kat' energeian*). It is a holdover from the days in which English speakers who read Aristotle could be expected to know Latin, and to construe English translations in terms of their Latin roots. That is no longer the case. Moreover, now that 'actuality' has a life of its own in ordinary and philosophical English, it can no longer be used in that way.

⁸² I will defend this in my account of Theta 7 in Ch. 11.

This is also a reason not to use ‘actuality’ as a harmless placeholder for a term that has no good translation into English. It cannot be a harmless placeholder. That may have been possible before ‘actually’ became an ordinary English word. But, as a matter of fact, the translation ‘actuality’ continues to create serious problems even for careful readers of Aristotle.⁸³

But the enduring appeal of this translation is not a historical accident. It is very difficult to understand how *energeia*, if it is best translated ‘activity,’ could refer to a way of being. Not understanding how that could be, it has seemed easy and natural to fall back upon our word ‘actuality’ with its Aristotelian antecedents. I hope that the interpretation presented in this book has solved this difficulty.

9.9 ENERGEIA AND ENTELEKHEIA

My account of *energeia* can explain the connection between *energeia* and fulfillment (*entelekheia*). This is a complex issue, which deserves a longer treatment than I can give it here. But a few things are clear enough. Aristotle sometimes uses *energeia* and *entelekheia* as if they were synonyms. It is agreed, I think, that *entelekheia* is fundamentally a teleological notion. Whatever its precise etymology—which is obscure—the term clearly suggests *the property or state of fulfillment and completion*. On my interpretation, the close connection between the terms makes sense. Where *energeia* implicitly invokes an *ergon*, *entelekheia* implicitly invokes a *telos*. But *entelekheia*, unlike *energeia*, is not, in the first instance or intuitively, associated with change or activity. That’s because change is progress towards the fulfillment of an end, and it would seem (until Aristotle gives his definition of change) that that is to be contrasted with the fulfillment itself. *Energeia* and *entelekheia* converge when the relevant function (*ergon*) is an end (*telos*).

Thus it makes sense, for instance, that Aristotle typically describes the soul as an *entelekheia* rather than an *energeia*. To my knowledge, he calls the soul an *energeia* only in H.3 (1043a35). In the *de Anima*, the soul is always said to be the *entelekheia* of the body. That is because it is more natural to think of the soul as the way the body is, in virtue of which it lives, rather as the living (the *energeia*) in which it engages.

It seems to me that, in fact, all *erga* are *telē* and vice versa.⁸⁴ That would explain why every case of being-in-*energeia* is a case of being in *entelekheia* and vice versa.

However, the term ‘*energeia*’ originally referred to activities. When used to modify the verb ‘to be,’ the term strongly suggests activity, or at least

⁸³ For an example see the Londinienses [28, p. 126].

⁸⁴ This claim finds support, however, at Θ.8 1050a21: τὸ γὰρ ἔργον τέλος.

the exercise of a capacity. On the one hand, Aristotle needs to broaden the use of the term beyond such cases. On the other hand, Aristotle seems to want to focus our attention on the connection between being and activity, perhaps because he thinks that, in the paradigmatic substances—such as living things, the heavenly bodies, and God—the relevant *energeiai* are activities. That might explain why, although he mentions *entelekheia* at the outset in Θ.1 (1045b33–4), he speaks almost exclusively of *energeia* throughout.

Aristotle makes two terse comments on their relationship in *Metaphysics* Theta. These comments, which say nearly the same thing, confirm the account I have given of their relationship, in terms of the teleology of *erga* and *telē*:

The word, ‘*energeia*,’ which is composed with a view to *entelekheia*, has been extended from, especially, changes to other things. For *energeia* seems above all to be change... (Θ.3 1047a30–2)⁸⁵

The function is the end and the function is the activity, which is why the very word, ‘*energeia*,’ is said in accordance with the function and extends to *entelekheia*.
(Θ.8 1050a21–3)⁸⁶

In both passages, Aristotle takes pains to point out the connection between *energeia* and *entelekheia*. In the first, Aristotle emphasizes the connection between *energeia* and change, but also that *energeia* extends beyond change. (This passage constitutes excellent evidence against the translation ‘actuality.’ Whatever actuality is, movement is not a paradigm case of it, such that it covers other things only by extension.) Some things that are not changes are *energeiai*. And those are cases, it seems, of *entelekheia*. In the second passage, Aristotle makes clear that the link between the two is the function that something has: its *ergon*.

The account I have given of *energeia* can make sense of these diverse texts and these diverse philosophical issues. Without making the term *energeia* ambiguous, I can explain why activities are paradigm instances of *energeia*, and how *energeia* nevertheless also applies to Socrates’ being a human being and a herm’s being a herm.

⁸⁵ ἐλήλυθε δ’ ἡ ἐνέργεια τοῦνομα, ἥ πρὸς τὴν ἐντελεχείαν συντιθεμένη, καὶ ἐπὶ τὰ ἄλλα ἐκ τῶν κινήσεως μάλιστα· δοκεῖ γὰρ ἡ ἐνέργεια μάλιστα ἡ κίνησις εἶναι...

⁸⁶ τὸ γὰρ ἔργον τέλος, ἡ δὲ ἐνέργεια τὸ ἔργον, διὸ καὶ τοῦνομα ἐνέργεια λέγεται κατὰ τὸ ἔργον καὶ συντείνει πρὸς τὴν ἐντελεχείαν.

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Interlude: The *Energieia-Kinēsis* Distinction (Theta 6)

I will now comment briefly on a remarkable passage: 1048b18–35. I will call it the Passage (as Burnyeat does). The Passage distinguishes two kinds of actions (*praxeis*): some are changes (*kinēseis*), others are *energeiai*. It manages, surprisingly, to have both of the following distinctions: it is one of the most discussed, and most often presupposed, passages in Aristotle, but it is also one of the greatest textual cruxes in the Aristotelian corpus. Ryle took the Passage to have anticipated his own views about the logic of verbs such as ‘see.’ This has spurred extensive discussion.¹ Yet some manuscripts of the *Metaphysics* omit the Passage entirely. Even the manuscripts that do contain the Passage have it in a very corrupt form.

Alongside the problems with the manuscript evidence, the Passage presents serious problems of interpretation. What does it say? What is the relationship between the Passage and its context, both in Theta 6 and in Theta as a whole? What is the relationship between the Passage and other passages where Aristotle draws similar distinctions? The last question has been much discussed. The relation of the Passage to its context has received surprisingly little attention, perhaps because it is so difficult to explain. I will return to these questions, after discussing the Passage itself. Throughout I rely heavily on the new, lengthy, definitive discussion by Burnyeat [27].

10.1 THE PASSAGE IN ITSELF

I offer here Burnyeat’s helpful translation. In reading the translation, it is important to bear in mind the vast difference between the English perfect (avoided here) and the Greek perfect. Burnyeat is surely right to emphasize this difference, which has often been overlooked by commentators [27, pp. 246–51].² The English perfect, although it is not a past tense, makes indirect reference to the past. The Greek perfect need not do so. An example from the *Crito* may help illuminate the difference. When Crito proposes to

¹ See Ackrill [1] for the reference to Ryle and criticism of him.

² Aspect is also emphasized by Graham [47], Kosman [55], and Makin [19].

Socrates that he flee, Crito uses a present imperative to tell Socrates to think over the proposal (*bouleuou*, 46a4). Then he corrects himself, saying, “It is not the time to be making up your mind [*bouleuesthai*], but to have your mind made up [*bebouleusthai*]” (46a4–5). He simply means that Socrates should already be resolved to leave, and not that Socrates should have already carried out the process of deciding to leave.³ In the Passage, Aristotle gives numerous examples of actions described both in the present and in the perfect tense. He wants to make a general claim about the relationship between perfect and present statements about various kinds of actions, so it is important to have a clear and correct view about the perfect tenses used:

Since of actions which have a limit none is an end, but all belong to the class of means to an end, e.g. slimming, and since the things themselves, when one is slimming them, are in process of changing in this sense, that what is aimed at in the change is not yet present, these are not cases of action, or not at any rate of complete action. For none of them is an end. Action properly speaking is one in which the end is present. For example, at the same time one sees (a thing) and has (it) in view, and one is wise and has achieved wisdom, and one understands (something) and has understood (it), but it is not the case that (at the same time) one is learning (something) and has learned (it), or that (at the same time) one is being cured and has been cured. One lives well and has achieved the good life at the same time, and one is happy and has achieved happiness (at the same time). If that were not so, the action would at some time have to cease, as when one is slimming (someone). But as it is, this is not the case: one lives and (at the same time) has stayed alive.

Of these (actions), then, we should call one set changes, the other *energeiai*. For every process of change is incomplete: slimming, learning, walking, building. These are changes, and they are certainly incomplete. For it is not the case that at the same time one is walking and has taken a walk, nor that one is building (something) and has built (it), nor again that one is becoming (something) and has become (it) or is being changed (in some way) and has been changed (in that way), but they are different; as are one’s changing and one’s having changed (something). But one has got in view, and one sees, the same thing at the same time, and one understands (something) and has understood (it). The latter type (of action) I call *energeia*, the former change.

(1048b18–35; trans. Burnyeat [27, pp. 251–2])⁴

³ Burnyeat uses an example from Plato’s *Protagoras*, pointed out by Heda Segvic. Protagoras expresses his willingness to converse with Socrates using an aorist infinitive *dialekthēnai* (316b3–4), suggesting in advance the termination of the conversation, whereas Socrates uses a present infinitive (316c3–4), suggesting an open-ended and on-going conversation.

⁴ My only change to Burnyeat’s translation has been to print ‘*energeia*’ untranslated. Burnyeat translates ‘actuality.’ This seems to me an excellent example of the mischief caused by that translation. Surely Aristotle has no interest in claiming here that one class of actions are the actualities. Burnyeat uses Jaeger’s text here, except for preferring, with Ross, not to bracket καὶ κινεῖ καὶ κινῆσθαι at 1048b33. See pp. 253 ff. for his alternative text (due in large part to Sedley). Ἐπεὶ δὲ τῶν πράξεων ὧν ἔστι πέρας οὐδεμία τέλος ἀλλὰ τῶν περὶ τὸ τέλος, οἷον τὸ ἰσχυαίνειν [ἢ ἰσχυασία] [αὐτό], αὐτὰ δὲ ὅταν ἰσχυαίνῃ οὕτως ἔστιν ἐν κινήσει, μὴ ὑπάρχοντα ὧν ἕνεκα ἢ κινήσεις, οὐκ ἔστι ταῦτα πράξεις ἢ

In the excitement about *energeia*, commentators sometimes overlook the significant fact that these opening remarks are about actions (*praxeis*). Some putative actions are not, strictly speaking, actions at all, since they are incomplete. Even the incomplete actions are allowed to be, in a way, actions. Lower down, Aristotle specifies two terms to designate the two classes of actions: change and *energeia*.

The essential feature of the *energeiai* (which are actions strictly speaking) is that they are themselves ends (1048b22–3). The changes, by contrast, are not themselves ends, although they are means to an end (1048b19). The fundamental distinction is between events that are identical with their own ends and events that are not. From this philosophically satisfying distinction flows everything else that Aristotle wishes to say.

Changes are incomplete because they are not ends (1048b22).⁵ We should infer that it is because the *energeiai* are themselves ends that they are complete.

It is supposed to follow from this that *energeiai* need not end, whereas changes do necessarily end (1048b26–7). Aristotle surely does not mean to leave open the possibility that a human being live forever. Rather, the point concerns the relationship between actions and their ends. The changes, which are for the sake of some end, necessarily end when that end comes about. The *energeiai*, which are for their own sake, need not end for any reason internal to the *energeia* itself (as opposed to, say, the limitations that derive from being performed by an agent that is a matter-form composite).⁶

οὐ τελεία γε· οὐ γὰρ τέλος· ἀλλ' ἐκείνη <ἥ> ἐνυπάρχει τὸ τέλος καὶ [ἡ] πρᾶξις. οἷον ὁρᾷ ἅμα <καὶ ἐώρακε,> καὶ φρονεῖ <καὶ πεφρόνηκε,> καὶ νοεῖ καὶ νενόηκεν, ἀλλ' οὐ μανθάνει καὶ μεμάθηκεν οὐδ' ὑγιάζεται καὶ ὑγιάσται. εὖ ζῇ καὶ εὖ ἔζηκεν ἅμα, καὶ εὐδαιμονεῖ καὶ εὐδαιμόνηκεν. εἰ δὲ μή, ἔδει ἂν ποτε παύεσθαι ὥσπερ ὅταν ἰσχυαίνῃ, νῦν δ' οὐ, ἀλλὰ ζῇ καὶ ἔζηκεν. τούτων δὴ <δεῖ> τὰς μὲν κινήσεις λέγειν, τὰς δ' ἐνεργείας. πᾶσα γὰρ κίνησις ἀτελής, ἰσχυασία μάθησις βάδισις οἰκοδόμησις· αὗται δὲ κινήσεις, καὶ ἀτελεῖς γε. οὐ γὰρ ἅμα βαδίζει καὶ βεβάδικεν, οὐδ' οἰκοδομεῖ καὶ ὠκοδόμηκεν, οὐδὲ γίγνεται καὶ γέγονεν ἢ κινεῖται καὶ κεκίνηται, ἀλλ' ἕτερον [καὶ κινεῖ καὶ κεκίνηκεν]· ἐώρακε δὲ καὶ ὁρᾷ ἅμα τὸ αὐτὸ, καὶ νοεῖ καὶ νενόηκεν. τὴν μὲν οὖν τοιαύτην ἐνέργειαν λέγω, ἐκείνην δὲ κίνησιν.

⁵ Note that the *gar* shows that the inference is from not being an end to not being complete.

⁶ What should one say about an event such as winning? Winning seems to be identical with its own end (at least in ordinary cases). Yet it does not seem possible for it to go on for an open-ended time, as thinking and living can. This reflects a mismatch between our concept of an event and Aristotle's concept of an *energeia*. Aristotle does not seem to recognize such punctual events in a systematic way. In the case of winning, Aristotle might well say winning is not an *energeia* (or change or *praxis*), but is rather the satisfying of certain conditions for the end of a process (such as a race). Winning the race is not an action over and above racing the race. It is what happens when someone, racing the race, comes first. We can give a general characterization of such words using Aristotelian concepts: they are verbs for the achievement of the end of a process, and for that reason they do not signify something distinct from its own end (they signify the achieving of an end), nor do

The claim that changes must end when their end is achieved might seem implausible. A runner might continue running, even after crossing the finish line. But presumably, Aristotle thinks that the end is an essential part of the identity of a change. Hence, when the runner keeps running, the change that is occurring is no longer the same one as before. This is quite intuitive. Even though the runner continues running, the race is over. Furthermore, it is easy to go wrong in identifying the ends of changes. The runner's end presumably was not to arrive at the finish line, but to win the race. The best way to win the race is to be running at top speed as you cross the finish line, and so the runner travels quite a distance beyond it. I will not here delve deeper into the difficulties connected with this idea.

If we accept both that changes necessarily end when their ends are reached, and that there is no such necessity that *energeiai* end, then it is easy to see why Aristotle would make his claim about present and perfect verbs. I will follow Burnyeat in taking Aristotle to hold that, if a verb refers to a complete *energeia*, then either both the present and perfect tenses of the verb apply to a thing or neither does. The present and the perfect are mutually entailing.⁷ This is due to the fact that the aspect of Greek perfect verbs signifies the fulfillment of the end aimed in the relevant action. The performance of any given *energeia* is itself the end aimed at. For this reason, whenever the present tense verb is true of something, the *energeia* is occurring, and so the perfect tense verb must apply as well. And conversely, whenever the perfect tense is true of something, the end of the relevant action has been achieved, which requires that the *energeia* be occurring, so that the present tense must also be true of the same thing.

Changes, by contrast, are not their own ends, but they do necessarily cease once their ends have come about. Thus whenever a present tense verb for a change applies to something, the corresponding change is occurring. This is incompatible with the end of that very change having been achieved. This

they signify *energeiai* (since the ends in question are not identical with the changes that are for their sake). To my knowledge, the closest Aristotle comes to discussing such events is his treatment of beginning and ends of changes in *Physics* VI. See, e.g., *Physics* VI.5 on beginning and ceasing to move, especially 236a7–26; VI.8 on beginning and ceasing to rest. In each case, Aristotle does not allow that the relevant 'transitions' (from moving to resting or vice versa) are themselves changes. A striking passage on transitions that are not changes—including the transition to using one's knowledge—is *Physics* VII.3 247b1–13. Also relevant is the discussion of perception in *de Anima* II.5, where he uses *metabolē* for certain 'transitions' that are not changes. Another example of such transitions might be the way forms begin and cease to be without themselves undergoing a process of generation in Z.8 (1033b5–8). Here, too, the acquisition of a form is the end of a process. (I am grateful to Ben Morison for help with the issues discussed in this note.)

⁷ This had seemed grossly implausible to Ackrill [1] and other commentators, because it seemed false to them that the present follows from the perfect. Even if I have seen Rome, it does not follow that I am seeing (or see) Rome. But this is to take the Greek perfects as past tense verbs, which, in general, is not required and, in this context, is ill-advised.

does *not* rule out the true application of the perfect tense of that verb to the same thing, since it may have achieved the end of another change of the same type. For instance, someone on board a ship bound for Havana might stroll to the dining room for dinner. While eating, the passenger has completed their trip to the dining room, but not the one to Havana. Conversely, whenever the perfect tense of a verb for a change truly applies to something, the change in question must have been carried to its conclusion in the past. And thus it must be true that the present tense of the verb applied to the same thing. Of course, the same verb might also be true of the thing now, since another episode of the same kind of change might already have begun.⁸

A great deal of ink has been spilled over Aristotle's claim about verb forms. Ryle's interest in the Passage grew out of his own philosophical commitments. In particular, he thought that philosophical problems arose out of confusion about language, and that acute attention to language could illuminate and solve those problems, including all the problems about the nature of the mind. Thus he was interested in a view of perception connected with the correct use of perception-verbs. This led him to seek a way to determine which actions belong to which class on a purely linguistic basis (rather than relying on controversial, perhaps even metaphysical, claims about the correlative actions). Interpreters of Aristotle who had forgotten the original provenance of the motivation for this project also sought in Aristotle a linguistic test to determine which events belong on which side of the distinction.⁹

However, Aristotle shows hardly any concern with this issue. In the Passage, the examples do not show us how to classify any given action, but rather show us what the meaning of the classification is supposed to be. They provide neither an infallible test nor even a defeasible indicator of how to classify events, but are 'merely' another way of expressing the idea that *energeiai* are identical with (and hence simultaneous with) their own ends, whereas changes are not. Of course, it would be a problem for Aristotle if the examples he gives were wildly implausible.¹⁰ And what he says does impose constraints

⁸ Throughout this paragraph, I am speaking of perfect verbs when used to signify perfect aspect. In *Physics* VI.6, Aristotle himself insists that "everything that is changing has already done some changing" (236b33–4; πᾶν τὸ κινούμενον ἀνάγκη κεκινήσθαι πρότερον). The context makes clear that this unusual translation of the perfect *κεκινήσθαι* is correct. It is also clear from the context that the thing in question has already carried out some of the very change it is now undergoing (and not some other change). Aristotle does not mean that whenever something is changing, it is also the case that it has completed the change it is now undergoing (much less some other change). That would be absurd.

⁹ Aristotle reflections on verb forms also aroused great interest already in antiquity. Michael Frede gives a fascinating account of their reception among Stoic philosophers of language in "The Stoic Doctrine of the Tenses of the Verb" [40].

¹⁰ Cf. *Sophistical Refutations* 178a9–28. Aristotle there imagines an interlocutor who is inclined to accept that one simultaneously sees and has seen. The dialectical context suggests that Aristotle thinks this is an intuitively plausible view.

on the classification of actions (e.g., if we are antecedently convinced that the present and perfect tenses of a certain verb do not entail one another, then we know how to classify the action referred to). But this is no reason to think that Aristotle has given us a model for deciding how to classify events in general. It is perfectly conceivable that in many cases an ancient-Greek-speaking philosopher would have been uncertain whether the present and perfect of a given verb are mutually entailing, due to substantive questions about the nature of the event to which the verb refers.

10.2 THE MANUSCRIPT EVIDENCE

Burnyeat's recent article is essential reading for anyone who wishes to think for themselves about the manuscript evidence for the Passage. The *apparatus criticus* found in Jaeger and Ross are neither consistent with one another nor entirely accurate nor complete. Burnyeat has essentially performed a complete collation of the manuscripts, including those not considered by Harlfinger for his stemma [27, p. 231]. The upshot of his research is that the manuscript support for the Passage is very weak.

The manuscript tradition of the *Metaphysics* has two independent branches, designated α and β by Harlfinger [48]. The α tradition is universally agreed to be the more reliable [27, p. 240]. But the passage occurs only in the β tradition, where it is well attested [27, p. 236]. However, in the most important manuscript of the β tradition, A^b, a large part of the passage, 1048b28–34, has been crossed out [27, pp. 233–6]. Not only is α the more authoritative branch of the tradition, but also the loss of such an exceptionally long passage is difficult to explain [27, p. 225]. (It consists of about 750 letters, and, according to Ross, the next largest lacuna in manuscript E is only 61 letters.)

Furthermore, the Passage itself is unusually corrupt, and absolutely requires several emendations (how many exactly is a matter of dispute). “An obvious hypothesis to explain the extent of corruption is that the Passage began as an annotation in the β tradition, written in a margin where it was cramped for space or liable to damage” [27, p. 241].

I said that the loss of such a long passage would be difficult to explain. Is its presence any easier to explain? I see two ready explanations. The Passage might be a comment on the lines of Theta 8 that draw a similar distinction (1050a34–b2). Either it somehow got accidentally displaced from Theta 8 where it belongs, or it was intentionally added in Theta 6, with the thought that it is relevant in that context as preparation for Theta 8. Alternatively, the Passage might have been intended to illuminate Theta 6. Perhaps someone thought that Aristotle was discussing the same topic, *energeia*, in the two passages. Or perhaps someone was worried about the following misunderstanding of Theta 6. The first part of Theta 6 (especially 1048b8–9) might seem to

imply that several *energeiai* that Aristotle normally denies to be changes are in fact changes: contemplating, waking, and seeing. This is worrisome enough, but contemplation is particularly important, since it is God's essence (*ousia*; Λ.6 1071b19–20). If contemplation is a change, then the very essence of God would be change. "A Byzantine cleric might well agree with Philoponus (Aet. 4.4) that the very thought is blasphemous. Someone who knew the Passage might well think to write a marginal note to show that Aristotle knew better" [27, p. 243].¹¹

In sum, the manuscript evidence is not unequivocal, but it does create a presumption that the Passage does not belong here. The direct evidence in favor of accepting the Passage, from the β tradition, is outweighed by the direct evidence against accepting the Passage, from the α tradition. Given that it seems easier to explain the addition of the Passage than its loss, we should begin with the assumption that the Passage does not belong here.

10.3 THE PASSAGE IN ITS CONTEXT

This assumption could be overridden on philosophical and interpretive grounds. But there are no strong grounds to reject it.

The Passage seems out of place. It specifies which putative actions are in fact actions strictly speaking. But *Metaphysics* Theta shows no concern of any kind with action in this sense. Indeed, the word '*praxis*' does not occur at all in Theta outside the Passage, and occurs a mere ten times in the *Metaphysics* outside the Passage. The announced topic of Theta 6 is the use of the term '*energeia*' in modifying the verb 'to be,' by contrast with the similar use of the term 'capacity' (*dunamis*). This is part of the inquiry into being, not part of an inquiry into actions. The contrast between being-in-*energeia* and being-in-capacity is not in any way explained by the Passage. When Aristotle concludes Theta 6 and leads into Theta 7 (1048b35–7), he does not refer to this apparently extraneous material.

In the first section of Theta 6, Aristotle seems unconcerned about the distinction between *energeia* and change. This is most prominent when he says about the particular cases mentioned, "For, in some cases, it is as a change [*kinēsis*] is to a capacity [*dunamis*], in others, as a substance is to some matter" (1048b8–9). The word 'change' here covers: contemplating (1048a34–5), building a house (1048a37–b1), waking (1048b1–2), and seeing (1048b2). How strange if Aristotle called seeing a change in the first part of the chapter, then went on, without further explanation, to deny that it is a change in the second part of the chapter (1048b23). Furthermore, although Aristotle does

¹¹ I had conceived the basic proposals independent of Burnyeat, but I am indebted to his presentation and development of them [27, p. 241–3].

not mention contemplating in the Passage, he does deny that the closely connected activity of thinking (*noein*) is a change. When contemplating is mentioned again, along with seeing, in Theta 8, the point is precisely to deny that they are in the same class of *energeiai* as building a house (1050a34–b2).

Theta 8 is important for another reason, as well. It seems to draw the same distinction as the Passage between events that are identical with their own end and events that are not (1050a23–b2).¹² But Theta 8 blithely ignores the terminological restriction central to the Passage: that only complete events are *energeiai*. Theta 8 treats the distinction between complete and incomplete events as a distinction between complete and incomplete *energeiai*, as if this were no problem at all. Like the first part of Theta 6, Theta 8 contrasts *energeia* only with capacity (*dunamis*), and treats change as a kind of *energeia*. To make matters worse, Theta 3 says, “*energeia* seems above all to be change” (1047a32). This only reinforces the impression that changes (including all those pertinent to the discussion of the Megarics) are *energeiai*, although it does insist that not all *energeiai* are changes.

Thus the Passage makes no obvious contribution of any kind to its immediate context. On the contrary, it is in some tension with that context. Thus the burden of proof is on anyone who wishes to interpret Theta 6, and book Theta as whole, in the light of the Passage.

Aryeh Kosman [55], [56] and Mary Louise Gill [45, chapters 6 and 7] have undertaken to do this. They argue that the distinction between change and *energeia* is important in Theta 6 because Aristotle thinks that being is an *energeia* but not a change.¹³ I do not accept this interpretation of the first part of Theta 6, for reasons I explained in the last chapter.

To recapitulate, I do not think that being-in-*energeia* always involves an *energeia*. In cases where it does, the *energeia* in question may well be a change, such as housebuilding. If we restrict ourselves to cases of substantial being, then it *may* perhaps be the case that all substances have forms that are *energeiai* but not changes (such as living). But it is not something that Aristotle says in Theta 6. In fact, the way in which he gives his examples strongly suggests that he is treating as substances things such as herms or houses. Their substancehood does not consist in their engaging in any *energeia*. There is no need to posit any such *energeia*, as I was at pains to point out, and Aristotle does not even hint that we should do so. Thus the distinction between change and *energeia* seems to have no connection with the analogous concept of *energeia* that is used to modify the verb ‘to be.’

Even waiving all philological and philosophical objections to reading the first part of Theta 6 in light of the Passage, we should not forget that the

¹² See §13.3.2 for my detailed discussion.

¹³ Kosman’s position in the later paper seems to be not that being *is energeia* but that being is *analogous to energeia* [56].

passage is classifying actions (*praxeis*). Being can only be an *energeia* in the strict sense of the Passage if it is an action. Anyone who says that full-fledged being is an *energeia*, in the precise sense of the Passage, is committed to accepting that the *energeiai* of being implicit in the examples in Theta 6 are all actions—which seems, to put it mildly, unlikely.

10.4 THE PASSAGE AND OTHER PASSAGES

The distinction drawn in the Passage occurs elsewhere in Aristotle's writings. By that, I mean the distinction between events that are and events that are not their own ends. Besides Theta 8 (1050a34–b2), *Nicomachean Ethics* I.1 also distinguishes between *energeiai* that are themselves ends and *energeiai* that serve a further end (1094a16–17). Two texts say clearly that change is incomplete *energeia* (*Physics* III.2 201b31–3; *de Anima* II.5 417a16–17). At two places, Aristotle attributes incompleteness not to the *energeia* but to the subject: “change is the *energeia* of what is incomplete, whereas *energeia* without qualification (*haplōs*), of what is complete, is different” (*de Anima* 431a6–7; ἡ γὰρ κίνησις τοῦ ἀτελοῦς ἐνέργεια, ἡ δ' ἀπλῶς ἐνέργεια ἐτέρα, ἡ τοῦ τετελεσμένου).¹⁴ An obvious conjecture is that the *energeiai* of incomplete things, as such, are incomplete. At *Nicomachean Ethics* X.4 (1174b17), Aristotle calls pleasure a complete (*teleia*) *energeia*, contrasting it with a change or genesis.¹⁵

All these passages strongly suggest that *energeia* standardly designates the genus of which changes are a species. One can see why the name of the genus might easily get used to designate those members of the genus that lack a special name of their own. Yet the changes are not simply on a par with the other *energeiai*. Aristotle nowhere speaks of complete or perfect changes, or contrasts unqualified changes with others. He never allows for changes to be identical with their own ends.¹⁶

Thus Ross is wrong to say, “κίνησις and ἐνέργεια are species of something wider for which Aristotle has no name, and for which he uses now the name of one species, now that of the other” [74, p. 251, *ad.* 1047b8]. ‘*Energeia*’ is the broader term, and ‘change’ is narrower. Aristotle naturally has occasion to employ the broad term specially for those cases not covered by the

¹⁴ Cf. *Physics* VIII.7 261a12: “In general, what is coming into being turns out to be incomplete and proceeding towards a principle” (ὅλως τε φαίνεται τὸ γιγνόμενον ἀτελὲς καὶ ἐπ’ ἀρχὴν ἰόν).

¹⁵ See also X.6 (1176a35–b7) and X.7 (1177b1–26), where happiness is said to involve an *energeia* that is not for the sake of some further end. This presupposes that some *energeiai* are for the sake of a further end.

¹⁶ Except implicitly at *Nicomachean Ethics* X.3, where he says that *most* changes are incomplete (1174b4).

narrower term. And this usage is further supported by the thought that the changes are only qualifiedly cases of *energeia*, since they are incomplete.¹⁷ Furthermore, there is no other text in which Aristotle explicitly contrasts the terms ‘*energeia*’ and ‘change.’¹⁸ In the Passage itself, the distinction between *energeia* and change is presented as a new stipulation.¹⁹ “We . . . have to admit that the Passage is the sole place in the corpus where Aristotle’s now famous distinction between κίνησις and ἐνέργεια can be found” [27, p. 270]. Hence “present-day scholarship should stop citing the Passage as a source of standard Aristotelian doctrine” [27, p. 276].

¹⁷ Burnyeat gives some further thoughts along these lines [27, pp. 264–5].

¹⁸ To vindicate this claim, one would have to go through several passages more carefully than I have done here, especially the two treatments of pleasure in the *Nicomachean Ethics*. Burnyeat has done so, and his discussion is completely persuasive [27, pp. 265–72]. He finds Aristotle repeatedly presupposing that *energeia* is a genus that includes changes.

¹⁹ Note the formulations at 1048b28 and 34–5. Contrast the assumption implicit in Theta 3 (1047a32) that the reader will naturally accept that changes are *energeiai*.

Being-in-Capacity (Theta 7)

11.1 THE AIM OF THETA 7

In Theta 7, Aristotle shifts the focus of his discussion from being-in-*energeia* to being-in-capacity. The mere fact that being-in-capacity receives a separate discussion is noteworthy. We might not have expected this. When Aristotle, in Theta 1, set out his program for Book Theta as a whole, he suggested that further clarification of capacity would come via our discussion of *energeia*: “But having spoken about [capacities connected with change], we will also, in our determinations about *energeia*, get clear about the rest, too” (1046a2–4).¹ The discussion of being-in-*energeia* has already helped us to get clear about “the rest.” This was not by introducing a new class of capacities that are associated with being-in-capacity, while the previously discussed capacities, the powers, are not. Rather, the class of capacities associated with being-in-capacity includes powers, but also other capacities as well. These further capacities that are not powers appear to constitute an analogically unified class, corresponding to the analogically unified class of *energeiai*.

Nothing Aristotle has said thus far, commits him to giving a further separate discussion of being-in-capacity. Yet evidently he has a great deal more to say about being-in-capacity in Theta 7. The question with which Theta 7 begins concerns *when* things are in capacity:

(1) We must determine when each thing is in capacity² and when not. For it is not at just any time. (2) For instance, is earth a human being in capacity? Or not, but rather when it has already become a seed? And perhaps even this [is] not yet³ [a human being in capacity]? (3) So it’s just as⁴ (a) not everything could be made healthy by

¹ ἀλλ’ εἰπόντες περὶ ταύτης, ἐν τοῖς περὶ τῆς ἐνεργείας διορισμοῖς δηλώσομεν καὶ περὶ τῶν ἄλλων.

² See the text below for considerations about the translation of this phrase.

³ Reading οὐδὲ τοῦτό πω ἴσως with manuscript J. Jaeger and Ross both read οὐδὲ τότε ἴσως, although this has the support of only one manuscript, A^b, which is less authoritative than E and J. In this case, I prefer the reading of J to the reading of E (which has πω where J has πω) because a temporal term is to be expected following the πότε in (1). There is a parallel for the reading of manuscript J in Θ.8, 1049b21–3: ἡ ὕλη καὶ τὸ σπέρμα καὶ τὸ ὁρατικόν, ἃ δυνάμει μὲν ἐστὶν ἄνθρωπος καὶ σίτος καὶ ὄρων, ἐνεργείᾳ δ’ οὐ πω.

⁴ I follow Ross and take ὥσπερ οὖν as introducing a complete sentence. Cf. B 1000a1.

medicine, nor by chance, but (b) there is something which is able to be made healthy, and (c) this is healthy in capacity. (Θ.7 1048b37–49a5)⁵

The project of Theta 6 was to get us to grasp the concept of being-in-*energeia*.⁶ In the course of that discussion, we are to have seen the correlation between certain *energeiai* and certain powers in the strict sense (Theta 6); then to have grasped a much broader class of *energeiai* (Theta 6); then also to have extended the notion of power correlatively (implicit in Theta 7).⁷ Theta 7's question about being-in-capacity presupposes that we are not entirely in the dark about the concept, and also that there is something important yet to learn about it. The formulation further suggests that we should be interested in when things are *not* in capacity, since it makes extra mention of this. And in fact, Aristotle's doctrine turns out to be quite restrictive. Many things that might have been thought to be in capacity, are ruled *not* to be in capacity.

11.1.1 The Question

What precisely does it mean to ask *when* each thing is in capacity? Our best guide is the example Aristotle gives here of the human being in capacity.

Due to the range of meaning of the Greek verb 'to be,' the question might concern either *existence* (when something exists in capacity) or *predication* (when something is something or other in capacity). I have kept my translation neutral between the two. The example shows that Aristotle is asking about predication. It asks us to consider human beings, and asks not about their existence in capacity, but about when something is a human being-in-capacity. In general terms, the question is: for any property, *F*, when is something in capacity *F*?

Although the question does not directly ask about existence in capacity, for Aristotle, predication and existence are intimately connected. He thinks that the existence of human beings just amounts to the truth of certain sentences like, 'This (flesh and bone) is a human being.' And such a sentence predicates

⁵ Πότε δὲ δυνάμει ἔστιν ἕκαστον καὶ πότε οὐ, διοριστέον· οὐ γὰρ ὁποτεοῦν. οἷον ἡ γῆ ἄρ' ἔστι δυνάμει ἄνθρωπος; ἢ οὐ, ἀλλὰ μᾶλλον ὅταν ἤδη γένηται σπέρμα, καὶ οὐδὲ τοῦτο πᾶ ἴσως; ὥσπερ οὖν οὐδ' ὑπὸ ἰατρικῆς ἅπαν ἄν ὑγιασθεῖν οὐδ' ἀπὸ τύχης, ἀλλ' ἔστι τι ὁ δυνατόν ἔστι, καὶ τοῦτ' ἔστιν ὑγιαῖνον δυνάμει.

⁶ See Theta 6 1048a25–7.

⁷ This is a point on which my reading of *Metaphysics* departs significantly from Michael Frede's reading in [41]. Frede thinks that the first five chapters of Theta have clarified and made more precise the ordinary notion of *dunamis*, so that this notion is now ready to be used in the theory of being presented in Theta 6 through 9. I think this misses a major further step. The definition of 'capacity connected with change' (*dunamis kata kinēsin*) that Aristotle gave in Theta 1 is highly restrictive. It will become obvious that he needs a much wider array of properties to cover all the cases of being-in-capacity. But these are not *dunamis* in any sense identified by Aristotle prior to Theta 7.

'human being' of 'this (flesh and bone).' Thus Aristotle's question is about the having-in-capacity of (certain) properties.

In Theta 7, Aristotle shows special interest in substance-properties. It is surely significant that his example involves such a property: being a human being. We have already seen that Aristotle's theory of *energeia* is supposed to cover non-substance predicates, such as 'housebuilder' or 'divided in half,' as well as substance predicates. Presumably, the same is true for his theory of capacity. But the example suggests, and the chapter as a whole bears out, that Aristotle is especially interested in substance predicates, such as 'human being,' and in quasi-substance predicates, such as 'house' and 'box.'

The example also clarifies the sense of 'when' in the governing question. For the example implicitly presupposes that there is a process through which human beings come into being. We trace this process to its beginning: an adult came from a baby, which came from foodstuffs eaten by the parent; and these foodstuffs came from earth (among other things). This earth is taken up into an organism, of which it becomes part, and the organism is then consumed, leading to the production of a seed, and later of a full-fledged adult. Aristotle's question is this: *at what stage of this process is there something that is in capacity a human being?* Is the earth in capacity a human being? Or the seed? Or not even the seed, but only something at a later stage? In seeking human beings in capacity, we do not begin with an overview of all objects. Rather, the question is posed with the process of human generation in mind. It is the right place to look for what is in capacity a human being.

This assumption is two-fold: the *F*s in capacity are to be found somewhere or other in the process of generation and no *F*s in capacity are to be found elsewhere. This presumably follows from the assumption that something is *F* in capacity, only if it *can be turned into F*. This assumption is weaker than one might think, due to the vagueness of 'can.' The process of becoming *F* might be long and complicated, and involve various kinds of material transformation. Moreover, the view that there is a process by which things become *F* seems to be merely tantamount to the view that there is a power of being made *F* (or perhaps a capacity for turning into *F* on one's own). Aristotle is not really assuming that there is only one process of becoming *F*, but rather that distinct processes correlate with distinct powers or capacities (e.g., something can be made hot by rubbing or by being in contact with something hot). Furthermore, the assumption also leaves open that *x* might be in capacity *F*, although it is not capable of being changed so that *x* is itself *F*. For instance, trees can be turned into paper; perhaps trees are in capacity paper. But there are no trees of which it is true to say that they are paper.

The process of generation provides a starting point for seeking entities-in-capacity, but, more importantly, it also gives point to the question of *when*. On the one hand, this question is obviously not about dates and times.

On the other, it would seem to be more specific than a general request for truth-conditions for sentences of the form, ‘*x* is in capacity *F*.’⁸ Given that Theta 6 has given us an explanation of being-in-capacity, Aristotle is entitled to assume that we are not entirely in the dark about these truth-conditions. We are supposed to understand that being-in-capacity consists in the mere possession of capacities by contrast with their exercise (and analogous states). This, however, leaves open which properties constitute the relevant capacities. Is it only the trained geometer, when not doing geometry, who is in capacity a geometer? (By this stage, surely we are entitled to assume that such a person, at least, counts as a geometer in capacity.) Or is someone who has the capacity to learn geometry, but is not now in possession of the science, already in capacity a geometer? Might we go yet further back, and say that a heap of earth, air, fire, and water, is in capacity a geometer, since it might turn into a human being who goes on to learn geometry? Aristotle’s question is then posed in quasi-temporal terms since the capacities in question must be involved in the genesis of the relevant entity in *energeia*, and the process of genesis has an ordered structure.

One might, alternatively, read the question not in terms of processes (extended through time), but in terms of constitution (at a single time): Aristotle asks (1049a1, quoted above) whether earth is in capacity a human being because earth is one of the things that constitutes a human being. But this interpretation cannot explain why Aristotle asks *when* things are in capacity. The question asked presupposes a series of stages in the development of an organism. And this series is then emphasized by the temporal language used in the example: note the repetition of ‘already’ (*ēdē*) and the word ‘yet’ (*pō*). And the example speaks of genesis (*genētai*), not of constituents at some time. Most importantly, an interpretation in terms of constituents rules out too many candidates for being-in-capacity too quickly. We should at least allow for the view that, say, wine is vinegar in capacity, but not a constituent of vinegar (as it certainly doesn’t seem to be).⁹

11.1.2 Processes

On my interpretation, then, the question of Theta 7 concerns not existing, but having a property. It asks at what stage in the genesis of *F* we have a *F* in capacity. This question assumes (1) that there is an *ordered* process by which

⁸ Frede appears to take the question this way in [41].

⁹ Cf. H.5 1044b34–6, where Aristotle says that there is a difficulty about why wine neither is the matter of vinegar nor is vinegar in capacity. Our understanding of being-in-capacity has to make intelligible how there could be a difficulty about this. Thinking that there is, in the first instance, a conceptual connection between being-in-capacity and genesis solves the problem. (And it coheres well with the way Aristotle presents the problem in H.5—see the context of the lines cited.)

things become *F*, and (2) that this process is the right place to look for *F*s in capacity. And these assumptions are also based on the assumption that things are *F* in capacity only if *F*s come into being.

Aristotle does not give an argument that there are beings-in-capacity. He takes it to be obvious. This is interesting because the notion of being-in-capacity seems to have been an Aristotelian innovation. An important strength of my interpretation is that it helps us see why Aristotle would take this for granted, and indeed why he would make the particular assumption he does, namely, that there are in capacity *F*s if and only if things become *F*s. Being-in-capacity, like the powers discussed in Theta 1–5, is conceptually connected with change. The only rejection of being-in-capacity Aristotle considers—Megaricism—has already been refuted in Theta 3. By this stage of the inquiry, it is clear that (say) an expert craftsman who is not exercising their craft is in capacity a craftsman. It remains, as I indicated, unclear whether the child who could grow into someone capable of being taught the craft is also in capacity a craftsman. In general, it remains unclear precisely when in the genesis of a *F*, something is in capacity *F*.

Notably, Aristotle does not ask the parallel question about being-in-*energeia*, i.e., when each thing is in *energeia*. Presumably, this question is superfluous. Given that one has grasped the concept of *energeia*, and that one has grasped the relevant predicate, *F*, there is no further question about which things are *F* in *energeia* and which things are not. Anyone who has the concepts of *energeia* and of (say) human being know which things are human beings in *energeia*. If someone who has grasped the concept of *energeia* is confused about which things are human beings in *energeia*, they have failed to grasp adequately the concept of human being. *Energeia* is determinate: what counts as being in *energeia* *F* is fully determined by *F*. This determinacy is an important respect in which being-in-*energeia* is like actuality, which is also determinate by contrast with mere possibility.

This consideration might seem to conflict with my claim that being-in-*energeia* and being-in-actuality differ in the following respect. Although there can be no doubt or question about whether the objects of our world are actual ones, there can be doubt about which objects of our world are in *energeia*, and which merely in capacity. However, the conflict is merely apparent. There can be no doubt about whether the objects of our world are the actual ones, no matter what they are. Our questions about which things have being-in-*energeia* are simultaneously questions about the essences of things. A question about which human beings are human beings in *energeia* is a question about the essence of a human being and the end of human life.

Being-in-capacity, by contrast, is indeterminate. Even after we have grasped the concept of being-in-capacity, and the concept of human being, it remains an open question for us, which things are in capacity human beings. This is at least partly because, in some sense, beings-in-capacity are not what

they are: in some sense, a human being in capacity is not (yet) a human being.¹⁰ For this reason, there is an indeterminacy about being in capacity an *F* that does not occur for being in *energeia* an *F*.

This explains why being-in-capacity requires an extra discussion, whereas being-in-energeia does not. The point of this further project is, in part, to enable us to identify entities-in-capacity in particular real cases. One can see this in the example Aristotle immediately gives: we would like a criterion for being a human being in capacity. But the fate of this example suggests, further, that it is not our current task to give an account specifically of human beings in capacity or any other property. The chapter never declares which things are human beings in capacity. Aristotle seeks a criterion that we can apply, *if* we already have a sufficiently detailed and accurate understanding of human beings and their generation. So it is perfectly possible for the project of Theta 7 to be carried out, fully successfully, and yet for significant further biological research to be required in order to know (for instance) which things are in capacity human beings.

11.1.3 Ordering

Aristotle's question, as I have presented it, makes the robust assumption that a thing of a certain sort comes into being by a process of a certain sort. I would like to flesh out a bit more the picture with which he is working. The idea seems to be that there are *ordered sequences of things*, where each item in the sequence becomes the next. These sequences *terminate*, and we focus, in asking about when things are in capacity such-and-so, on the last items in those sequences. The last item in one of those sequences might serve as the starting point for another sequence: e.g., Socrates, the last item in a certain process of generation, might be the first item in the process of becoming sick; and sick Socrates might, in turn, be the first item in the process of becoming healthy.

Aristotle need not assume that there is only one process by which things of some type come into being. A plant can be produced from a seed, or from a piece removed from another plant. The same person might become healthy either through the action of a doctor or because the weather turns warm. However, I assume that Aristotle's answer to the question, 'Is *this* in capacity *F*?' should not depend on whether the item in question happens to undergo this process or that one. So Aristotle's answer needs to make the same things *F*s in capacity, no matter which process they undergo.¹¹

¹⁰ This idea was already implicit in the examples of being-in-capacity in Theta 6 (1048a32–5).

¹¹ There are delicate questions lurking here, about how to count processes. Maybe a plant's growing from a seed and a plant's growing from a shoot count as two ways in which one process can play out? But I do not need to settle these questions.

The items in the processes, Aristotle assumes, come in a *sequence*. Some items come before others in the sequence. We can see this in his example: the seed is closer to the human being than the earth from which the seed was formed; and (we infer) the foetus is closer to the human being than the seed.¹²

Aristotle assumes that all processes of generation derive from basic processes involving earth, air, fire, and water. Thus one might have thought that earth, air, fire, and water are in capacity all bodily things, since they are the basic constituents from which all bodily things come into being. But this is not, as we will see, Aristotle's view.

If I am correct, then the notion of being-in-capacity is applicable only to things that change: there are *F*s in capacity only if things become *F*. Suppose a kind, *E*, is such that, necessarily, *E*s are eternal. Then nothing could become an *E*, and hence nothing is in capacity an *E*. There may nevertheless be truths about *E*s that involve being-in-capacity, but only insofar as *E*s are subject to change; for instance, an *E* that is in one position might be in capacity in some other position.¹³

We will return again and again to the intimate connection between being-in-capacity and processes of change. This picture of ordered processes stands in the background of the whole of Theta 7 (and also of the argument for the priority of *energeia* in being in Theta 8).

11.2 AN EXAMPLE

Aristotle has said that it is not obvious when, in the process of the generation of a human being, there is in capacity a human being. Part of the thought is this: not just anything is a human being capacity. Aristotle defends this claim by using being healthy as a parallel example:

(3) So it is just as (a) not everything could be made healthy by medicine, nor by chance, but (b) there is something which is able to be made healthy, and (c) this is healthy in capacity.¹⁴

In the first instance, the point is straightforward. A reader, who doubts that Aristotle's question is worthwhile, need only consider the comparatively simple case of health: in that case, one sees easily that not everything is healthy

¹² We shall see in considering Theta 8 that the sequences are partially, not totally, ordered. That is, there can be pairs of members of the sequence such that neither comes before the other.

¹³ It follows that, to the extent that Aristotle allows mathematical objects such as lines or figures to be subjects of being-in-capacity, he is *ipso facto* allowing them to be subjects of change.

¹⁴ See the quotation on page 231.

in capacity. But this remark has far-reaching ramifications, and deserves close scrutiny.

In (3), Aristotle continues to connect the question of what is in capacity *F* with how something becomes *F*. But Aristotle introduces here something that had not played a role in the human being example: the agent—in this case, medicine or something that acts so as to bring about health by chance.

The sentence revolves around a contrast that might surprise a reader who did not fully grasp the theory of powers. This is the contrast between (a) things that can be made healthy, and (b) things that cannot be made healthy *by medicine or chance*. Aristotle seems to assume that what can be made healthy can be made healthy by medicine or chance. But this is warranted, for Aristotle, by the relationship between active and passive powers. Something is able to be made healthy if something else is able to act on it so as to make it healthy. This something else is the agent: the art of medicine (and things that by chance act like it).

The modern reader might find it surprising that no third candidate agent is mentioned, alongside medicine and chance. Why doesn't Aristotle mention the organism's own resources for restoring its health? One possibility is that Aristotle believes that living bodies do have such resources, and that he is merely simplifying the situation, for the sake of a straightforward exposition. Another possibility is that Aristotle does not believe that living bodies have their own resources for overcoming a disease and restoring health. His image of disease is not one of attack, but rather one of imbalance. If a disease is an attack, then the body might defend itself. Disease as imbalance might be produced by some outside agent, but the disease itself consists in the imbalance, not in being under attack by a bacterium or some other agent. A healthy body has a certain equilibrium, and it has certain resources for maintaining that internal equilibrium. To be sick is precisely for that equilibrium to have been lost in such a way that the body itself cannot restore it. A loss of equilibrium that can be rectified by the body itself is a defect of some kind, but not an illness.¹⁵ Thus he seems to think that *all* cures are the work either of medicine or of chance.

'Chance' is not the name of some definite agent, as 'medicine' is. The things that would be brought about by a doctor, are sometimes brought about simply by chance—by something that is not acting for the sake of (this

¹⁵ Similarly, the discussion of health and medicine in Z.7 seems to presuppose that recovery from a disease is always due either to medicine or to chance. A similar conception is also present in the (possibly spurious) tenth book of the *Historia Animalium*: "This affection is such as to be harmful to conception in women who have a good constitution; it is not, however, a disease but the kind of affection that may settle down without treatment unless the woman has something else wrong" (X.1, 634a38–b2; ἔστι δὲ τοῦτο τὸ πάθος οἷον μὲν βλάψαι τὰς εὐφυεῖς πρὸς τὴν σύλληψιν, οὐ μέντοι νόσος ἀλλὰ τοιοῦτόν τι πάθος οἷον καθίστασθαι καὶ ἄνευ θεραπείας, ἂν μὴ τι προσεξαμαρτάνῃ αὐτή; trans. Balme).

patient's) health at all. For instance, a change in the weather might warm a sick person in just the way necessary for their recovery.¹⁶

Nevertheless, there is reason to consider separately the action of medicine and of chance. There may be things that are beyond the power of any possible art of medicine, but are not beyond the power of chance. For instance, perhaps there are illnesses that can be cured only by a change in the weather. For only a change in the weather can change the temperature and humidity to the drastic degree, and in precisely the way, necessary to save the patient. Patients who could be cured by chance, but not by art, are, presumably, among the persons who are able to be healthy.

If this interpretation is correct, then we can exhaustively classify the things that cannot be made healthy (these are the items covered by (3a)):¹⁷

1. Items that are not even the kind of thing that could be healthy, such as clouds, voices, numbers, or the divine movers of the heavenly spheres.¹⁸
2. Items that are the kind of thing that could be healthy, but are irremediably ill, such as an animal whose body temperature has fallen so low that there is no way to save it. Things that are irremediably ill in this sense are beyond the reach not only of actual doctors, but of any possible art of medicine. They are also such that no chance event could save them.
3. Items that are the kind of thing that could be healthy and are not (in the sense of 2) irremediably ill, but, for some other reason, are permanently incapable of being cured. For instance, a hemophiliac may require surgery to become healthy, yet be unable to survive surgery. (In 2, the illness as such is incurable. In 3, the illness as such is curable, but not in this patient, due to further facts about the patient.)
4. Items that are the kind of thing that could be healthy, and are not irremediably ill, but, for some other reason, are temporarily incapable

¹⁶ There is a delicate point here about the passive powers involved. A given patient might end up being healed either because a doctor warms him by rubbing him or because the sun warms him by shining on him. The power to be warmed by being rubbed and the power to be warmed by being shined on seem not to be identical. (Air, for instance, seems to have the latter but not the former.) But perhaps, while two powers to be warmed come into play in the two cases, only one power to be healed comes into play, namely the power to be healed by being warmed in any one of a specific range of ways.

¹⁷ Although this list accurately represents Aristotle's views, as I understand them, it does not directly correspond to anything in the text. The list is inspired by Frede's similar list in [41, pp. 188–9]. Frede does not distinguish the third group on my list. Frede also does not raise questions about the relationship between the art of medicine and chance as agents.

¹⁸ One might have thought that nothing living belongs to (1), but that is not so. The divine movers are alive, but cannot be made healthy. Perhaps being a living composite of matter and form is sufficient.

of being treated. Children, or malnourished adults, for instance, may be incapable of undergoing the treatment necessary to save them from a disease, but with time, or with food, their condition may change so that they later can be cured.

What does not belong to any of those classes is able to be made healthy. It is such that either medicine, or at least some chance event, can make it healthy again. (These are the items covered by clause (b).)

Among the things that are able to be healthy, there are things that, due to external circumstances, cannot be made healthy—perhaps because doctor and patient are caught in a violent storm that precludes treatment. If a person could be cured in circumstances other than the actual ones, then they are able to be cured. And this is so even if, given the way things are, it is *impossible* that the patient come to be in circumstances such that he can be cured. (Perhaps he will inevitably die before the storm passes.)

What is most striking here is the statement (c) that what is able to be made healthy is in capacity healthy, while what is not able to be healthy is not in capacity healthy. Being able to be made healthy is both necessary and sufficient for being healthy in capacity. Up until this point, the argument has relied on a vague connection between being *F* in capacity and the changes that generate *F*. Here, at least for the case of health, this connection becomes specific: what is healthy in capacity is precisely what is able to be made healthy.

This has an immediate connection with the theory of powers. Aristotle's theory had made passive powers derivative from active powers. In this case, the relevant active power is the art of medicine. Thus it turns out that the art of medicine is the arbiter of what is in capacity healthy and what is not. The knowledge of health in capacity comes from the art of medicine. Thus this criterion for health in capacity is sufficiently specific to count as a step forward in the project of determining when things are in capacity *F*. The goal of Theta 7 is to give roughly this kind of criterion for all cases of being-in-capacity.

What is Aristotle's basis for his claim that what can be made healthy is in capacity healthy? Is it a reasoned conclusion? Or a mere stipulation about the meaning of a technical term Aristotle has introduced? Aristotle offers no reasons here, and I do not think that we can give a definitive argument for the conclusion (even by Aristotle's lights). But we can see it as a reasonable place to draw the line between being-in-capacity healthy and not being-in-capacity healthy. We would like this line to be drawn at some non-arbitrary point in the progression from unhealthy to healthy. Since we are considering items that are suited to be part of this progression, we can eliminate immediately any item that is not able to be made healthy. Such an item is not necessarily such that it is impossible for it to be healthy. For instance, a malnourished and ill adult,

who is not healthy in capacity because he is not strong enough to endure the treatment for his disease, might manage to remedy his malnourishment. He would then be healthy in capacity (assuming that being properly nourished enabled him to survive the treatment), and might in fact receive the treatment and become healthy. But at the earlier time, when still malnourished, he is not healthy in capacity because he is not, at that time, suited to be a member of the progression towards health. So we have reason to deny the status of healthy in capacity to everything that is not able to be made healthy.

On the other hand, might there be a reason to exclude, as not healthy in capacity, some thing that is able to be made healthy? I cannot see such a reason. One might exclude such items either on the basis of their own properties, or on the basis of their relations to other things. Neither provides good reasons for exclusion.

Properties that are irrelevant to health surely should not matter. And having an intrinsic property that makes it more difficult to become healthy, so long as one *can* become healthy, seems not a sufficient reason to deny that something is in capacity healthy. Moreover, if one maintained that it did make a difference for being healthy in capacity, this would create a new problem of how to mark, in a non-arbitrary way, the degree of difficulty in becoming healthy that divides the healthy in capacity things from the others. So there seems to be no reason to exclude as not healthy in capacity anything that has the capacity to be made healthy.

Might things be excluded from the class of healthy in capacity things because of their relations to other things? Consider a case in which something is able to be healed but it is impossible that it be healed. For instance, if Theaetetus is not only sick but is also about to be struck in the throat by an arrow that will necessarily strike him, then it is impossible (now) that he receive treatment. It seems that we might reasonably deny that Theaetetus is in capacity healthy, on the ground that what cannot become healthy is not healthy in capacity.

But this would be a mistake. Admittedly, there is plausibility to the assertion that what cannot become healthy lacks the power to become healthy. But it is false, nevertheless, as we see from the example just sketched. Theaetetus has the power to be made healthy, whether or not it is possible for the power to be exercised. And anything that has the power to become healthy is healthy.

We should not make invidious distinctions among items whose (intrinsic) properties are the same. If Theaetetus and Theodorus have all of the same properties with regard to sickness, health, and power to be made healthy, then they should also have the same status with regard to being in capacity healthy. In particular, if both are both sick, and both able to be made healthy, then they should both be in capacity healthy. They should not differ simply because one of them happens to be about to be killed by an arrow.

I have just drawn on a powerful and important principle: if two items have the same intrinsic properties, then one is in capacity *F* if and only if the other is in capacity *F*. Although Aristotle never articulates this principle, he silently takes it for granted.

11.3 THE TWO CRITERIA AND TWO QUESTIONS

The example of health in capacity suggests a general connection between powers and being-in-capacity. Aristotle goes on to develop this connection into a full-fledged account of being-in-capacity. But this turns out to be somewhat complicated. Aristotle never gives a single criterion for being-in-capacity. Instead, he gives two criteria, one of which involves powers, and one of which does not. These criteria are, I will argue, the following:

CRITERION 1: *x* is in capacity *F* iff necessarily, if a properly qualified artisan desires to make *x* *F*, then, if nothing external to *x* prevents it, *x* becomes *F*.

CRITERION 2: *x* is in capacity *F* iff *x* is such that, if nothing interferes, *x* will be *F*.

This pair of criteria raises the following two questions.

(1) Are these two criteria intended to cover exhaustively all cases of being-in-capacity? They are presented as if there were no further cases to consider, yet it is not clear how they could cover all cases. For instance, neither criterion seems to cover a housebuilder's being-in-capacity a housebuilder. I will argue that they are intended to cover all *first-stage* cases of being-in-capacity, but not all cases whatsoever. I have argued that the question *when* something is a being in capacity draws implicitly on a series of stages in which the thing in question comes into being. And Aristotle is asking which of these stages is the *first* at which there is a being in capacity. This stage then constitutes a boundary: prior to this boundary, the items in the progression are *F*s neither in capacity nor in *energeia*; after the boundary, items in the progression are *F*s, either in capacity or in *energeia*. I believe that Aristotle's two criteria apply to all first-stage cases of being-in-capacity, but not to all cases of being-in-capacity at subsequent stages.

(2) Why does Aristotle give two criteria for being-in-capacity instead of one? I will argue that there simply is no way to reduce the two criteria to one. There are in the world two fundamentally and irreducibly distinct classes of beings-in-capacity. While they belong together, as two classes of entities in capacity, they are also importantly distinct. The first class consists of cases in which being-in-capacity consists in a power (in the strict sense). The second class consists of cases in which there is no power (in the strict sense). In these cases, a nature takes the place of a power. The difference between the two classes is not merely the difference between powers in the strict sense

and capacities that are not powers. In that case, one could have made do with a single criterion, couched in terms of capacities. The second class of cases requires a separate criterion because the very structure of the processes of generation is different. The capacities are related to the corresponding *energeiai* in a different way.¹⁹

11.3.1 First Criterion: Passive Power

Based on the analysis of rational powers from Theta 5, Aristotle generalizes the example of health to all cases in which “the principle of genesis is external.” This will cover all cases of artistic production, and presumably some other case as well. (What precisely the extension of this class is, we will consider below.) I will argue that, in all cases of the relevant class, to be *F* in capacity is to have the passive power to be made *F*. That interpretation emerges from the following passage. (The reader should know at the outset that there are difficulties concerning the translation of (1).)

(1)(a) The criterion for what, because of thought, comes to be *F* in fulfillment from what is *F* in capacity, is that, given that [the agent] wanted, it becomes *F*, if nothing external prevents it—(b) in the case just mentioned [i.e., the case of health], when nothing in the thing that is becoming healthy prevents its becoming healthy. (2) And likewise, too, what is in capacity a house. (3) If (a) none of the things in it—that is, in the matter—prevent a house’s coming to be, and (b) there is nothing that must be added or taken away or changed, then this is in capacity a house. (4) And the same holds for the other cases in which the principle of the genesis of something is external to it. (Θ.7 1049a5–12)²⁰

The complex sentence (1) is built around the two clauses, (a) and (b), both introduced by ‘when’ (*hotan*), and linked by correlative particles (*men/de*). I take the clauses (a) and (b) to be related as general formula to a particular case. The traditional interpretation, on the other hand, takes them to state two independent, complementary conditions for being-in-capacity. I will explain my translation and interpretation, and then argue against the traditional one.²¹

¹⁹ This is another point on which my reading of Theta 7 differs from Frede’s—not in that I disagree with him, but in that I make much of the issue of why there are two criteria, while he barely touches on it.

²⁰ (1)(a) ὅρος δὲ τοῦ μὲν ἀπὸ διανοίας ἐντελεχείᾳ γιγνομένου ἐκ τοῦ δυνάμει ὄντος, ὅταν βουληθέντος γίγνηται μηθενὸς καλύοντος τῶν ἐκτός, (b) ἐκεῖ δ’ ἐν τῷ ὑγιαζομένῳ, ὅταν μηθὲν καλύῃ τῶν ἐν αὐτῷ· (2) ὁμοίως δὲ δυνάμει καὶ οἰκία· (3) εἰ (a) μηθὲν καλύει τῶν ἐν τούτῳ καὶ τῇ ὕλῃ τοῦ γίγνεσθαι οἰκίαν, (b) οὐδ’ ἔστιν ὃ δεῖ προσγενέσθαι ἢ ἀπογενέσθαι ἢ μεταβαλεῖν, τοῦτο δυνάμει οἰκία· (4) καὶ ἐπὶ τῶν ἄλλων ὡσαύτως ὅσων ἔξωθεν ἡ ἀρχὴ τῆς γενέσεως.

²¹ Since Aristotle gives a criterion for the being-in-capacity of things whose principle of generation is outside them, Ross must be wrong to contrast powers and ‘potentialities’ in the following way: ‘Power is a capacity in A of producing a change in B, or in one part of A of producing change in another part. This may be called transeunt δύναμις, inasmuch as

At (1a), Aristotle is clearly alluding to the discussion of rational powers from Theta 5.²² In both contexts, the phrase ‘if nothing external prevents’ plays a central role. In Theta 5 (at 1048a16–21), Aristotle rejected the following criterion for the necessary exercise of a power:

REJECTED CRITERION: *A* is able to φ iff necessarily, if (1) *A* wants to φ and (2) nothing external prevents him, *A* φ s.

Yet Aristotle now, in Theta 7, seems to invoke precisely such a condition. In Theta 5, Aristotle had maintained that the condition ‘if nothing external prevents him’ should be omitted. But the point, in Theta 5, was not that the REJECTED CRITERION is *false* but that it is improperly formulated, because (2) is redundant. Suppose we have fully specified a power to φ . In doing so, we will mention certain conditions under which the power is suited to act. There is no need, over and above those conditions, for the further condition that nothing interferes. In Theta 5, Aristotle accepted instead this criterion (1048a13–16):

ACCEPTED CRITERION: *A* is able to φ iff necessarily, if (1) *A* wants to φ and (2) the appropriate patient is present, and in the appropriate condition, and the agent is in the appropriate condition, and the agent and patient meet in the appropriate way, *A* φ s.

Here in Theta 7, Aristotle uses the phrase ‘nothing external hinders’ simply as shorthand for the more involved qualifications that were partly spelled out in Theta 5.

But there is also a crucial difference between Theta 5 and Theta 7. In Theta 5, Aristotle was interested in agents and in the exercise of active powers. He was seeking a criterion of the form, ‘necessarily, if . . . , *A* φ s.’ In Theta 7, he is interested in being-in-capacity. He is seeking a criterion of the form, ‘necessarily, if . . . , *x* becomes *F*.’ Yet he seems to fill in the ellipses in these two sentences with the same condition. What was a condition for the necessary exercise of a power is now a condition for being-in-capacity. How can this be?

The key is the word ‘external.’ In both criteria, certain sorts of hindrances are to be ignored as irrelevant, and these sorts of hindrances are described as ‘external.’ In the one case, they are irrelevant to whether someone is a qualified artisan, in the other case, to whether something is a being-in-capacity.

two things are concerned. Potentiality, on the other hand, is a capacity in *A* of passing into a new state of itself” [74, page cxxiv]. Ross’s view also cannot accommodate the examples of healing and housebuilding, since they are not examples of something’s passing into a new state of itself. (Likewise the examples of the herm and the half-line from Theta 6.)

²² See 1048a16–21. My discussion of the passage is in Ch. 7. See especially §7.4. Although Aristotle does not there use the phrase, “because of thought [*dianoia*],” he speaks of powers “with an account [*logos*]” and “in virtue of an account [*logos*].” The connection between *logos* and *dianoia* is obvious.

In Theta 5, the external hindrances are external to the agent; in Theta 7, the external hindrances are external to the patient, i.e., to the candidate being in capacity.

The idea is that x is in capacity F if nothing *about it* prevents its becoming F . Other things may prevent its becoming F , but nothing about x does. In other words, x is ready to be made F . In light of the earlier discussion, this means that x is in capacity F if, given that some artisan is engaged in making it F , nothing, except some external factor, prevents x 's becoming F . Thus the criterion for being-in-capacity expressed in (1a) amounts to this:

CRITERION 1 FOR BEING-IN-CAPACITY: x is in capacity F iff necessarily, if a properly qualified artisan desires to make x F , then, if nothing external to x prevents it, x becomes F .

It would be an error to take the CRITERION to say 'if nothing *internal* to x prevents it.' One might make this error because the point of the criterion is to classify as F s in capacity all and only those things that are free of internal impediments to being made F . Thus one might think that the CRITERION should mention internal, not external, impediments. But one can see that this is a mistake by considering a doctor, whose patient cannot be healed because the patient is too frail to survive any possible treatment. Nothing can make such a patient healthy again. Even if the doctor wants desperately to make the patient healthy again, he cannot do so. But of course, this does not impugn his qualification as a doctor in any way. This was the point of Theta 5's criterion for being a qualified craftsman: the doctor is confronted by an external obstacle—an obstacle external *to him*—that prevents him from achieving his goal, and such obstacles are irrelevant to assessing whether he is a qualified doctor. That is why the criterion says that the patient is healed *if nothing external hinders*. A qualified doctor is one who necessarily heals his patient, given that he wants to and that nothing prevents him.

Recall, now, that such a patient is *not* in capacity healthy, as became clear in §11.2. Suppose, then, the criterion read, "necessarily, if a properly qualified artisan desires to make x F , then, if nothing internal to x prevents it, x becomes F ." In the first place, nothing fulfills this criterion, even a human being that is in capacity healthy. For it is false that, necessarily, if a doctor wants to cure a patient who is in capacity healthy, then, if nothing *internal to the patient interferes*, he is cured. Something external to the patient might interfere. The doctor might, for instance, be incapacitated by falling sick themselves.

Thus sentence (1), from the quotation on page 243, can be paraphrased as follows. Clause (a) says: the criterion for being-in-capacity is what I have formulated as CRITERION 1. Clause (b) says: and, in the case just discussed, this *just amounts to* saying, "There is nothing internal to the patient that prevents his being healed." That is, a sick person is in capacity healthy if and

only if, necessarily, a doctor desires to make them healthy and nothing external to the doctor or patient prevents it, then he becomes healthy—precisely because they *are* entirely ready to be healed. Nothing internal to the patient prevents it.

The traditional translations misrepresent the relationship between (1a) and (1b).²³ They take (1a), which concerns the agent, not to have (sufficient) ramifications for the patient. For this reason, they think that (1b) must state an additional *general* condition, although it is expressed in particular terms. On this view, the criterion for being-in-capacity is something like this:

x is in capacity *F* iff (1a*) if *A* wants to make *x F* and nothing external [to him or to *x*] prevents him, *x* becomes *F* and (1b*) nothing in *x* prevents its becoming *F*.

But how could condition (1a*) be understood in a way that is relevant, plausible, and not redundant with (1b*)? It certainly appears redundant. Suppose (1b*) is, in some particular case, false, i.e., suppose that something in *x* does prevent its becoming *F*. Then it is also false that *x* becomes *F* if an artisan wants to make it *F* and nothing external to him or *x* prevents him. For *x* itself prevents him, even if nothing else does. The point of (1b) is, in fact, to explain that (1a) is to be understood to *mean*, in the case of health in capacity, that *x* is in capacity healthy if, as far as the art of medicine is concerned, *x* is suitable for being made healthy.

What is in capacity healthy is not just anything that is not healthy but could be. It is something that is, as it were, only one step away from being healthy. And something is one step away from being healthy if the *only* thing it needs to become healthy is the application of the art of medicine.

Substances and quasi-substances

The example of health was supposed to show why there is a pressing question about *when* something is in capacity a human being. As we saw in §11.2, this small example shed great light on the connection between powers and being-in-capacity. On its basis, Aristotle has now formulated a general criterion for being-in-capacity, one that applies in a very wide range of cases: all those cases where the capacity is for something's coming to be something through the application to it of thought.

Aristotle now goes on to show how the criterion applies in an especially important class of cases, that of quasi-substances such as houses. These lines bear out my interpretation of when something is a being in capacity, in that

²³ Bonitz, however, takes the sentence as I do: "Die Begriffbestimmung nun für das aus dem Denken wirklich Entstehende liegt darin, daß es auf den Willen des Tätigen hin ohne äußeres Hindernis geschieht, in jenem Falle aber bei dem, was gesund gemacht wird, daß in ihm selber kein Hindernis ist" (see [15], *ad loc.*).

they focus exclusively on the fully prepared and non-defective materials for building a house. Without fanfare, Aristotle here introduces the important association between being-in-capacity and matter:

(2) And likewise, too, what is in capacity a house. (3) If (a) none of the things in it—that is, in the matter—prevent a house’s coming to be, and (b) there is nothing that must be added or taken away or changed, then this is in capacity a house.²⁴

This passage further supports my formulation of CRITERION 1, as against the traditional reading. There are not, here, two aspects to the criterion for being in capacity a house, one concerning the agent and the other the patient. The focus is entirely on the patient, that is, on what can be made into a house.

How are we to understand the connection between matter and being-in-capacity? Perhaps Aristotle is presupposing what he elsewhere asserts, that matter is being-in-capacity or is in capacity that of which it is (or might be) the matter.²⁵ While Aristotle will go on to make this claim in the second part of Theta 7, he has not yet done so. So in the first instance, we should understand matter simply as the materials for building a house. It is that with which a housebuilder begins when making a house, and it is the substratum for the production of a house.

Aristotle indicates in (3) that he has in mind two kinds of hindrances. In one case (3a), the matter is defective or somehow resistant to the production of a house. In the other case (3b), the matter has not yet reached the stage of preparation necessary. For instance, in the latter case, there might be an array of unbaked bricks, laid out to dry. (Properly speaking, they are not yet bricks.) Before they are dried and baked, they are not in capacity a house, because something about them must change before they can be built into a house—they need to harden. Or there might be properly baked bricks at a building site—but not enough of them to build a house. They also are not in capacity a house, although a heap containing them and some additional bricks would be. In cases of type (3a), by contrast, the matter has been fully assembled and prepared, but is in some other way defective: for instance, bricks that cannot be used because they are cracked.

The scope of Criterion 1

Aristotle extends CRITERION 1 beyond the range of cases we have mentioned. On the basis of healing and housebuilding, we can understand *being-in-capacity* in a very wide range of cases:

²⁴ See the quotation on page 243 for the context and the Greek.

²⁵ See, within *Θ.7* 1049a21–2. Cf. also *Metaphysics* H.1 1042a26–8, H.6 *passim*, *Θ.8* 1050a15–16, *de Anima* II.1 412a9, among others.

(4) And the same holds for the other cases in which the principle of the genesis of something is external to it.²⁶

The word ‘genesis’ suggests that we have been right to emphasize Aristotle’s interest in substances. This term’s paradigm use is for the generation of substances and quasi-substances (such as houses). But the term also covers all cases in which one can use the verb ‘becomes,’ even when no object comes into being, as in, ‘Theaetetus becomes healthy.’

This class will include all cases of change produced by a craft, whether that is a quasi-substantial change (like building a house) or not (like healing a patient). In any such case, the artisan acts on some object or objects, in order to make them a certain way. The object or objects are distinct from the artisan, at least in the sense that they are not, *qua* patients, identical with the artisan. Even when doctors heal themselves, their being in capacity healthy is entirely independent of whether they themselves have the art of medicine or someone else does.

CRITERION 1 also covers some further cases. Aristotle’s introductory remarks, in (1), refer to something’s being changed “because of thought” (*apo dianoias*). In addition to cases of artistic production, this will include cases of intentional, intelligent action that does not spring from a systematic expertise. Examples might be using one’s skill in gymnastics to win a fight, or using a shoe to pound a tent stake into the ground.

Sentence (4) suggests that we should think of this class in terms that are broader yet. The language of artistic action, so prominent in the previous few sentences, disappears in (4), and Aristotle refers simply to cases when “the principle of the genesis of something is external to it.” This includes many cases of non-artistic natural change, in which one inanimate thing is changed by another: wood’s being in capacity ashes; sand’s being in capacity glass; Socrates’ being in capacity tanned; as well as earth’s being in capacity water, water’s being in capacity air, etc. In all these cases, the principle of genesis is something external. Hence Aristotle intends CRITERION 1 to cover all these further cases of something’s being in capacity to something else.

Another important reason to think that CRITERION 1 has very broad scope is this: these cases of inanimate natural change, as we shall shortly see, are clearly not covered by CRITERION 2. Thus either they are not covered at all, or CRITERION 1 must be understood in a way that covers them. Thus there is good reason to think that this captures the spirit of CRITERION 1, even as it revises the latter.

If that is correct, why does Aristotle present CRITERION 1 in terms of artistic production in particular? Perhaps because some complications that we have ignored make it hard to see precisely how to revise CRITERION 1 to

²⁶ See the quotation on page 243 for the context and the Greek.

cover the other cases. The obvious reformulation simply replaces mention of an artisan with a reference to agents in general. This yields the following:

x is in capacity F iff necessarily, if something with the power to make x F meets x in the relevant way, and at the right time, and in the right way, and under any other relevant conditions, and, in the relevant cases, it desires to make x F , then x becomes F .

This formulation seems to me correct, but fussy. Perhaps Aristotle focuses on cases of artistic production because, by doing so, he can avoid these fussy complications.

A more interesting reason why Aristotle sticks to cases of artistic production might be this. Possibly, Aristotle thinks of artistic production as the paradigm of production, because, in artistic production, we can see most clearly the role of the end in the process of production. The artisan *desires* something, which is the end for the sake of which the artisan acts, and is something *good*, like health or a house. Clearly, Aristotle thinks there are differences between artistic production and inanimate changes. When fire boils water and makes it vapor (*aēr*), the fire does not desire to heat the water. Nevertheless, Aristotle appears to think that the fire's heating, and even the fire's power to heat, is intrinsically directed toward the end of heating, just as the doctor's power to heal is directed toward health. Perhaps he focuses on cases of artistic production because he wishes to highlight this teleological structure, without (here) actually discussing it. The teleological structure of change will be of great importance in the argument for the priority of *energeia* over capacity in Theta 8.

Active powers and being-in-capacity

An interesting point, which Aristotle does not make explicit, is that *all* these cases involve a passive power to be made F . Aristotle had noted that the doctor's patient has a passive power to be made healthy. But it is also true that the bricks have a passive power to be made into a house. And we can see why this will be so in general. Consider some x that is in capacity F in virtue of fulfilling CRITERION 1. Then the principle by which x becomes F is external to x . So x is in capacity F because something else has the power to make it F . But this just is the definition of having a passive power, according to the account of powers Theta 1.

What about the things that have the correlative active powers? For instance, is a housebuilder who is not building a house covered by CRITERION 1? In general, there seems to be a problem concerning those who have active powers, but are not exercising them.

One sort of housebuilder-in-capacity is unproblematic: human beings who do not have the power to build houses, but who have the passive power to be taught the art of housebuilding. (What human being lacks this passive power?

Very young children, for instance; with time and good fortune, they will acquire it.) These people are housebuilders-in-capacity in accordance with CRITERION 1: if a teacher of housebuilding wishes to teach such a person, then, if nothing interferes, this person becomes a housebuilder.

But there is a second sort of housebuilder-in-capacity, and this sort seems to pose a problem for CRITERION 1. These are people who have the art of housebuilding, but are not using it. They are clearly housebuilders-in-capacity. But why? CRITERION 1 doesn't even apply to them, because their principle of genesis is not external. Their transition from not-building to building seems not to be a change at all,²⁷ and, in any case, it is not brought about by an external agent. Rather, as Aristotle explained in Theta 5, they begin to engage in housebuilding because they want to. As we shall see, CRITERION 2 manifestly does not apply to them either. Yet Aristotle in Theta 6 clearly counted such housebuilders as housebuilders in capacity.²⁸

Inactive housebuilders are housebuilders in capacity because they are at a later stage in their development than those housebuilders in capacity to which CRITERION 1 applies. The governing question of the chapter concerns *when* something is in capacity *F*. And this means that the project is not to establish perfectly general criteria for being-in-capacity *F* in all cases whatsoever, but to give criteria for identifying the first stage in the process of the production of an *F* at which there is in capacity an *F*. Aristotle takes for granted that anything at a later stage is at least in capacity *F*, perhaps in *energeia F*. And for this reason, someone who has the art of housebuilding, but is not exercising it is (already) in capacity a housebuilder.²⁹

In general, both animate and inanimate creatures have passive powers to acquire active powers (and other active capacities, such as theoretical sciences). They are able to be acted on in such a way that they become able to act on other things in certain ways. Thus, in general, there are two sorts of thing that are in capacity φ -ing: the things that have the passive power to be made able to φ , and the things that are in fact able to φ , but not engaged in φ -ing. But it is a perfectly general truth that things of the second type are at a later stage in their development as φ -ing things, and thus it is a perfectly general corollary of CRITERION 1 that such things are in capacity φ -ers.

11.3.2 Second Criterion: Genesis Through Itself

CRITERION 1 applies only to things that have an external principle of genesis. Since not everything that comes into being has its principle of genesis outside itself, Aristotle needs a second criterion for being-in-capacity.

²⁷ Cf. the similar point at *de Anima* II.5 417b8–9.

²⁸ I am assuming that such a housebuilder is an οἰκοδομικόν (Theta 6 1048b1).

²⁹ There is also a sense in which this person is in *energeia* a housebuilder, but it is not our concern to explain that here.

We expect this criterion to be analogous to the criterion already formulated. If we remove from CRITERION 1 mention of an external agent, it says that an *F* in capacity is something that is missing nothing but the principle that would make it *F*. An *F* in capacity still needs the principle of becoming *F*, but does not need anything else in order to become *F*.

It is surprising, then, that the additional criterion Aristotle gives virtually says that, in the relevant cases, the principle of becoming *F* is already present in *F*s in capacity:

- (1) And, in cases of things that have their principle of genesis in themselves, whatever will be *F* through itself, given that nothing external interferes, [is in capacity *F*].
(Θ.7 1049a13–14)³⁰

“What will be *F* through itself, given that nothing external interferes” is something that itself has the principle of becoming *F*. For suppose a putative *F* in capacity (of this class) were to lack the principle of becoming *F*. Then two consequences would follow that are in contradiction with Aristotle’s criterion. First, if the thing in question lacks the principle of becoming *F*, then it will not be *F* through itself. Second, if it lacks the principle of becoming *F*, it will not be *F* given *only* that nothing external prevents it. It will be *F* only on the further condition that some other thing—something which *does* have the principle of making something *F*—acts on the *F* in capacity (either to make it *F* or to endow with its own principle of becoming *F*).

Thus Aristotle’s second criterion for being-in-capacity is this:

CRITERION 2 FOR BEING-IN-CAPACITY: *x* is in capacity *F* iff *x* is such that, if nothing interferes, *x* will be *F*.

Something that is in capacity *F* in this sense (a) is not yet *F* in *energeia*, (b) has the principle of becoming *F*, and (c) is such that, if nothing interferes, the principle of becoming *F* will make it in fact *F*.

The force of (c) will become clearer as we consider Aristotle’s further elucidation. He reverts to the question, raised at the beginning of Theta 7, when something is in capacity a human being (1049a1–3). Earlier, Aristotle had left open the question whether a (human) seed is in capacity a human being. He now answers that question:

- (2) For instance, the seed is not yet [a human being in capacity], because it must still undergo a change within something else. (3) But when, through its own principle, it is already such [as to become a human being], then it is already in capacity

³⁰ (1) καὶ ὅσων δὴ ἐν αὐτῷ τῷ ἔχοντι, ὅσα μὴθενὸς τῶν ἑξωθεν ἐμποδίζοντος ἔσται δι’ αὐτοῦ. This sentence immediately follows the passage translated on page 243, above.

[a human being]. (4) But that [i.e., the seed] is in need of another principle, just as earth is not yet a statue in capacity, since, after it has undergone a change, it will be bronze. (Θ.7 1049a14–18)³¹

Aristotle is working here on certain assumptions about human generation. Male human beings produce seeds for human beings. Those seeds do not, on their own, become human beings. But if they are placed in a certain sort of environment—in a womb—then they undergo a change and become qualified in certain definite but unspecified ways. It is only then that they are in capacity human beings.

These assumptions correspond to received views in Aristotle's day, but not to Aristotle's own considered view about human generation, as he explains it in *de Generatione Animalium*. On Aristotle's considered view, the roles are reversed. The male seed acts on the material produced by the female, and this material is formed into a human being in capacity.³²

However, that makes no difference for this argument. On any even vaguely Aristotelian view of human generation, there will be some last stage in the generation of a human being, after which the rest happens 'on its own.' At that last stage, there is some material that lacks the human form but is suitable for becoming a human being. It is that material, whatever it may be, whose status is here in question. It is irrelevant whether it is seed or some other stuff entirely. Our contemporary technical achievements, such as artificial insemination, are also irrelevant.³³ Aristotle is focusing not on any particular theory of human generation, but on the theory of being-in-capacity. The theory is couched in terms that enable us to determine when, according to any given theory of human generation, something is in capacity a human being.

³¹ (2) οἷον τὸ σπέρμα οὕτω (δεῖ γὰρ ἐν ἄλλῳ καὶ μεταβάλλειν), (3) ὅταν δ' ἤδη διὰ τῆς αὐτοῦ ἀρχῆς ἢ τοιοῦτον, ἤδη τοῦτο δυνάμει· (4) ἐκεῖνο δὲ ἐτέρας ἀρχῆς δεῖται, ὥσπερ ἡ γῆ οὕτω ἀνδριὰς δυνάμει (μεταβαλοῦσα γὰρ ἔσται χαλκός). Ross emends the parenthesis in (2) to δεῖ γὰρ ἐν ἄλλῳ <πεσεῖν> καὶ μεταβάλλειν. (Jaeger keeps the text as I have recorded it here, but tends to agree with Ross that an additional infinitive must be supplied, if only in thought. He writes, *infinitivus certe post δεῖ desideratur, sed nescio an γίγνεσθαι cogitando supplendum sit.*) There is no need for an additional infinitive. The καὶ before μεταβάλλειν is not connective, but emphatic (emphasizing μεταβάλλειν), hence my translation "still." For this usage, see Denniston: "in some cases, the idea of responson receding into the dim background . . . , καὶ conveys little more than pure emphasis, 'actually'." [35, p. 289; cf. 316 ff.]

³² See GA I.19–21 (726b30–729b33).

³³ A technical achievement that would be relevant is the production of a fully developed adult human being from parts, rather than the production of something that, through an internal principle of generation, becomes a human being. Such a procedure would show that the relevant heap of parts (limbs and organs?) is in capacity a human being. This would pose a problem for Aristotle's apparent assumption that, for any predicate, *F*, either everything that becomes *F* does so through an internal principle or everything that becomes *F* does so through an external principle.

Earth:Statue::Seed:Human

In (4), seeds and earth are compared, in connection with (respectively) human beings and statues. Strikingly, in this comparison, Aristotle uses examples that fall under each of the two criteria for being-in-capacity. Statues are produced by artisans. They do not have their principle of generation in themselves. Thus whether something is in capacity a statue will be a matter of whether it fulfills CRITERION 1, not CRITERION 2.

A preliminary clarification is in order. Earth, in this context, is not moulding clay or any such more or less earthy body, but rather the simple body (so-called element), earth.³⁴ The simple body earth does not have the properties necessary for being made into a statue. It will not hold its shape under the appropriate conditions, for instance. Earth, being cold and dry, is like fine dry sand, not like mud. Aristotle need not be presupposing that there are, or even could be, pure samples of simple earth. He need only be presupposing that we know enough about the properties of simple earth to know whether it, on its own, can be made into a statue. On this basis, we know that earth does not fulfill CRITERION 1: even given a qualified sculptor who wishes to make some earth into a statue, it is *not* the case that the earth becomes a statue if nothing external to the earth prevents it. Earth can, however, be transformed into bronze, which *is* in capacity a statue, by active powers other than the art of sculpture.

Earth, which is not in capacity a statue, is compared with a seed, which is not in capacity a human being. Thus far there are four terms in play: earth, statue; seed, human being. On the side of the statue, there is yet a third term in play: bronze. Earth fails to be in capacity a statue, because it has to become bronze before a statue can be made out of 'it.' This is the key to the explanation of the sense in which a seed "is in need of another principle" (4). The human being in capacity, whatever it is, and whenever it occurs in the genesis of a human being, is like the bronze in the genesis of a statue: they are things that do *not* need another principle for the completion of the genesis in question.

This is odd. Bronze is a statue in capacity because it needs only the action of the relevant external principle to be made into a statue. Is not a seed precisely the corresponding item in the course of the genesis of a human being? After all, both bronze and a seed require only the external principle of becoming a statue or a human being in order to become a statue or a human being. Thus it would seem that, according to CRITERION 1, a seed is indeed a human being in capacity. A seed even falls within the appropriate class for application of CRITERION 1. A seed does not have, in itself, the principle of becoming a human being. But it is such that it could come to have the principle of becoming a human being.

³⁴ He cannot be speaking of clay, because clay, in the right amount, *is* a statue in capacity. Cf. Z.9 1035a32.

But this, on Aristotle's view, is wrong. Why? Because the process of generating a human being has a different structure than the process of producing a statue. Producing a statue requires only the action of the sculptor on the bronze. At the beginning of this process, there is some bronze, at the end, a statue. The genesis of a human being has a first stage, which is a change to the seed that takes place in the womb. But once this change is concluded, there is *not yet* a human being. And this is the crucial disanalogy with the production of a statue. In the generation of a human being (as Aristotle here presents it), the seed does not turn directly into a human being, but will become a human being, once it has changed, simply in virtue of the principles it then (but not before) possesses. On the one hand, no further intervention by an external agent is required. On the other hand, the thing in question is a human being merely in capacity.

However, I already gave reasons for thinking that the seed, strictly speaking, falls under CRITERION 1 and fulfills its conditions for being-in-capacity: namely, the seed has a passive power for undergoing a change that is the genesis of a human being. Aristotle seems to presuppose that this is wrong. He does not think that both seed and foetus are in capacity, human beings but in different ways. Why not? Perhaps because being-in-capacity is relative to some *energeia*, and being *F* in capacity is a matter of being ready to be *F* in *energeia*. We can see this by an analogy between entities-in-capacity and wine glasses. The wine glass is ready to receive wine, just as the entity is ready to receive the relevant *energeia*. A seed, as Aristotle understands it, is not a human being in capacity because it is not ready to receive the *energeia* of living a human life. A foetus, at some stage of its development, *is* ready to have the *energeia* of living a human life added to it—not in the sense that it is already living such a life, but in the sense that it is the kind of thing that can come to live such a life simply by further development on its own. A seed, by contrast, is *not* the kind of thing that can come to live a human life. It is merely capable of being transformed into such a thing.

Why seeds fail to be in capacity human beings

This disanalogy between bronze and seeds is the key to the difference between Aristotle's two criteria for being-in-capacity. How, precisely, we are to understand this disanalogy is a question we will approach obliquely, by way of a problem. The problem is that the human being in capacity, as here described, appears to have no place in an Aristotelian ontology, for it would have to fulfill incompatible conditions.

On the one hand, the human being in capacity has to have the principle in virtue of which it becomes a human being. This principle is the human form. The human form is the only thing in the Aristotelian universe that can produce a human being. By having it, the parents are enabled to produce offspring.

As discussed above (§4.2), Aristotle uses the transmission of biological form as a model for understanding all kinds of change as transmission of form.

On the other hand, the human being in capacity is not a human being in *energeia*, but merely in capacity.

Thus it would seem that Aristotle here allows that there is something that has the form of human being, and is a material composite of that form and some correlative matter, and yet is only in capacity, not in *energeia*, a human being. This is in (apparent) contradiction with a principle that Aristotle seems to espouse: having the form *F* is *sufficient* for being *F* in *energeia*. In particular, having the form of human being is sufficient for being human in *energeia*.³⁵

Unfortunately, it is not possible to offer an adequate discussion of this problem here, because that would require consideration of Aristotle's theory of matter and form quite generally. But I can sketch the two solutions that seem possible. They are not alternatives to one another. Rather, they reinforce one another, and in fact I think Aristotle probably subscribes to both views.

The first solution is this. One might say that, although the form of a human being is present in the developing foetus, it is not present in the matter of a human being. The developing foetus is a composite of matter and form, which has the human form, but fails to be a human being because its matter is of the wrong sort. Human beings, in the very early stages of their development—when they are human beings merely in capacity—do not have the matter of a human being. Mature human beings have bones and skin and blood and flesh as their matter. At the early stages of development, a foetus does not. So it does not have the matter of a mature human being.

This view involves two controversial claims. First, it rejects the principle that having the form *F* is *sufficient* for being *F* in *energeia*. This is less problematic than one might think, since one can still accept that the form in question is the *energeia* of the subsequent, fully-developed composite (e.g., the mature human being). On the view I am suggesting, it would be strange to conceive of this *energeia* as the actuality of being human, because one would then have to say that the actuality of being human is present in things that are not actually human beings. This would then be a way in which seeing the distinction between *energeia* and actuality helps us to understand Aristotle's thought.

³⁵ This would seem to follow from the very commitment to hylomorphism: any material complex object is as a composite of matter and form. Moreover, this way of looking at the matter might seem to be implicit in *de Anima* II.1, where the soul is identified with form and with fulfillment (*entelekheia*), which might be taken to be synonymous with *energeia*. See also the connection between form and *energeia* in H.1 1043a20, H.2 1043a30–1, and H.6 *passim*.

Second, it allows for the human form to be present without the correlative matter being present. But matter is often conceived by interpreters as a condition on the possibility of the presence of form. The thought is that the form of *F* can be present only in the right sort of matter for being an *F*, and cannot be present in any other matter. An axe cannot be made of water.

But I am inclined to think that Aristotle does not accept that, in every case, the form of *F* can be present only in the right sort of matter for being an *F*. This issue requires further discussion. I content myself here with two clarifications. First, it is important not to confuse the claim I think Aristotle rejects with a closely related one that I think he does not. The rejected claim states that, in general, the form of *F* can be present only in the right sort of matter for being an *F*, and cannot be present in any other matter. I think Aristotle affirms that a composite that is in *energeia* *F* has to have the matter of an *F*. This latter claim is compatible with there being composites that are merely in capacity *F* and do not have the matter of an *F* (in *energeia*). Second, the view I attribute to Aristotle is compatible with his insisting, as he surely should, that even something that is merely in capacity *F* requires a particular kind of matter, albeit matter that is somehow inadequate for being an *F* in *energeia*. Even for an *F* in capacity, not just any matter will do. There will presumably be very tight constraints on the kind of matter such an incipient *F* can have. In the human case, for instance, it might have to be made of blood (although it is not constituted of any flesh or bone).

Another solution to the problem, compatible with the first, is to distinguish kinds of composition. In some cases, the composition of form and matter is complete (and yields something that is what it is in *energeia*). In other cases, this is not so. This solution, like the first, denies that having the form of *F* is sufficient for being an *F* in *energeia*. On this solution, having the form of *F* fails to be sufficient for being an *F* in *energeia* because the form is not composed with the matter in the way that is necessary for an *F* in *energeia*.

To put it metaphorically, the human being in capacity is like an arch without its capstone, or like a vase of wet clay. Such an arch and such a vase have, in some sense, the structure that they need to have in order to fulfill their ends as arches or vases. Thus they have the relevant form in some sense. But it is not the sense that is relevant for being an arch or a vase in *energeia*. An arch is not such as to collapse when the wooden supports beneath it are removed. A vase is not such as to be deformed by being filled with flowers and water. Arches without capstones and wet clay vases are not, properly speaking, arches and vases.

Imagine that there were the following sort of stage in the production of an arch: although the arch-in-progress was not yet properly an arch—for it could not function as an arch—it was such that, simply left to itself, it would complete the process of becoming an arch. The human being in capacity is

such a thing. It is not a human being, for it is not capable of living a human life. A human life involves, at a minimum, living by eating, drinking, breathing, and sleeping. Clearly, the developing human being is, at some stage, not able to live by eating, drinking, breathing, and sleeping. If the foetus is born too soon, it will die, even in ideal circumstances for eating, drinking, breathing, and sleeping. Yet the foetus, left to itself, will become capable of living in this distinctively human way, and will even become a full-fledged adult human being.

Such a thing is an odd creature: it both has and does not have the form of human being. It is a conjunction of form and matter, but a conjunction that cannot survive under conditions that are normal for full-fledged creatures of its kind. As the stones of the arch-in-progress are held together by wooden supports, the human being in capacity is held together by the special circumstances of the womb. Outside that special environment, it dies. But full-fledged arches and human beings do not derive their unity from anything outside themselves. Their matter and form are unified in such a way that they do not simply collapse in the absence of external support. A human being in capacity is, like an arch-in-progress, something between a heap and an organized whole. Its components are not various material parts, but the matter and the form. It is the form of the adult human being that makes the adult human being a unified something. The form of the human being in capacity does not (yet) play that role. Nevertheless, it belongs in a way to the matter.

These two solutions complement one another. For one can see why the form of *F* could not be composed with matter that is not the matter of an *F*. Not only the composite but the composing would be special in such cases, because the form of *F* only composes ‘fully’ with the matter of an *F*. Until the ‘peculiar’ composite has produced its own matter of the right kind, it has this ‘peculiar’ status as a composite. On the other hand, it is easier to accept that the form of an *F* could be present in matter that is not the matter of an *F* if we allow that its presence is, in such cases, non-normal. I am suggesting that we allow for special composites, but only by way of allowing for special kinds of composing. One way in which this non-normality expresses itself, I have suggested, is that the thing in question cannot survive in circumstances that are ideal for something that is in *energeia F*.

On either solution, it ends up in a way true and in a way false to say, ‘There is a thing that has the form of human being but is only in capacity a human being.’³⁶ The ‘something’ that ‘has’ the form of human being—what we call

³⁶ One might adopt a less ambitious strategy for resolving the contradiction, by claiming that the association between form and *energeia* is only supposed to apply when the form is had in a strong sense, not when it is had in a weak sense. I do not reject this claim, but I wish to point out that Aristotle can say more: he can say there is a sense in which there is simply nothing that has the form of human being and is only in capacity a human being. The weaker strategy does not attempt to vindicate this claim.

the foetus—is the matter for the genesis of a human being, but not the matter for a mature human being. ‘It’ will become a human being through itself. But the matter for a human being is not, as such, a definite particular (*tode ti*). The matter for a human being is not one thing, but a collection of parts that do not yet work together in the way characteristic of a single human being living its life. If such a foetus is born too soon, then something ceases coming into being. But there is a sense in which nothing perishes, just as there is a sense in which nothing perishes if the stones of an arch-in-progress, still lacking a capstone, fall to the ground when the wooden supports are removed. No definite thing was already there to perish when its support was removed. This resolves the apparent contradiction between Aristotle’s views about human beings in capacity and the role of form in a material composite.

11.3.3 Two Questions Answered

We are now in a position to answer the questions I raised earlier.³⁷ (1) Are these two criteria intended to cover exhaustively all cases of being-in-capacity? (2) Why does Aristotle give two criteria for being-in-capacity instead of one?

The answer to (1) is yes. The two criteria are intended, together, to deal with all cases of being-in-capacity. It required some work to see precisely how. In particular, there were two kinds of cases that seemed to create trouble. First, there were cases of production that occur neither because of some rational power nor because of an internal principle, such as the transformation of water into air. CRITERION 1 as formulated does not, strictly speaking, cover those cases, but Aristotle speaks as if it *does* cover those cases (1049a11–12). I offered an interpretation of CRITERION 1 in terms of passive powers, that allowed easy extension to cases in which the agent is not an artisan. Second, there were cases in which things have capacities they do not exercise—for instance, a housebuilder who is not engaged in building a house. I argued that CRITERION 1 does not directly cover these cases, but that it does show why they are cases of being-in-capacity: they are later stages in a course of development, where there is an *earlier* stage that is covered by CRITERION 1, namely when the adult who has the power to be taught the art of housebuilding.

The answer to (2) is a bit more complicated. Aristotle’s strategy was to begin with a fairly straightforward case (being in capacity healthy). On that basis, he offered a general criterion to cover all cases in which there is an external principle of genesis. He then transferred this general analysis to cases in which there is an internal principle of genesis, yielding a second, distinct criterion.

³⁷ See pages 242–3.

We wanted to see how the two classes of cases require different criteria, while still leaving room for the first criterion to motivate the second. CRITERION 1 cannot be applied to the cases of the second class at all, because CRITERION 1 is based on an assumption that is false for the second class of entities in capacity: the assumption that there is an *external* agent that makes the item in question *F*. This is, of course, false for those things that have their principle of genesis in themselves.

Moreover, CRITERION 1 assumes a simple process of generation: an agent makes *x F* in *energeia*. It is only because such a process is in the background that *x* is in capacity *F* before it has become *F* in *energeia*. The items in the second class, however, do not come into being through such simple processes. Rather, there is some material, such as a seed, that is acted on, yielding an *F* in capacity, which then develops of itself into an *F*. For this reason, a human seed is not a human being in capacity.

Despite this difference, CRITERION 1 motivates CRITERION 2, which is the natural extension of CRITERION 1 to things that have their principle of generation within themselves. In both sorts of case, an *F* in capacity is the starting point in the change that results in an *F* in *energeia*. Bronze is already ready to receive the form of a statue. This corresponds not to a seed, but to a foetus, which is also ready to receive the form of human being. This gives rise to the strange notion that the foetus both has and does not have the form of human being, which I attempted to show to be acceptable.³⁸

11.4 CONCLUSION

It thus turns out that the relation between entities-in-capacity and entities-in-*energeia* is profoundly different for CRITERION 1 and CRITERION 2. This is particularly noteworthy given that the class to which CRITERION 2 applies is quite restricted. It includes only a fraction of the natural changes, many of which, such as the transformations of the elements, fall under CRITERION 1. CRITERION 2 covers the familiar kinds of animal generation. But there may

³⁸ One might wonder how Aristotle would have understood mitosis. He could not have understood it the way he understands cutting up worms. Worms get cut up by external agents, whereas mitosis is a normal and natural activity of cells. One proposal is this: mitosis is not simply the division of a living cell into two living cells. Rather, during mitosis, one cell dies, but what remains is not, as in the case of a human death, an inert corpse that decays. What remains is a cell-in-capacity, something that, left to itself, will develop cellular life—two cellular lives, in fact. The fact that the cell-in-capacity will turn into two cells is not particularly troublesome, given the way we have interpreted Aristotle's view, since even human beings in capacity are not properly unified human beings. I am encouraged to take this view by *Metaphysics* H.5: "And *all* things which change thus into one another must be reduced to their matter, e.g. if from a corpse is produced an animal, the corpse is first reduced to its matter, and only then becomes an animal" (1045a3–5; trans. Ross in Barnes).

even be cases of the generation of a living thing that CRITERION 2 fails to cover. For instance, when one worm is made into two by being cut in half, the principle of generation—the cutting agent—is not internal to the worm. Sexual generation, however, always falls under CRITERION 2.

It seems that it is the Aristotelian substances whose being-in-capacity falls under CRITERION 2. By ‘substance,’ I mean not things generally, but more specifically living things, such as human beings. One important claim that Aristotle made about substances in *Metaphysics* Zeta is that they are *unified*. And Book Zeta concluded by raising a problem about how matter and form can be understood in such a way that (1) perceptible substances are composites of matter and form and (2) perceptible substances have the unity that substances require. It is difficult to say precisely what this problem amounts to, or what would count as a solution. But, if my interpretation of Theta 7 is correct, it strongly suggests the following conjecture: the unity of the matter and form of a living thing derives partly from the way in which they come into being. It is essential to living things, or at least to sufficiently complex living things such as human beings, that they fall under CRITERION 2, i.e., that they come into being in an essentially two-stage process.

Why would this shed light on the unity of matter and form? Perhaps because there is some sense in which these living creatures produce their own matter. And it is not incidental to them that they do so, but essential. Thus the matter of such a living thing, unlike, say, the matter of a house, is not something that comes into being independently of the composite. But if the matter of a certain composite is essentially the matter of *that* very composite, then we can at least begin to see how such composites have the unity characteristic of substances. So we can see another reason why Aristotle would give two criteria for being-in-capacity: it is crucial for his understanding of sensible substances that their being-in-capacity is fundamentally different from the being-in-capacity of other sensible things, such as houses.

In Chapter 12, we will go on to consider Aristotle’s explicit discussion of the relationship between matter and being-in-capacity. There, Aristotle is mainly concerned with the question of ultimate matter—what sort of stuff could be the matter that is the basis for all change? Must it be utterly indeterminate, or could it have sensible qualities in its own right? But we will also be able to discern a connection between his distinctive conception of ultimate matter and his conception of matter in living things, which lends further support to these speculations.

PART IV

THE PRIORITY AND
SUPERIORITY OF *ENERGEIA*

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Being-in-Capacity and Matter (Theta 7)

12.1 INTRODUCTION

Theta 7 continues with a discussion of matter in connection with being-in-capacity. The passage deals with two connected issues: the way in which a composite *substance* is related to its own matter and the question of what the ultimate matter underlying all natural changes must be like. It is particularly interesting to see how these two issues are connected here. But let me first explain a bit more what the issues are.

Aristotle, like most of us, thought that there are composite things. But he also thought that there are *substances* (*ousiai*) with parts, for instance, living things. This is sometimes thought to be a bit of ordinary common sense, but in fact it is a daring view. For substances are ontologically basic, and thus Aristotle believed but that there are ontologically basic things with parts. It is hard to see how there could be such a thing, since something that has parts would seem to depend on its parts, and thus not to be ontologically basic.

Theta 7 makes an important contribution to the solution of this problem: the problem of how there can be composite substances at all. Theta 7's contribution is the *adjectival* conception of matter, as I will call it. On this conception, substances are not the matter they are made of, but merely derive their material character from it.

In advancing this doctrine in Theta 7, Aristotle rejects a rival conception of matter that he does not make explicit. But we know that this view is in the background, because it explains the coherence of various apparently unrelated things that Aristotle says. Moreover, it is not surprising that Aristotle felt no need to make the rival view explicit, because it was very widespread in his milieu. It is found in pre-Socratics and in Plato's *Timaeus*, as well as being widespread today. On the rival view, things are the matter of which they are made up. This conception of matter is one basis for saying things like, 'a diamond is carbon,' or 'everything in the world is really a seething mass of quarks,' or 'all is water,' or 'water is H₂O.' I will call this the *substantial* view of matter (by contrast with Aristotle's adjectival view). On the rival view, the substance of a thing is what it is made out of.

Aristotle is concerned in the passage not only with the matter of particular things, but also with ultimate matter: the ultimate material basis for all perceptible reality. He does not say what stuff in particular ultimate matter is, but he does offer a definition of ultimate matter. Simply by giving this definition, Aristotle clarifies and advances a contested philosophical issue.

An important consequence of the definition is that ultimate matter might well turn out to be some ordinary familiar stuff. Here, too, Aristotle is rejecting a rival view that he does not make explicit. This is the view that ultimate matter must be *imperceptible* and *neutral*, i.e., that it cannot have the properties that perceptible matter has (although it might have other properties that explain the properties of perceptible matter). Thus no perceptible stuff could be ultimate matter. This rival view, unlike the first, was not particularly widespread. However, Aristotle found it in Plato's *Timaeus*, and so it is easy to assume that he is responding to that text. And it is even easier to assume this, since the *Timaeus*, in the very same passage that seems to advance this view about ultimate matter, also seems to espouse a substantival conception of matter. In sum, both views that Aristotle rejects in Theta 7 occur together in a passage of Plato's *Timaeus*.¹

Importantly, the *Timaeus* does not simply juxtapose these two views, but presents one as a consequence of the other. The view about ultimate matter is supposed to follow from substantivalism, together with certain assumptions that were, for both Plato and Aristotle, obvious. It is for this reason that Aristotle is at pains in Theta 7 to reject both views together. Aristotle's adjectival conception of matter makes possible a new way of thinking about ultimate matter. Aristotle thinks that ultimate matter need not be imperceptible and neutral. Ultimate matter is what does not derive its material character (specified by an adjective) from anything other than itself.

The latter part of Theta 7 falls into three brief sections. In the first section, Aristotle presents his adjectival conception of the matter of particular substances. He is here rejecting substantivalism. In the second section, he presents his view of ultimate matter. He is here rejecting the Timaeian view that ultimate matter is neutral. In the third section, Aristotle claims that there is a close connection between the metaphysics of qualities and of matter, as well as a close connection between the corresponding terms: qualitative

¹ The interpretation of the relevant passage from the *Timaeus* is difficult and contested. In particular, since the term matter, *hylē*, does not occur, it is contested whether *Timaeus* should be understood as giving a view about matter at all. It is, however, clear that Aristotle understood Plato, in the *Timaeus*, to have advanced a view about ultimate matter. See *de Caelo* III.8 (306b15–22), where the issue is precisely the neutrality of ultimate matter; *de Generatione et Corruptione* II.1 (329a13 ff.); and *Physics* IV.2 (209b11 ff. and 210a1–2). I assume only that Aristotle understood Plato in this way, not that this is the way we should understand Plato. Some recent authors who have dealt with this passage of the *Timaeus*, and who will direct the reader to yet further discussion, are (in chronological order) Zeyl [87], Gill [44], Silverman [78], Broadie [23], and Johansen [51].

adjectives (such as ‘white’), which say what something is like, and material adjectives (such as ‘wooden’), which say what something is made out of. This explicit comparison is the basis for my calling Aristotle’s conception of matter adjectival.

I will try to show how Aristotle’s adjectival conception of matter helps make possible his claim that there are composite substances. Against the background of the rival conception of matter, we will be able to understand both the internal coherence of this text and its philosophical significance.

12.2 MOTIVATING SUBSTANTIVALISM

It will be helpful to begin with a bit of general reflection on the notion of matter. In Aristotle’s philosophy, the notion of matter appears to have arisen in connection with the notion of *change*. The notion of matter does not come up simply by asking what things are made out of. For instance, one might ask what (if anything) water is made out of, and conclude that it is made out of hydrogen and oxygen. But this is not what Aristotle does. Rather, he introduces the notion of matter as that which underlies a change. It is what acquires or loses the property in question in any given change. Thus matter is also a constituent of whatever comes about in a change. For instance, if the change is Socrates’ becoming wise, Socrates is a constituent of the resulting sage. And if the change is some wood’s becoming a house, then the wood in question is a constituent of the resulting house. Thus, while the matter is a constituent of the composite, Aristotle connects the very concept of matter with the analysis of change. For this reason, views about change can be the basis for views about matter.²

In particular, Aristotle wants to reject a conception of matter that is driven by a certain way of thinking about change. By borrowing a fable from Plato’s *Timaeus*, we can see what is appealing both about this view of change and about the corresponding view of matter:

Suppose you were molding gold into every shape there is, going on non-stop remolding one shape into the next. If someone were to point at one of them and ask you, “What is it?” your safest answer by far, with respect to truth, would be to say, “gold,” but never “triangle” or any of the other shapes that come to be in the gold, as though it *is* these, because they change even while you’re making the statement. However, that answer, too, should be satisfactory, as long as the shapes

² See, for instance, *Physics* I.7 and *Metaphysics* Lambda 1–2. It is controversial whether, and in what sense, Aristotelian matter persists once the change is over. I think that Aristotle attributes to his predecessors a view about the persistence of matter that he himself does not accept. But he does not simply contradict it. Rather, he accepts a suitably modified version of it. The controversial question is how he modifies the view, but that question need not be decided here.

are willing to accept “what is such” as someone’s designation. This has a degree of safety. (*Timaeus* 50a–b, trans. Zeyl in Cooper)

What precisely is the problem with saying of one of the figures that it is a triangle? It is not intrinsic to the statement, ‘It is a triangle,’ but derives from using that statement to answer the question, ‘*What* is that?’ The question is asking what the item is, and not merely what it is like, how it is temporarily disposed, or what quality it happens to have.

Timaeus assumes that, if something stops being *what* it is, then it stops being anything altogether. It is destroyed. So, for instance, if a triangle is what something is, then it cannot survive while ceasing to be a triangle no matter when it ceases to be a triangle.³ The point is not that the gold is only a triangle briefly. The fact that the gold ceases to be a triangle “even while you’re making the statement” makes the problem particularly dramatic, but it is not the source of the problem. The source of the problem is that what the thing in question really is, is gold, and not any shape that the gold temporarily takes on. Both sentences, ‘That is gold,’ and ‘That is a triangle,’ are true. But one of them says what this *really* is, while the other says, instead, what this is like.⁴ It says how this is temporarily disposed, much as the sentence, ‘That is a puppy,’ says of a dog that it is at a certain stage of development. The fact that the dog will, if all goes well, survive as it ceases to be a puppy is due to the fact that a puppy is not *what* the creature is. On the other hand, the fact that the dog could not possibly survive even as it ceases to be a dog is due to the fact that a dog is precisely what the creature is.

The point of the fable depends crucially on the intuition that there is some *single* thing that persists when the gold goes from being a triangle to not being a triangle. Timaeus tells the fable in such a way as to make this plausible. We can imagine ourselves focusing our attention on *that* bit of gold, and following its metamorphoses.

Timaeus, through the fable, develops a view about change in general. The view that Timaeus wants us to adopt is this:

In any change, there is something underlying the change, which is first *F* and then *G*.

³ I happen to think that this is the correct account of these few lines from the *Timaeus*, but it is by no means necessary to agree with me about that, in order to accept the proposed interpretation of Aristotle. One need only agree that a reasonable person—Aristotle—could have taken these lines this way. Verity Harte gives an account of the passage that is somewhat similar to this one, but differs in the following important way. She thinks that the gold is “a medium in which the shapes are formed [e.g., etched], not . . . a stuff from which they are made” [49, p. 257]. I infer that she would deny that the gold is a triangle. Aristotle thought of the figures, I think, as composites of gold and shape. Harte, as I read her, thinks of the figures as shapes, which require the gold as a medium, but of which the gold is not a part.

⁴ Cf. “what is such” (τὸ τοιοῦτον) from the quotation, at 50b4.

This premise, together with the assumption that for something to stop being what it is, is to perish, would seem to entail that substantial change is impossible. Here's why.

In any change from, there is some underlying thing. The underlying thing changes from (say) *F* to *G*. That is, at the beginning of the change, the thing is *F*, but not *G*. At the end of the change, that thing is *G*, but not *F*. (Perhaps *G* is simply *not-F*, or *F* simply *not-G*.) It would seem to follow that:

In any change from *F* to *G*, neither *F* nor *G* is what the thing that underlies the change is.

One reaches this conclusion by considering the relation between what underlies the change, *F*, and *G*. *F* cannot be what the underlying thing is, since the underlying thing goes on being even after it ceases to be *F* (in particular, it is *G*). And *G* cannot be what the underlying thing is, since the underlying thing already was before it became *G* (in particular, it was *F*). Thus neither *F* nor *G* is what the underlying thing is.

But this conclusion seems to be incompatible with the possibility of generated substance. For 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.

The generation of a substance would have to involve some matter that is first *not-G* and then *G*, where *G* is what the generated substance is. But, according to the considerations just given, *G* could not be what the product of the change is. Rather, the underlying thing, which existed before the change began, is what the product is. For instance, consider whether an ordinary wooden box is a substance. Generating a box involves some matter that is first not a box, and then a box. Hence a box is not what the product is. If something becomes a box, then a box is just a way that something is temporarily disposed. It is not what that something is.

Thus, this way of thinking about change seems to justify the thought—which may have seemed very appealing anyway—that a thing's matter is what it is. This is a synchronic claim, about a thing and its matter at some time. It justifies the thought, for instance, that water is H₂O, or that a diamond is carbon. We do not, of course, call just any carbon a diamond, any more than we call just any dog a puppy. But carbon is nonetheless what the diamond is, just as a dog is what the puppy is. This is what I call *substantialism* about matter: it is the view that what things are—their substance, if you will—is their matter.

This view seems to have many modern adherents, as I have tried to suggest with my examples.⁵ And it seems to be found in the *Timaeus*. Aristotle found it in many other earlier philosophers as well, as he explains in *Metaphysics* Alpha 3. There he attributes to “the first philosophers” the following view:

Nothing is either generated or destroyed, since this sort of entity [i.e., matter] is always conserved, as we say Socrates neither comes to be absolutely when he comes to be beautiful or cultured, nor ceases to be when he loses these characteristics, because the substratum, Socrates himself, remains.

(983b11–17; trans. Ross in Barnes, modified)

These philosophers believed that all change, even the most radical, is like Socrates’ becoming cultured. All changes are changes in the disposition of some matter. No changes constitute the genesis of a substance. This view about change is connected with a view about matter: that the matter of a thing is what it really is.

12.3 REJECTING SUBSTANTIVALISM

Aristotle’s general response to this view about change is complex, and is dispersed over several texts. Theta 7 does not explain how to block the general argument against substantial change that I just gave, but it does reject the substantival view of matter. The rejection of the substantival view of matter is an important step forward. It makes room for the thought that some matter might be first *F* and then *G*, where *G* is what the product is, even if *G* is not what the matter is.

Aristotle’s view is that the matter of a composite substance is not what the substance is, but that the substance derives a *material character* from its matter. This material character is *like* a qualitative property, and, accordingly, it is properly specified by an adjective. Aristotle is using the metaphysics of qualities as a model for thinking about material character. To borrow an example from Aristotle: some boxes are wooden. The term, ‘wooden,’ specifies the box’s material character. This character, like a quality, may even change, within the limits imposed by what the substance is. A box, for instance, may be changed from wooden to leaden. But the very term, ‘wooden,’

⁵ Kripke tersely advocates the view that the “*substance* of which [something] is made is essential [to it]” [57, p. 114 n. 57]. He does not speak in terms of a distinction between what something is, and what it is like, but I think that it is this very intuition that stands behind his view. Similarly, Locke says in the *Essay*, “If any one should be asked, *what* is the subject wherein Colour or Weight inheres, he would have nothing to say, but the solid extended parts: And if he were demanded, *what* is it, that that Solidity and Extension inhere in, he would not be able to give a satisfactory answer” (my italics) [64, pp. 295–6; Ch. XXIII, §2]. The problem seems to be that the question concerns what things are, but the only available answers concern what things are like, not what they are.

is supposed to suggest Aristotle's view. The box is wooden, where the very form of the word indicates that it says what the box is *like* (*poion*), not what it is (*ti*).

In order to formulate this claim in general terms, Aristotle introduces the term '*that-en*.' He introduces the term abruptly and without explaining why, but the background I have sketched will allow us to see his reasons. The term itself is a strained neologism—as strained in Greek as in English.⁶ '*Thaten*,' like *ekeininos*, is a generalized adjective, formed on the model of such words as 'golden,' 'bronzon,' and 'wooden.' The very term echoes the flurry of demonstrative adjectives in the Timaeus. Timaeus says that certain things are not this, but such (49d4–50a4), while Aristotle thinks that certain things are not that, but *thaten*. This is an important reason to accept that Aristotle is thinking of the Timaeus in Theta 7. Timaeus works with only two concepts: whatness and suchness. Aristotle introduces a third concept alongside them: material character (*thaten-ness*).

What does it mean for something to be wooden, golden, bronzon, earthen, or, in general, *thaten*? Evidently, something is wooden if it *consists of* or *is made out of* wood; golden if it consists or is made out of gold; and, in general, it is *x-en* if it consists of or is made out of *x*. (I will use 'consists of' and 'is made out of' as synonyms.) Adjectives in *-en* specify the character of the object, insofar as it derives from its matter. They do not specify the matter; terms such as 'gold' and 'wood' do that.

Adjectives in *-en* also have a looser usage that I mean to be setting aside: some things are called golden not because they are made out of gold but because they resemble gold—for instance, a golden sunset resembles gold in color and brightness. But a sunset is not golden in the sense relevant to Aristotle's discussion. (At least some of the corresponding Greek adjectives, such as χρύσεος, have such uses.)

Being thaten is not to be confused with *having come into being out of*. When I say that something is made out of a certain stuff, this is a present tense claim. It does not concern the history of the item. But when I say that something came into being out of a certain stuff, I am saying something about the history of the item.

In many familiar cases, both relations hold at once. For instance, a statue that came into being out of some bronze is, typically, bronzon. A ring that came into being out of some gold is, typically, golden. But either of the relations can hold without the other holding. One might make a box out of wood, and gradually replace its parts with lead. When the box first came into being, it was wooden. Gradually, as its parts were replaced, more and more

⁶ Perhaps for this reason, the term never became popular, unlike many of Aristotle's other technical terms. Of course, Aristotle himself hardly uses the term: it occurs only here, and in Z.7 (1033a5–7). Perhaps this is because he knew how strained it was. Its only occurrences in later Greek are in the commentary attributed to Alexander, in commenting on this passage and on the passage from Z.7 just cited.

of it was made of lead, and less and less of wood, until, finally, it was not a wooden box at all, but a leaden one. In that case, although the box came into being out of wood, it is, at some later time, leaden, and no longer wooden. To say that something is *x-en* is just to say that it consists of *x*. But it may have come into being out of something quite different from *x*.⁷

Many objects consist of several stuffs. How should we use *thaten* terms in speaking of such things? Although Aristotle makes no statement about this, it seems clear enough from a consideration of cases. Suppose I make a shield out of wood and leather. Presumably the shield is (in part) wooden and (in part) leathern. What are we to say about the material character of complex living things, such as human beings? If our answer for the shield was correct, then presumably human beings are fleshy, bloody, and bony. Aristotle understandably leaves such examples aside, for the sake of simplicity.

In introducing the term *thaten*, Aristotle makes two claims: first, a negative claim that certain things are not “that” but rather “*thaten*”; second, a claim connecting *thaten* with the notion of being-in-capacity, the theme of Theta 7:

It seems that what we say is not this but *thaten*—for instance, a box is not wood but rather wooden, and wood is not earth but rather earthen, and, in turn, earth, if it is, in the same way, not something else, but rather *thaten*—in each case, the latter is without qualification in capacity that.⁸ For instance, a box is not earthen, nor is it earth, but wooden, for this is in capacity a box and this is the matter of a box, [wood] without qualification of [box] without qualification, this wood of this box.

(Theta 7 1049a18–24)

Aristotle’s first concern is to say that something is “*not* this, but rather *thaten*.” This negative point is reiterated in the example. The box is said *not* to be wood, but rather wooden. Presumably, given the right sort of box, it is trivial that the box is a wooden one. Not trivial is that this here thing is a wooden box, rather than some wood, arranged box-wise.

There is only one other passage in Aristotle in which the term *thaten* occurs. There, too, the same negative point is made: “Some things that come into being from something, as matter, are called, when they come into being, *not* that, but rather *thaten*” (my emphasis; Z.7 1033a5–7). Why does Aristotle say “*some things*”? In light of the immediate sequel, in which he discusses a human being’s becoming healthy, I think he means simply to distinguish substantial and non-substantial changes.⁹ “Some things” refers to substances.

⁷ Thus I take a different view from that of Besnier, who sees the term *thaten* as serving primarily to connect a thing with its origin [20, p. 146]. As I see it, the fundamental problem is not how to connect generated things with their material origin, but to reject the substantialist conception of matter.

⁸ There is a slight, and easily intelligible anacoluthon in the Greek, which my awkward English is supposed to capture.

⁹ I am accepting the emendation proposed by Frede and Patzig, *ad loc.*

It excludes, for instance, a human being's becoming healthy. The resulting product is not a human-being-en healthy thing, but a healthy human. This is to be contrasted with, say, the production of a wooden box out of some wood. When a box comes into being from wood, then the product is not boxy wood, but a wooden box.

There is yet another passage where Aristotle seems to be making the same point. Although the general term *thaten* (*ekeinon*) does not occur, several related terms do:

For when anything has been completely shaped or structured, we do not call it that of which it consists [*ekeino ex hou estin*]: e.g., we do not call the statue bronze or the candle wax or the bed wood, but, using a derivative name [*parōnumiazontes*], we call them bronzen, waxen, and wooden respectively.

(*Physics* VII.3 245b9–12; trans. Hardie and Gaye in Barnes, modified)

These are cases of substantial change. They are distinguished from cases of alteration, in which we do call something by its original name after it is changed, e.g., calling something that is first solid and then liquid wax (249b12–16). In all three passages (*Metaphysics* Z.7, Θ.7, *Physics* VII.3), Aristotle makes the same negative claim: when a substance comes to be out of that, then it is not that but rather *that-en*.¹⁰ Substantial changes are distinguished from other changes by whether or not the product of the change is called by the name of the matter. Aristotle insists on the reality of substantial change, and its distinctness from other sorts of change. The term *thaten* helps formulate, in general terms, a claim about the relationship between substances and their matter.

The passage from Theta 7 also contains a further claim, not hinted at in the other two passages, where Aristotle does not mention the notion of being-in-capacity. This claim asserts that there is a systematic connection between being *thaten* and being-in-capacity:

if *y* is *x-en*, then *x* is in capacity *y*.

Our discussion of being *thaten* sheds some light on the protasis: *y* is *x-en* means *y* is made out of *x*. So Aristotle is claiming that *x*'s being-in-capacity *y* follows from *y*'s being made out of *x*. And *x*'s being-in-capacity *y* means, on the one hand, that *x* is not in *energeia y* (in its own right): wood is not, as such, actually a box. But on the other hand, *x* is *y* in some sense—namely, in capacity. We'll return to this in a moment.

Why does Aristotle assert this connection between being-in-capacity and *thaten*? He does not offer any explicit argument for the claim. I think this is because it follows straightforwardly from the discussion of being-in-capacity in the earlier part of Theta 7.

¹⁰ Cf. also *GC* II.1, 329a17–21, quoted below.

That discussion focused on the question *when* something is in capacity *F*. I argued that Aristotle is thereby asking for the *earliest* point in the genesis of an *F* at which something is in capacity *F*. Any subsequent item in the process of generation is a *fortiori* in capacity *F*.¹¹ Thus Aristotle's claim amounts to the view that, if *y* is *x*-en, then *x* is 'far enough along' in the genesis of *y* to be in capacity *y*. For simplicity, let us restrict our attention to artifacts, as Aristotle himself does here. If *y* is made out of *x*, then *x* must be such that it is completely ready to be made into *y*, without further preliminary work. For instance, some statues are bronzen; they are made of bronze. And this is possible because bronze is in capacity a statue, in that bronze is ready to be made into a statue. More technically, bronze has the passive power to be made into a statue.

It does not follow from *y*'s being *x*-en that *y* came into being out of *x* in the first place. A leaden box may have come into being out of wood. Nevertheless, it is necessary, in order for there to be a leaden box at all, that lead be in capacity a box. Otherwise, the replacement of the box's parts with lead would have resulted in the destruction of the box. (Imagine, for instance, trying to replace the box's parts with rice paper or with water.) In general, if *x* is not ready to be *y*, then *y* cannot not be made out of *x*. A sequence of changes might start with *x* and yield *y*, but those changes must first turn *x* into something that is in capacity *y*. (For instance, one might turn mud and straw into bricks, and then make a house out of the bricks.) If *y* is made out of *x*—if *y* is *x*-en—then *x* must fulfill the criterion set out earlier in Theta 7: "there is nothing that must be added or taken away or changed" before *x* is made *y* (1049a10–11).

The same argument applies to living things. No living thing could be made of material that was not in capacity that living thing: if a living thing is *x*-en, then *x* is in capacity a living thing of the relevant kind. As Aristotle says in *de Anima*, the bodies of living things are what in capacity has life (II.1 412a27–8).

Aristotle is thus entitled to infer without much explanation the claim he makes at the beginning of the passage quoted: if *y* is *x*-en, then *x* is in capacity *y*.¹²

¹¹ See Ch. 11.

¹² The Londinienses (in the volume edited by Burnyeat) wrongly attribute the converse to Aristotle (p. 131): if *x* is potentially *y*, then *y* is *x*-en. (The Londinienses themselves use the term 'potentially.') But this is not what Aristotle says, and it does not even seem to be true. They clearly mean to be restricting the condition to cases in which *x* is potentially *y* and *x* is the matter for *y*. But this restriction seems to make the claim vacuous, by assuming in the protasis that *y* is *x*-en. Moreover, their claim would seem to entail the falsehood that each thing can have only one kind of matter, since, if *y* is *not x*-en, then *x* is *not* potentially *y*. Furthermore, their reading would, as they explain, entail that nothing is potentially ultimate matter. But Aristotle might well think that earth, air, fire, and water

What is at stake here is the rejection of substantialism. Even ordinary Greek usage suggests that substantialism is wrong. That is why Aristotle writes of what “we say” in the quotation above. “We” are not “we Aristotelians,” but “we speakers of Greek.” Timaeus’ idea was that, if you were to point to one of the gold figures and ask, ‘What is that *really*?’ the “safest answer by far, with respect to truth” would be ‘gold’ (50b).

Aristotle wants us to think that this answer, far from being the safest, is neither obvious nor even correct. Thus, he elsewhere explicitly rejects the fable of the golden figures, saying, “Things which come to be and pass away cannot be called by the name of the material out of which they have come to be: it is only the results of alteration which retain the name. However, he [Timaeus] actually says that far the truest account is to affirm that each of them [the figures] is gold” (GC II.1, 329a17–21; trans. Joachim in Barnes, modified).¹³ In Theta 7, his rejection of Timaeus’ view is apparent at the end of the first sentence of the quotation above, when he says: “if [earth] is, in the same way [as the box], not something else, but rather *thaten*.” Aristotle here implicitly assumes that the box is “not something else.” Why in the world would someone say that the box is “something else”? Well, for any substantialist the box is something else—wood, or earth, or (for Timaeus) a bit of Receptacle, configured as a box.

According to Aristotle, the box is not something else. It is, rather, *something-else-en*. It *really* is a box—a wooden box, to be sure, but a box, and not merely some wood configured as a box. The box is not *that* (i.e., wood), but *thaten* (i.e., wooden). Similarly, the wood really is wood and not something else, although it is, for Aristotle, earthen.¹⁴ By insisting on specifying the matter with a ‘thaten’ term, Aristotle helps remove the temptation to think that the matter is what the substance is. For terms such as ‘wooden’ and ‘earthen’ seem no more promising as answers to what-is-it questions than ‘the most beautiful of arts’ to the question, ‘What is rhetoric?’¹⁵

are all ultimate matter, but also that each of them is potentially the others. Indeed, this is what I think he thinks.

¹³ Aristotle is here assuming (rightly, in my opinion) that Timaeus’ golden shapes are supposed to stand for anything produced in any change whatsoever, including what we would normally consider substantial changes, such as the generation of an animal.

¹⁴ Thus, I think Bostock, in interpreting a parallel passage from Z.7 (1033a5–23), gets the point of the term *thaten* precisely wrong when he writes, “if we did speak in the better way, then we would be able to see that, just as a healthy man is indeed a man, so a statue is actually some bronze, even though this is not what we normally say” (p. 128). Aristotle intends precisely to pick up on what we Greek-speakers do normally say, and he intends this in order to deny precisely that what a substance is, is its matter.

¹⁵ This is Polus’s answer to the question ‘What is rhetoric?’ in the *Gorgias* (448c–449a). Socrates rejects the answer not as false, but as failing even to answer the question. Here, as in the *Timaeus* and *Theaetetus*, there is a contrast between ‘what’ questions (*ti*) and ‘what-sort’ questions (*poion*).

12.4 HIERARCHY AND ULTIMATE MATTER

So far, we have spoken only about the relation of the box to the wood that it is made out of. But the quotation above refers to a hierarchy of matters: the matter of the box—wood—has, in turn, matter of its own—earth. Aristotle not only insists on the box's being wooden, rather than wood, he also insists on the box's being neither earthen nor earth. His idea seems to be this: even if wood is earthen, the wooden character of the box does not entail that the box is earthen.

This idea is justified by Aristotle's notion of being-in-capacity, as developed in the opening sections of Theta 7. That is why matter is discussed here, in connection being-in-capacity and being-in-*energeia*. For Aristotle's notion of being-in-capacity is not transitive: it does not follow from x 's being-in-capacity y and y 's being-in-capacity z that x is in capacity z . Normally, transitivity fails.¹⁶ This is because it is not enough, for x to be in capacity y , that there be some series of changes or other that begins with x and yields y . Aristotle has a much more restrictive notion of being-in-capacity. For x to be in capacity y is for x *itself* to be able to become y , not for something that might be produced out of x to be able to become y . x must itself be ready to become y , and not be in need of further transformation. The earth, for instance, is not ready to be made into a box. It is only once it has been transformed into wood that a box can be made out of it. Thus the earth is not in capacity a box, even though the earth might be made into something that could in turn be made into a box.

For this reason, the wooden box fails to be earthen, even though the box is of wood and wood is earthen. But why, we wonder, is that important? Aristotle notes not only that the box fails to be earthen, but also that it fails to be earth. That the box is not earthen, is obvious. "We Greek speakers" say that the box is wooden, but no one says that it is earthen. The important thing, I suggest, is that the box is not earth.

On a substantialist view, the box would turn out to be earth. If wood is what the box is, and earth is what the wood is, then the box would seem to be, in the last analysis, earth. (Or perhaps something other than earth, if earth, like wood, comes into being out of some underlying matter.) If we think that the matter of the box is what the box is, then, by parity of reasoning, we should also think that the matter of the box's matter is what it is. Thales

¹⁶ It is worth asking whether we can identify a class of cases in which transitivity holds. Here is at least one such class: when F is being able to do something, then what is in capacity F is in capacity engaged in exercising the ability to F . For instance, a small child and an adult who has learned (but is not using) geometry are both in capacity geometrizing (*de Anima* II.5 417a22–30). I take the general claim to be the point of an obscure passage in *Metaphysics* Theta 8 (1050a16–21). I conjecture that these are the only cases in which being-in-capacity is transitive. I am indebted to Josef Stern for pressing me on this question.

presumably shared this intuition. That is why he thought he could say that everything is water: he thought that water is the ultimate matter of everything, and he thought that the matter of a thing, and in particular, its ultimate matter was what it was. It is also why, even though a human being is made of flesh and bones, one might think that a seething mass of quarks is what a human being is.

It is these considerations about the hierarchy of matters that introduce the question of ultimate matter. Aristotle's definition of ultimate matter is, in a way, straightforward. But it is hard to see what Aristotle thinks is at stake. I will suggest that Aristotle is here responding to a view espoused in Plato's *Timaeus*. And this view, unlike substantivalism, was not widely shared among Aristotle's predecessors. Indeed, it seems to have been original with Plato. But in fact, it follows from substantivalism, together with a modest further assumption. The assumption is that the most basic *perceptible* stuffs can be transformed into one another. This assumption is introduced in a famous passage of the *Timaeus*:

First, we see (or think we see) the thing that we have just now been calling *water* condensing and turning to stones and earth. Next, we see *this same thing* dissolving and dispersing, turning to wind and air, and air, when ignited, turning to fire. And then we see fire being condensed and extinguished and turning back to the form of air, and air coalescing and thickening and turning back into cloud and mist. When these are compressed still more we see them turning into flowing water, which we see turning to earth and stones once again.

(*Timaeus* 49b–c; trans. Zeyl in Cooper; second italics mine)¹⁷

Timaeus is clearly working on the assumption that earth, air, fire, and water are the most basic of the perceptible stuffs. He speaks not only about these traditional four, but also about stones, wind, cloud, and mist (where cloud and mist are at a stage between air and water). This suggests that he is speaking about ordinary phenomena, which should be familiar to everyone. But he also speaks about these ordinary phenomena in a way that connects them with the Empedoclean theory that earth, air, fire, and water are the four basic stuffs.

It is unclear what is the subject of the changes described. On the one hand, *Timaeus* mentions nothing over and above the various perceptible stuffs that turn into one another. On the other hand, he strongly suggests that there is something (“this same thing”) that persists through these various transformations, and hence is distinct from these stuffs. Suppose we work on the assumption that earth, air, fire and water are the four basic perceptible stuffs, so that everything else is a mixture or state of them. Then this further

¹⁷ Of course, *Timaeus* goes on, after the passage quoted, to make an exception for earth: it does not transform into fire, air, and water, nor they into it (54b5–d3). Verity Harte points out that *Timaeus* foreshadows this by saying here that we only *think* we see those transformations that are later said to be impossible [49, pp. 237–8].

subject is neither one of these four basic perceptible stuffs, nor some less basic perceptible stuff. Hence, Timaeus concludes, there is something further, not itself perceptible, that is the subject of their transformation into one another.

Having concluded that there is some subject of the transformations of the basic bodies, we wonder what it is. The first thing Timaeus asserts about it is its neutrality with respect to perceptible properties: “it has never in any way whatever taken on any characteristic similar to any of the things that enter it” (50b8–c2). Timaeus calls it by various names, one of which is “the Receptacle”: “the nature which receives all the bodies” (50b5–6).

Whether the Receptacle is the *matter* of earth, air, fire, and water, and, by extension, of other perceptible things, is disputed. This is (or should be) as much a dispute about what would count as matter as about how to read the *Timaeus*. However, assuming the Receptacle is matter at all, it is surely *ultimate* matter. That is, there is no further thing that the Receptacle is made out of, and there is no further thing that is the subject of the genesis of the Receptacle (which never came into being). And it is clear that Aristotle thought the Receptacle was matter.¹⁸ This makes it very probable that Aristotle has in mind the *Timaeus* in his discussion of ultimate matter in Theta 7.

Aristotle accepts that the elements can be transformed into one another. But he denies the picture of change connected with substantivalism. Aristotle believes, rather, that it is possible for something to become *F*, where *F* is what the resulting thing is. Thus he can evade the argument for a *neutral* ultimate matter, such as the Receptacle. In particular, Aristotle would deny the premise implicit in the words “this same thing.” He would claim that there is no single same thing that persists through the changes mentioned in the *Timaeus* passage. Of course, Aristotle owes us an account of change, but it is not the purpose of Theta 7 to give that account.

All this leaves an open question about how we should conceive of ultimate matter—a question not only about what ultimate matter is in fact, but also a question about what it is to be ultimate matter. As long as one believes in the inter-transformability of the basic perceptible stuffs, it is tempting to think that ultimate matter is, that, I-know-not-what, which underlies their inter-transformation. But Aristotle provides a different way of thinking about ultimate matter. Ultimate matter, according to him, is that which is not *thaten* in virtue of anything else. Ultimate matter may, apparently, be called *thaten* in virtue of itself: in his example, Aristotle supposes that fire is ultimate matter, and says that fire is fiery (where “fiery” is clearly supposed to be a *thaten* term). So Aristotle’s definition allows that *thaten* terms applies to ultimate matter. Ultimate matter differs from derivative matter, in that it does not derive its material character from anything other than itself.

¹⁸ See n. 1 for passages supporting this claim.

It now turns out that ultimate matter might simply be one of the ordinary perceptible stuffs:

But if there is some first thing, which is no longer called *thaten* on the basis of something else, this is first matter. For instance, if earth is airy, and air is not fire but fiery, then fire, which is not a *certain this*, is ultimate matter. (Theta 7 1049a24–7)

This thought experiment does not, of course, assert that fire is ultimate matter. But the point of the thought experiment is not simply to give some example, *any* example, of the definition. He wants to emphasize that ultimate matter might well be some ordinary perceptible stuff.

He emphasizes this here because it is connected with his denial of substantialism. For substantialism is connected with (although it doesn't simply presuppose) an analysis of change on which, if the four basic perceptible stuffs can be turned into one another, then there must be some distinct further sort of stuff underlying them. This was the burden of the argument just quoted from the *Timaeus*. Timaeus, in the thought experiment, asks his auditors to direct their attention to some bit of water, which is transformed into other basic stuffs. He wants us to think that a certain *single* thing underlies that entire series of changes. And this derives some plausibility from the fact that we can focus our attention on 'this' bit of water, as 'it' turns into something else. Now Timaeus himself explicitly connects this view with substantialism. Just one page later, in the story of the golden figures, Timaeus espouses substantialism, apparently in order to convince us that the Receptacle is what all perceptible bodies are.

Aristotle, too, thinks that earth, air, fire, and water are the basic perceptible stuffs, and that they are inter-transformable. He gives an account of ultimate matter on which ultimate matter might well turn out to be one of them, rather than something over and above the perceptible stuffs. For Timaeus, ultimate matter is ultimate in being something distinct from and underlying all perceptible stuffs. For Aristotle, ultimate matter is ultimate in having a material character that derives solely from itself, and not from anything else.

A further important contrast between Timaeus' view and Aristotle's is this. Timaeus' notion of ultimate matter creates a strong presumption that there is only one kind of ultimate matter. His view is not strictly incompatible with the claim that there is more than one kind of ultimate matter. But it is hard to see how one could motivate distinctions among various kinds of ultimate matter, given that ultimate matter's cardinal feature is its neutrality with respect to all the features of perceptible bodies.¹⁹

¹⁹ There is a complication about this, since Timaeus also says that there are "tracks" (*ikhnē*) of the simple bodies in the Receptacle, even before the simple bodies have been formed (53a–b). But these are not kinds of Receptacle, but something like local properties of the Receptacle.

Aristotle's definition of ultimate matter, by contrast, fits easily with the thought that there are several kinds of ultimate matter. It is perfectly possible that there be several different kinds of stuff, each of which is not *thaten* in virtue of anything else. His definition leaves it an open empirical question how many kinds of ultimate matter there are. Indeed, one might well think that Aristotle's considered view is that there are four kinds of ultimate matter: earth, air, fire, and water, none of which is *thaten* in virtue of anything else. This would introduce a complexity not hinted at in Theta 7: that something that is not *thaten* in virtue of anything else might be transformed into something else that is not *thaten* in virtue of anything else. Of course, Aristotle's definition is perfectly compatible with a Timaeian view, on which there is only one kind of ultimate matter, and it is something distinct from earth, air, fire, and water, underlying their transformations into one another. Which view one attributes to Aristotle depends on how one interprets passages in the *Physics* and *de Generatione et Corruptione*. But, as far as the definition of ultimate matter is concerned, both are live options.

12.5 ULTIMATE MATTER AS SUBSTANCE

Aristotle goes on to address a problem concerning the status of ultimate matter as a substance. The problem is this. Matter has a claim to being substance, and in particular to being a subject. We expect a subject to be a *certain this*. But ultimate matter is not a *certain this*. In particular, the ultimate matter arrived at in Aristotle's thought experiment—fire—is not a *certain this*, as Aristotle explicitly notes. This might be thought to impugn its claim to be not only matter, but ultimate matter, something that is a paradigm of matter, and which therefore has a powerful claim to be a subject.

Aristotle responds to this worry by explaining that there are two kinds of subject-hood. Since Aristotle connects being a substance and being a subject, he also distinguishes two types of substance, corresponding to the two kinds of subject-hood. The subject involved in the one sort of subject relation is a *certain this* (*tode ti*). The other is not. Aristotle does not attempt here to offer a full account of these two kinds of subject-hood. And a full interpretation of his view on the issue would involve an account of the notion of a *certain this* (*tode ti*), which would take us beyond the scope of this book. However, it seems to me that these lines helpfully enrich and illuminate what Aristotle has already said, and so I offer the following somewhat speculative interpretation of them.

Aristotle's view, as I have interpreted it, is primarily a view about matter, not about terms used to specify matter. Still, I have called Aristotle's view adjectival because he formulates it by means of an adjective, *thaten* (*ekeinon*). There is, however, a further point both to Aristotle's use of the term,

thaten, and to the label ‘adjectival’: Aristotle thinks there is a systematic correspondence between the metaphysics of qualities and the metaphysics of substances’ matter:

For that of-which, i.e., the subject, differs [from case to case] by being a *certain this* or not. For instance, the subject of qualities is a human being, both body and soul, and culture and pale are qualities (for, when culture is present in him, [the human being] is called not culture but cultured, and not paleness but pale, and not, indeed, a walk or a change, but walking or changing, like *thaten*). Of the things that are in this way, the last [i.e., the ultimate subject] is substance. Of the things that are, not in this way, but what is said [of them] is a certain form and *certain this*, the last [i.e., the ultimate subject] is matter and substance in the sense of matter.²⁰ (Theta 7 1049a27–34)

In outline, Aristotle here says that there are two sorts of subject-hood. Subjects of the one sort are necessarily a *certain this*. Thus fire, not being a *certain this*, is excluded from enjoying this sort of subject-hood. However, the other sort of subject-hood does not require being a *certain this*, and thus presumably can be enjoyed by fire. Aristotle gives an example of a subject of the first sort, which is a *certain this*: a human being. He compares the properties that such a thing might have with the material character that something has in virtue of its matter. The precise point of this comparison sheds light on what Aristotle means by insisting that we specify the matter of a substance with a *thaten* term.

Consider a human being who is pale and cultured. Now, the human being is a *certain this* (*tode ti*). And the human being is the subject of qualities: it is pale and cultured. Aristotle says that, “when culture is present in him, [the human being] is called not culture but cultured, and not paleness but pale, and not, indeed, a walk or a change, but walking or changing.” This is, of course, not a terribly surprising thought—so why does Aristotle mention it?²¹

Aristotle is elucidating the nature of changes in a persisting substance, by contrast with the generation of a new substance. A human being’s becoming pale is a change of quality, not the generation of a substance. And this is connected with the fact that, when paleness becomes present to the human being, the human being is pale, rather than paleness. That is, that presence of

²⁰ τούτω γὰρ διαφέρει τὸ καθ’ οὗ καὶ τὸ ὑποκείμενον, τῷ εἶναι τόδε τι ἢ μὴ εἶναι· οἷον τοῖς πάντεσι τὸ ὑποκείμενον ἄνθρωπος, καὶ σῶμα καὶ ψυχὴ, πάθος δὲ τὸ μουσικόν καὶ λευκόν (λέγεται δὲ τῆς μουσικῆς ἐγγενομένης ἐκεῖνο οὐ μουσικὴ ἀλλὰ μουσικόν, καὶ οὐ λευκότης ὁ ἄνθρωπος ἀλλὰ λευκόν, οὐδὲ βάδις ἢ κίνησις ἀλλὰ βαδίζον ἢ κινούμενον, ὡς τὸ ἐκείνινον).—ὅσα μὲν οὖν οὕτω, τὸ ἐσχατον οὐσία· ὅσα δὲ μὴ οὕτως ἀλλ’ εἶδος τι καὶ τόδε τι τὸ κατηγορούμενον, τὸ ἐσχατον ὕλη καὶ οὐσία ὕλη.

²¹ Cf. *Theaetetus* (156e): “The eye is filled with sight; at that moment it sees, and becomes not indeed sight, but a seeing eye; while its partner in the process of producing color is filled with whiteness, and becomes not whiteness but white, a white stick or stone or whatever it is that happens to be colored this sort of color” (trans. Levett in Cooper). See also *Categories* 8 (9a29–b9), *Timaeus* (51b), and *Gorgias* (449a; cited above).

something (paleness) in the human being qualifies it, such that it is pale, rather than constitutes it, such that it is paleness. In such cases, the thing is called by a name derived from the name of the quality, rather than by the name of the quality itself: it is called pale, not paleness; cultured, not culture. When a substance comes into being, a *certain this* comes into being. Some matter, which does not already in its own right constitute that *certain this*, becomes a *certain this*; for instance, it becomes a certain human being. In that case, when *human being* is present to the matter, the matter becomes precisely a human being: it is called by the same name as that which has become present to it, and not by a different name. But this linguistic fact reflects the metaphysical fact that the imposition of paleness on something does not make it paleness, whereas the imposition of human being does make it a human being.

The human being is the *ultimate* subject, in which paleness, or some other quality, might be present, in virtue of being a *certain this*. Whatever it is that constitutes the human being, when it became a human being, it became a *certain this*. Because the human being came into being, there is some further subject underlying it. Aristotle intimates this with his reference to “body and soul,” the body being the underlying matter that, unified with the soul, constitutes a human being. However, the further subject that became a *certain this*, was not any particular definite thing at all: it was not a *certain this* (*tode ti*).

I suggest that, to be a *certain this*, is to be a definite instance of a kind, such that there is always a fact of the matter about whether the item in question continues to exist or not. For example, to be a human being is always to be a *certain* human being—some one human being, which came into being at some time, perishes at some time, and is distinct from all other human beings. There is, on this proposal, always a true or false answer to the question whether this human being is the same as that one. By contrast, fire, on this account, is not a *certain this* because there is not always a fact of the matter about whether some fire persists or not. (Remember that fire, for Aristotle, is a stuff, as water is.) To be fire is just to be some fire, not to be a certain definite fire, which came into being at some time, perishes at some time, and is determinately distinct from all other fires. Sometimes, there is no simply true or false answer to the question, “Is *this* fire the same fire as *that* fire?” When I add a minuscule amount of fire to some fire, do I now have the same fire I started with, enlarged in quantity? Or do I have a new mass of fire? What if I add not a minuscule amount, but precisely as much as I started with? Or what if I add this fire to some other, gigantic mass of fire? It is unclear what to say about these cases. In denying that fire is a *certain this*, Aristotle is denying that there is any fact of the matter about the answers to these questions. There certainly is a fact of the matter about whether some fire has ceased to be fire. Fire ceases to be fire when, for instance, it is extinguished. But there are no conditions for *this* fire’s ceasing to be.

Of course, in practice, we distinguish one fire from another: there is a certain fire in the grate, and another fire on the stove. But those distinctions are ad hoc and pragmatic. There is no underlying metaphysics of the fires in question, which determines what it would be, for each, to persist or to perish. If the fire in the grate and the fire on the stove were to be mixed together, there would be no fact of the matter about whether one or the other or neither had survived.

This is what Aristotle had in mind several lines earlier, in a passage already quoted. Speaking about wood as the matter of a box, Aristotle said, “[wood] without qualification [is the matter] of [box] without qualification, this wood of this box” (1049a23–4). This does not mean that *this* wood might constitute any number of boxes, such that *this* wood is the matter of *this* box that it happens to constitute. On the contrary, what it is for some wood to be *this* wood rather than *that*, is precisely for it to constitute something that, unlike the wood on its own, is a *certain this*. This wood derives its ‘this-ness’ from the this-ness of the box. It is not the case that *this* wood might constitute some other box, since what it is for this wood to be *this* wood is just for it to constitute *this* box. So much, at least, is clear: Aristotle wants to say that matter, and in particular ultimate matter, can have the status of substance, *despite* failing to be a *certain this*. But ultimate matter’s lack of definiteness does weaken its standing as substance: it is not substance without qualification but only “substance in the sense of matter [*ousia hulikē*].” By contrast, Aristotle registers no qualification on the sense in which definite things are substances.

The demotion of matter as a substance is crucial for the possibility of generated substance. The demotion of matter relies on the similarity between matter and those paradigmatic non-substances, qualities. In the first place, qualities and matter bestow names on things in the same way. To reiterate, the human being “is called not culture but cultured, and not paleness but pale, and not, indeed, a walk or a change, but walking or changing, *like thaten*.” That is, a thing that is “qualified” by wood is not wood, but wooden. It is called not by the name of what qualifies it, but by a name derived from the name of what qualifies it. Of course, many Greek quality words, including the word for ‘pale’ (*leukos*), do not have the form of *ekeininos* terms; they do not end in *-inos*. But Aristotle is not saying that they do.²² The point is that the quality and the qualified object receive distinct names. And this linguistic fact reflects the metaphysical fact that the qualified object is not identical with the quality that qualifies it, and might, for instance, persist, while the quality departs.

This is what Aristotle means by saying, “*thaten*’ is predicated in accordance both with matter and with qualities.” In both cases, one item stands in some relation to a second item. But the first item, being different from the

²² In Z.7 (1033a16–19), he gives examples with various linguistic forms.

second item, is not rightly called by the name of the second item, but by a derivative name: it is called not ‘that’ (wood, paleness), but ‘thaten’ (wooden, pale). Timaeus, by contrast, thinks that being characterized by wood is being wood. Aristotle thinks: sometimes yes and sometimes no. The wood itself is both wooden and (some) wood, but a wooden box is merely wooden.

One is liable to want to object strenuously at this point: “But there are profound differences between qualitative properties and matter!” Indeed there are. Qualities are not substances—not even in an attenuated sense—whereas matter is a substance—albeit in an attenuated sense. Material composites come into being *out of* matter, not out of qualities. Material composites somehow depend on their matter: a quality might depart, leaving simply a privation, but if the matter departs, then the composite ceases to be. Moreover, in the language of Theta 7, the matter is the subject of being-in-capacity: the wood is in capacity a box. Some wood is in capacity a wooden substance. Qualities, by contrast, are not the subjects of being-in-capacity: whiteness is not in capacity a white thing. Aristotle does not deny these important differences. In fact, the term *thaten* seems even to draw out this tension. It combines the notion of a *that* (a definite item for reference) and the notion of a quality.

Aristotle wants us, despite these differences, to discern a similarity between the ways in which qualities and matters characterize things. Another formulation for this similarity is: “both [matter and properties] are indefinite [*aorista*].” I take this to mean that neither matter nor qualities are a *certain this*. That is, to have a quality is not to be a *certain this*, and to have some matter is not to be a *certain this*. This statement sums up Aristotle’s metaphysics of matter. A *certain this* is a definite individual, such as Socrates or Callias. Some fire is not such a definite individual, on Aristotle’s view, nor is whiteness. The point is not that *being wooden* or *being pale* determines less about an item than does *being a human being*. Rather, *to be wooden* and *to be pale* is not to be any particular determinate thing, whereas *to be a human being is*, for every human being, to be some particular determinate human being.

Readers of the *Categories* are familiar with the dependence of qualities, such as whiteness, on the particulars that instantiate them. Aristotle here makes a similar point about matter. This is a remarkable extension of his earlier view. One would think that, say, a wooden box depends on its wood for its being, and not the other way around. Aristotle accepts this. He also thinks, however, that wood, as matter, is not on its own a *certain this*. For becoming a *certain this*, it depends on being endowed with some form. The composite depends on the matter to some extent. Without the matter, it could not have being at all. Nevertheless, it is only in virtue of becoming a box that some wood acquires the definite identity characteristic of a *certain this*, and, indeed, of substances. The identity of the matter derives from the identity of the composite.

12.6 CONCLUSION

In the latter part of Theta 7, Aristotle uses the notion of being-in-capacity to make two contributions to the science of being. First, he shows, in part, how generated substances are possible. That is, he shows how some wood might undergo a change, such that wood, without having been destroyed, is not what the result of the change is. There is, of course, a great deal of work left to do. Among other things, we need a way to distinguish composite substances from composite non-substances. But we have a crucial piece of his theory firmly in hand. In order to believe in composite things that are genuine substances, one must somehow demote matter in metaphysical significance. The matter of a composite substance is not what the substance really is. Matter thus ends up, Aristotle suggests, having a role oddly similar to that of qualities. This is odd because matter is a paradigmatic subject: something that *has* properties, not something that inheres in some other subject. While odd, this proposal is perfectly coherent and intelligible. It is precisely the proposal that wooden boxes, if they are substances, are *merely* wooden, and not wood.

Second, Aristotle presents a definition of ultimate matter on which ultimate matter need not be anything over and above ordinary perceptible stuff. In particular, there need not be anything like the Receptacle proposed by Timaeus. Such a principle would be an eternal imperceptible principle of perceptible things, and would thus presumably fall within the purview of the science of being. Aristotle here rejects a certain strategy of argument in favor of such a principle. Ironically, this is a step in the direction of earlier Ionian views, on which the ultimate principle of reality was some more-or-less familiar stuff such as water or air. But Aristotle does not pursue the question of which more-or-less familiar stuffs are the fundamental ones. That is not a task for the science of being as such, but rather for physics, and thus is undertaken elsewhere.

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The Priority of *Energeia* (Theta 8)

Theta 8 is the culmination of Aristotle's discussion of being-in-capacity and being-in-*energeia*, where he draws conclusions that constitute a contribution to the science of being—indeed, an important and programmatic contribution. By the middle of Theta 7, Aristotle had carried out the program he announced in the opening lines of Theta 1: explaining the two ways of being under discussion. Theta 7 began to exploit those concepts to reach certain conclusions. Theta 8 shows how these concepts allow us to understand perishable and eternal beings together in a new way. Both for perishable and for eternal beings, being turns out to be above all, but not exclusively, being-in-*energeia*. This claim is partly important for the way in which Aristotle goes on to use it to draw conclusions later on, about the divine unmoved movers of the heavens. However, within Theta 8 itself, we already find a radical innovation in the conception of being. I will bring this out by casting the achievement of Theta 8 as a resolution of the Battle of the Gods and Giants.

The claim of Theta 8 is that *energeia* has priority over capacity—in account, in time (although only with qualification), and in being. Aristotle is careful to make clear that he is talking about all the capacities in virtue of which a thing has being-in-capacity, and not only about powers. Correlatively, these claims cover all *energeiai*, whether they are changes, actions that are not changes (such as seeing), or states of being:

(1) Since it has been determined in how many ways 'prior' is said, it is evident that *energeia* is prior to capacity. (2) I mean not only to the capacity we have defined [i.e., power], which is said as a principle of change in another thing or as another thing, but generally to every principle of change and rest. For a nature, too, is in the same genus as power. For it is a principle of change, but not in another thing, but in a thing itself as itself. (3) *Energeia*, then, is prior to every such [principle], both in account and in being. In time, it is in a way prior and in a way not. (Theta 8 1049b5–12)¹

¹ (1) Ἐπεὶ δὲ τὸ πρότερον διώρισται ποσαχῶς λέγεται, φανερόν ὅτι πρότερον ἐνέργεια δυνάμεως ἐστίν. (2) λέγω δὲ δυνάμεως οὐ μόνον τῆς ὀρισμένης ἢ λέγεται ἀρχὴ μεταβλητικὴ ἐν ἄλλῳ ἢ ἢ ἄλλο, ἀλλ' ὅλως πάσης ἀρχῆς κινητικῆς ἢ στατικῆς. καὶ γὰρ ἡ φύσις ἐν ταυτῷ [γίγνεται· ἐν ταυτῷ γὰρ] γένει τῇ δυνάμει· ἀρχὴ γὰρ κινητικῆς, ἀλλ' οὐκ ἐν ἄλλῳ ἀλλ' ἐν αὐτῷ ἢ αὐτό. (3) πάσης δὴ τῆς τοιαύτης προτέρα ἐστίν ἡ ἐνέργεια καὶ λόγῳ καὶ τῇ οὐσίᾳ· χρόνῳ δ' ἐστι μὲν ὥς, ἐστι δὲ ὡς οὐ. There is a textual problem here. With Ross and Jaeger, I omit the words γίγνεται· ἐν ταυτῷ γὰρ between ταυτῷ and γένει.

Aristotle claims that every *energeia* has priority over the corresponding capacity, whether or not the capacity is, in the strict sense, a power. And it will even turn out that certain *energeiai* have priority over capacity altogether—not over the capacities whose exercise they are, but over all capacities whatsoever. *Energeia* has priority in three senses: in account, in time, and in being. Its priority in time is only qualified: in a way, *energeia* has priority, and in a way, not. As the text proceeds, each of these three sorts of priority will receive a second tag. Priority in account turns out to be priority in account *and knowledge* (*gnōsis*; 1049b17). The qualified priority in time turns out to be priority in time *and genesis* (1050a3). And, for perishable things, priority in being turns out to be priority in being *and form* (1050a5). These are three *distinct* senses of priority: it will be an important constraint on our interpretation that we maintain their distinctness. But our first question is simply: what do they mean? One obvious place to look for help in understanding these three cases of priority is *Metaphysics* Delta 11. Indeed, sentence (1) mentions a previous discussion of priority and posteriority—presumably Delta 11. But, as we will see, that earlier chapter provides minimal assistance in interpreting Theta 8. The definitions of priority in account and time are not those relevant to Theta 8. The definition of priority in being is relevant to one part of Theta 8's discussion, but not to the other part. I will discuss the meaning of each kind of priority, and then the argument for it, in turn.

13.1 ACCOUNT AND KNOWLEDGE

13.1.1 Definition

Let us begin with priority in account (and knowledge). Aristotle defines priority in account as follows at *Metaphysics* M.2 (1077a36–b4):

PRIORITY IN ACCOUNT: *x* is prior to *y* in account if and only if there is an account of *x* that does not involve an account of *y* (implicitly or explicitly), but not *vice versa*.

Aristotle, in concluding the relevant argument, introduces a further specification of the relevant kind of priority, calling it priority in account *and knowledge* (*gnōsis*; 1049b17). The rough idea must be the following. If *x* is prior to *y* in account, then one cannot cognitively grasp *y* without already grasping *x*. Thus one cannot know *y* without already knowing *x*.

The point concerns not language, but understanding. Consider, for instance, eloquence. Aristotle claims that any account of eloquence involves an account of exercise of eloquence, namely, speaking gracefully and persuasively. This is not because of features of the word, 'eloquence,' but because

eloquence is a capacity—in particular, the capacity to speak gracefully and persuasively.²

This provides some help in specifying which phrases are accounts in the relevant sense. This is helpful, because some phrases that refer to capacities do not invoke the corresponding *energeia*. For instance, the phrase ‘the capacity that Socrates is exercising right now.’ This account does not involve an account of the corresponding *energeia*. But presumably this phrase does not, on its own, give one any knowledge of the relevant capacity, because it picks out the capacity by way of a purely incidental feature (namely, that Socrates happens to be exercising it now). Aristotle’s claim is only supposed to cover accounts through which one acquires knowledge.

I suggest that the accounts that constitute knowledge are those that say what the relevant capacity and *energeia* are. Even that leaves open a very wide range of accounts. The word here translated by ‘knowledge’ is *gnōsis*, which covers both familiar everyday recognition and highly elaborated scientific knowledge. The corresponding verb, ‘to know,’ occurs in the *Theaetetus*: Socrates knows who Theaetetus is (he is Euphronius’ son), without even knowing his name.³ But *gnōsis* covers scientific knowledge of an entire subject matter as well.⁴ I think that this vagueness is part and parcel of what Aristotle wants to say. However sophisticated and developed one’s cognitive grasp of a given capacity and *energeia*, one’s grasp of the capacity depends on one’s grasp of the *energeia*, but not vice versa.

13.1.2 Argument

Thus we ought to understand Aristotle’s argument for the priority in account of *energeia* in cognitive rather than linguistic terms. The argument that *energeia* has priority in account has two parts. Aristotle first, in (1), offers a general pattern for the accounts of capacities. This pattern is intended to show that the account of a capacity mentions the *energeia* that it is a capacity for. Second, Aristotle gives examples of accounts of capacities to support his

² The same claim about the relationship between capacities and their exercise is made in the *de Anima*. Before considering what is able to think or perceive, we have to consider thinking and perceiving (II.4 415a16–18). Aristotle explains this strategy by saying, “for *energeiai* and actions are prior in account to capacities” (415a18–20; πρότεροι γὰρ εἰσι τῶν δυνάμεων αἱ ἐνέργειαι καὶ αἱ πράξεις κατὰ τὸν λόγον.)

³ See *Theaetetus* 144c3–5: “THEODORUS: ἀλλὰ σκόπει εἰ γινώσκει αὐτόν. SOCRATES: Γινώσκω· ὁ τοῦ Σουινῶς Εὐφρονίου ἐστίν.”

⁴ See, for instance, the opening lines of *de Anima*, where the knowledge (*gnōsis*) of the soul is said to be something very important (*megala*) for truth as a whole (I.1 402a4–6). In the *de Anima*, Aristotle is surely concerned to develop, or at least to approach, a strictly scientific understanding of the soul.

claim that his formula is indeed correct for all capacities. And he thereby concludes, that all capacities are posterior in account to the corresponding *energeiai*:

[*Energeia*] is clearly prior in account. (1) For what is, in the primary sense, able is able by its being open for it to be active. (2) I mean, for instance, what is able to build a house is a house-builder, and what [is able] to see is a seer, and what is able to be seen is visible. And the same account applies in the other cases, too. (3) And hence it is necessary for the account of the one to be there before the account of the other, and the knowledge of the one before the knowledge of the other. (Theta 8 1049b12–17)⁵

The pattern for accounts of capacities is not linguistic but cognitive: “what is, in the primary sense, able is able by its being open for it to be active.” Thus to grasp the concept of something’s being able to φ requires antecedent grasp of the concept of φ -ing. For instance, grasping the concept of something’s being able to fly presupposes that one has grasped the concept of flying. Aristotle himself gives as examples what can build a house, what can see, and what can be seen. In each case, it is clear that, in order to grasp the capacity-concept, we have to grasp the corresponding *energeia*-concept.

Aristotle formulates his argument here in terms of things that are able (to *prōtōs dunaton*), rather than in terms of capacities (*dunameis*). But he is surely relying, again, on the equivalence of being able and having a capacity. I think that this is why he speaks of “what is, in the primary sense, able.” Someone who is ready to learn housebuilding is in capacity a housebuilder, but is not in the relevant sense able to build a house. This person is able to learn to build a house. Understanding this person’s capacity requires understanding not one but two *energeiai*: learning and housebuilding.

Aristotle’s view about capacities seems to me to be correct. I cannot find anything further to say in its favor. But I cannot see how anyone could grasp the concept of a certain capacity without knowing what it is a capacity for.

⁵ τῷ λόγῳ μὲν οὖν ὅτι προτέρα, δῆλον· (1) τῷ γὰρ ἐνδέχεσθαι ἐνεργῆσαι δυνατόν ἐστι τὸ πρῶτως δυνατόν, (2) οἷον λέγω οἰκοδομικὸν τὸ δυνάμενον οἰκοδομεῖν, καὶ ὁρατικὸν τὸ ὁρᾶν, καὶ ὁρατὸν τὸ δυνατόν ὁρᾶσθαι· ὁ δ’ αὐτὸς λόγος καὶ ἐπὶ τῶν ἄλλων, (3) ὥστ’ ἀνάγκη τὸν λόγον προϋπάρχειν καὶ τὴν γνῶσιν τῆς γνῶσεως. Punctuation modified. The usage of ἐνδέχεσθαι in (1) is interesting and peculiar. Usually, ἐνδέχεσθαι means ‘possible’ in a broad sense, such that it would be possible for something, that does not have the capacity to φ , to φ —namely, by acquiring the capacity to φ and then going on to exercise it. But that does not seem to be a possible translation here, since we are specifically speaking about the relationship between capacities and their exercise. The translation that I give is squarely within the normal range of meaning of ἐνδέχεσθαι. Moreover, one can see why Aristotle would use ἐνδέχεσθαι rather than δύνασθαι. He is trying to explain τὸ δυνατόν, and he does not want to explain τὸ δυνατόν in terms of δύνασθαι.

13.2 TIME AND GENESIS

13.2.1 Definition

Aristotle emphasizes from the very beginning that *energeia* has priority in time only “in a way,” and that *energeia* is also in a way *not* prior in time (1049b11–12). As we will see, Aristotle’s argument for priority in time makes clear how its priority is to be qualified. It also makes clear why he would think that, although *energeia* has only a qualified priority in time, its priority is more important than its posteriority.

I have already pointed out that Aristotle concludes his discussion of ‘priority in account’ by calling it ‘priority in account and knowledge.’ The addition, ‘and knowledge,’ clarifies and specifies what is meant by ‘priority in account.’ Here, again, there are two terms for the priority in question: it is priority in time and genesis. And here, again, the second term clarifies and specifies what is meant by the first.

In this case, an alternative conception of priority in time could easily lead to a gross misunderstanding. On the alternative conception, priority in time is merely being earlier. Aristotle himself defines priority in time in this way in *Metaphysics* Delta 11. Julius Caesar is prior in time to Winston Churchill; what happens tomorrow is prior in time to what happens the day after. For the past, being prior is being farther from now; for the future, being prior is being closer to now.⁶

But such priority in time is not called priority in time *and* *genesis*, nor would this be a natural term for it. And *energeia* obviously fails to have priority in time in this sense. The agent responsible for a change, which has being in *energeia*, need not exist before the relevant being-in-capacity. It might well happen that a statue-in-capacity (a block of marble, say) lies unnoticed for five thousand years before being discovered by a sculptor who makes it into a statue.

The argument of Theta 8 presupposes a different sense of priority in time. Priority in time, as discussed in Δ.11, is relative to the now. The sort of temporal priority discussed in Theta 8 is not relative to any point in time. Such priority pertains to capacities and *energeiai* in the context of some standard process of genesis. It thus presupposes that there are such standard processes. This assumption already played a role in Theta 7, on my reading.⁷

Thus the conception of priority in time is this:

PRIORITY IN TIME: if *x* and *y* are both items (or stages) in some process of change, then *x* is prior to *y* in time if and only if *x* precedes *y* in this process.

⁶ Δ.11 1018b14–21. Cf. *Physics* IV.14 223a4 ff.

⁷ See §11.1.2 on page 234.

Aristotle does not intend to compare things in distinct processes of genesis. Julius Caesar is not, in this sense, prior in time to Winston Churchill. A puppy's capacity to develop into a dog is neither prior nor posterior to a cat's active living of its feline life. Plato's daughter's capacity to develop into a rational adult is neither prior nor posterior to Aristotle's mature *energeia* of rational contemplation.

So Aristotle's claim that *energeia* is prior in time and genesis to capacity amounts to this: for every *F* such that things become *F*, being *F* in *energeia* is temporally prior to being *F* in capacity. But this does not mean that each thing that is in capacity *F* was *itself* previously *F* in *energeia*, but rather that some case of being in *energeia* *F* precedes the being in capacity. For instance, Plato's own mature *energeia* of rational contemplation is prior to his daughter's capacity to develop into a rational adult, even though Aristotle's *energeia* of rational contemplation is not. A full-fledged adult human being, who is in *energeia*, precedes the human being in capacity.

13.2.2 Argument

Aristotle begins his argument for priority in time with a list of examples. In each case, a certain thing-in-*energeia* was, at an earlier stage of its own development, merely in capacity. But that thing in capacity was, in turn, preceded by a distinct item that was in *energeia*. For instance, an adult human being was previously—say, at some stage of its foetal development—merely a human being in capacity. But this foetal human being was generated by an adult human being—by something that was a human being in *energeia*. In each case, what is in *energeia* has priority. Following the examples, Aristotle states a general principle, drawn from an earlier discussion of change in Z.7–9, which governs the structure of changes. This principle yields a general argument that the pattern found in the examples is to be found in all cases.

(1) In time, *energeia* is prior in the following way: something active [*energoun*], the same in form but not in number, is prior. (2) I am saying that, prior in time to what already is a human being in *energeia*, and to grain, and to what sees, is the matter and the seed and what can see, which are in capacity a human being and grain and something seeing, but not yet in *energeia*. But, prior in time to these things, were other things, which were in *energeia* a human being or grain or what sees, from which these things came into being. (3) For, in every case, what is in *energeia* is generated from what is in capacity by what is in *energeia*—for instance, a human being by a human being, someone cultured by someone cultured, some first thing imparting motion in each case. (4) And what imparts motion already is in *energeia*. (5) It has already been said, in the discussion of substance, that everything that comes into being

becomes something from something and because of something, and this is the same in form. (Theta 8 1049b17–29)⁸

The examples in (2) are all supposed to provide evidence that being-in-*energeia* is prior in time and genesis. An adult human being in *energeia* came from a human being in capacity, which was produced by a human being in *energeia*. Likewise, ripe grain came from unripe grain, which was produced by ripe grain. In each case, it is the thing that *has* being in *energeia* that initiates the process. In cases of animal and plant reproduction, the being in *energeia* produces the being in capacity, which then, if all goes well, develops into another being in *energeia*. In cases of artistic generation, the being in *energeia* does not itself produce the being in capacity, but rather acts on the being in capacity to produce another being in *energeia*: the housebuilder does not produce the house in capacity (the heap of wood and bricks), but rather acts on the house in capacity so as to make it one in *energeia*.

It is, in the first instance, the *thing*—the human being, the grain—that has priority.⁹ But Aristotle is justified in concluding that the *energeia*, which this thing has, has priority, since it is precisely as a being in *energeia*, in virtue of its *energeia*, that the thing in question produces the next generation.

In (3) and (4), Aristotle says in general terms what, in his view, the structure of change is. This general treatment of the structure of change yields a general argument for his claim that being-in-*energeia* has priority in time and genesis. There are three characters in the drama of change: what comes into being (e.g., Socrates' son); what it comes into being *out of* (e.g., the menses); and what brings it into being (e.g., Socrates).

These three characters are familiar to readers of *Metaphysics* Z.7, where Aristotle gave the same *dramatis personae* (1032a13–14). This is the passage he refers to in (5). He now highlights what he there mentioned only in passing: how *energeia* and capacity are connected with each of the three figures in the drama. The thing that comes into being has, at the end of the process, being-in-*energeia*. (There is no mention of this in Z.7–9, perhaps because it is obvious.) That *from* which it comes into being has, at the beginning of

⁸ (1) τῷ δὲ χρόνῳ πρότερον ὧδε· τὸ τῷ εἶδει τὸ αὐτὸ ἐνεργοῦν πρότερον, ἀριθμῷ δ' οὐ. (2) λέγω δὲ τοῦτο ὅτι τοῦδε μὲν τοῦ ἀνθρώπου τοῦ ἤδη ὄντος κατ' ἐνέργειαν καὶ τοῦ σίτου καὶ τοῦ ὀρώντος πρότερον τῷ χρόνῳ ἢ ὕλῃ καὶ τὸ σπέρμα καὶ τὸ ὁρατικόν, ᾧ δυνάμει μὲν ἔστιν ἀνθρώπος καὶ σίτος καὶ ὀρών, ἐνεργείᾳ δ' οὕτως· ἀλλὰ τούτων πρότερα τῷ χρόνῳ ἕτερα ὄντα ἐνεργεῖα ἐξ ὧν ταῦτα ἐγένετο· (3) αἰεὶ γὰρ ἐκ τοῦ δυνάμει ὄντος γίγνεται τὸ ἐνεργεῖα δὴ ὑπὸ ἐνεργείᾳ ὄντος, οἷον ἀνθρώπος ἐξ ἀνθρώπου, μουσικὸς ὑπὸ μουσικοῦ, αἰεὶ κινουντός τινος πρώτου· (4) τὸ δὲ κινεῖν ἐνεργεῖα ἤδη ἔστιν. (5) εἴρηται δὲ ἐν τοῖς περὶ τῆς οὐσίας λόγοις ὅτι πᾶν τὸ γιγνώμενον γίγνεται ἐκ τινος τι καὶ ὑπὸ τινος, καὶ τοῦτο τῷ εἶδει τὸ αὐτό.

⁹ Cf. ἐνεργοῦν in (1).

the process, being-in-capacity.¹⁰ And what *makes* it come into being also has being-in-*energeia*. As Aristotle says in (4), “what imparts motion already is in *energeia*.”¹¹ For the argument here in Theta 8, this is the most important claim. It shows that being-in-*energeia* has priority in time and genesis.

The mover’s being-in-*energeia* has priority in virtue of the fact that *the mover* is what initiates and governs the process of coming into being. The point is not merely that no process of change takes place without an agent that has being-in-*energeia*. After all, no process of change takes place without some matter that has being-in-capacity. Aristotle himself recognizes this point in *Physics* VIII.1, where he says, “So there must be something burnable before there is being burned and something able to burn things before there is burning” (251a15–16). The active power and the passive power are equally necessary for the change. Likewise, the being-in-*energeia* and the being-in-capacity are equally necessary for the change. This is why Aristotle thinks that active being has priority in time and genesis *only* “in a way.”

Nevertheless, Aristotle thinks that the agent has a kind of priority over the patient. The agent determines which change occurs and what its end is. It, and not the patient, brings about the change. In Theta 1, Aristotle made a similar claim about active and passive powers. The various kinds of capacity involved in change are unified with reference to a primary case: the power to bring about change in another thing.¹² Thus the *active* powers have priority over the passive powers. Aristotle acknowledged that one might well think these powers are, rather, on a par, when he said that there is some sense in which one might think they are the same.¹³ While he did allow for them being “in a way” the same, he also insisted emphatically that they are different. The agent’s power, when exercised, determines which of the various possible changes takes place in the patient. The power is for the sake of some definite end, such as the production of a house or of health, and it determines what the end of the change in question is.

As with the capacities, so with their exercise. It is the *energeia* of the being-in-*energeia*, not the capacity of the being in capacity, that determines what change takes place and what end it is directed towards. The being in *energeia* has priority in time and genesis, in the sense that it is its *energeia* that initiates the change in question. The capacity of the being in capacity may already be around, but this does not initiate the change. The production of the house starts when the builder starts to build it, not when the wood lies in a heap on the ground.

This proposal is in the same spirit as the discussion in Z.7–9, and alluded to in (5). In Z.7–9, Aristotle presents a theory of change on which change is

¹⁰ Cf. Z.9, 1034a33–b4.

¹¹ Cf. Z.9, 1034b16–19. There, the word used is *entelecheia*, not *energeia*.

¹² See Theta 1 1046a4–19, especially 9–13.

¹³ See Theta 1 1046a19–29.

an imposition of form. In each case, there is a form in the agent, which the agent imposes on the patient. As in Theta 8, this works most naturally for natural changes: a human being, for instance, has the form of human being and it thereby produces a human being. In that context, as in Theta 8, artistic production presents a problem. The housebuilder who builds a house is not himself a house. When then does it mean for the form to be in him?

Aristotle explains how artistic production can be understood, like natural production, as a transfer of form. The housebuilder is not himself a house, but has the form of house in his soul. (In the first instance, this is just a way of saying that the housebuilder understands, in the appropriate way, what a house is.) The crucial addition made here in Theta 8 is that what has the form is, precisely in virtue of possessing that form, *active* (*energoun*), and that it is precisely in virtue of being active in that way that it acts as the moving cause.

Thus Aristotle here offers an excellent argument, on the basis of a compelling general theory of causation, for the claim that *energeia* has priority in time and genesis. 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 thus it is the *energeia*, not the capacity, that has priority in the change.

Think of moments of *energeia* as peaks. Think of moments of (bare) capacity as troughs. It is very tempting to think of the changes in the world as the paradigmatic instances of *energeia*, and the stable periods in between as phases of capacity. This seems to have been the Giants' conception of change, and the Eleatic Visitor's, too. This idea is also compatible with Aristotle's argument for the priority of *energeia* in time and genesis.

But now Aristotle goes on, after a brief excursus, to invert this picture in his discussion of priority in being. The changes in the world are not peaks of *energeia* between troughs of mere capacity. The changes are not themselves peaks of activity, but rather transitions from peak to peak, from stable *energeia* to stable *energeia*. Aristotle will elaborate this idea further in connection with priority in being.

13.3 BEING (AND FORM)

13.3.1 Definition

Priority in being is much harder to understand than priority in account and priority in time, requiring substantially more preliminary work to clarify. I will argue that two distinct but related criteria for priority in being are used in Theta 8. One is used to compare the class of eternal things with the

class of perishable things, and one is used to compare perishable things with perishable things. The former comparison relies on a criterion for priority in being that Aristotle states explicitly in several passages. But this criterion is not applicable to perishable things among themselves, so we will have to work out for ourselves what he means by priority in being for perishable things.

Eternal things

The apparently standard criterion for priority in being is non-reciprocal entailment of being. Aristotle gives this criterion at various places in his writings, and at one point attributes it to Plato:¹⁴

PLATO'S CRITERION: x is prior to y in being if and only if, if x were not, y would not be, but not *vice versa*.

This criterion is formulated for comparisons between two distinct objects, such as God and a rainbow, or Socrates and Socrates' left hand. The criterion says whether one of the objects is ontologically dependent on the other. This strongly suggests that priority in being is, broadly, ontological dependence. The rainbow depends on God (because everything does), and thus is posterior in being to God. Socrates' left hand depends on Socrates (because Socrates' left hand stops being a hand if Socrates ceases to be, but Socrates does not cease to be if his hand does), and thus is posterior in being to Socrates.¹⁵

Later in Theta 8, Aristotle compares eternal things and perishable things as to priority in being. This criterion is suitable for such a comparison. Rather than consider the eternal things and the perishable things severally, he considers them as groups. The eternal things have priority if the following holds:

If the eternal things were not, then the perishable things would not be, but not *vice versa*.

¹⁴ See Δ .11 (1019a1–4), M.2 (1076a36–b4), and *Categories* 12 (14a29–35). The attribution to Plato is in the passage in Δ . The same idea stands behind the conclusion that genera are principles in K.1 (1059b38–1060a1), and it may be what Aristotle has in mind in the opening lines of Λ .1 (1069a18–21). It also occurs in *Categories* 5 (2b5–6), in connection with the concept of substance.

¹⁵ I am assuming that it would be a mistake to interpret PLATO'S CRITERION either in terms of predication or in terms of existence. Following Lesley Brown [24], I think that we have here complete uses of the verb 'to be' that admit of further completion. I interpret the negatives to be saying that neither x nor y is anything at all, i.e., for no predicate z is it the case that x is z or y is z . I assume that this either means or entails that x and y do not exist, but I confess that I am not as clear about the relationship between existence and *einai* as I would like to be. Aristotle's remarks later in the chapter show that we have to take this criterion as involving non-existence (even if we do not think that *einai* here means 'to exist'). I am referring to 1050b19, where Aristotle is clearly speaking about a scenario in which nothing whatsoever exists. See my discussion in §13.3.2 below.

Aristotle is obviously thinking in precisely these terms. For instance, he explains the priority of eternal things as follows: “these [eternal] things are primary, for if they were not nothing would be” (1050b19).

This leaves open the following crucial question: how does the priority of eternal things show the priority of *energeia*? This is the very question Aristotle’s argument is supposed to answer. He presupposes that eternal things have priority in being over perishable things, and then argues, on that basis, for the priority of *energeia*. Roughly, the idea is that the priority of the eternal things consists precisely in their special mode of being-in-*energeia*, one for which there is no corresponding capacity. I will explain this in detail below.¹⁶ But it is already clear that, for the priority of eternal things, PLATO’S CRITERION specifies what priority in being amounts to.

Perishable things

Aristotle not only maintains that the pure *energeiai* of eternal things are prior to perishable things. He also maintains that the *energeiai* of perishable things have priority over their capacities. One would expect that PLATO’S CRITERION applies here, too.

Unfortunately, the application of PLATO’S CRITERION to the case of perishable things does not yield the conclusion that Aristotle himself reaches. Worse, it yields precisely the contradiction of that conclusion. According to PLATO’S CRITERION, capacities, and not *energeiai*, turn out to be prior in being. Moreover, Aristotle himself realized this. He himself considers the application of PLATO’S CRITERION to capacities and their activities, and argues that PLATO’S CRITERION would entail that capacities have priority.

This argument is given in *Metaphysics* Lambda 6, where Aristotle turns to the question of how to understand the ultimate principles of everything.¹⁷ He there explains why it seems that capacities have priority over *energeiai*:

Yet there is a difficulty [concerning the claim that there are things whose very being (*ousia*) is *energeia*]. For it seems that (1) everything that acts is able to act, but that (2) not everything that is able to act acts, so that (3) capacity is prior [to *energeia*]. But if this is so, (4) none of the beings will be. For (5) it is possible for something to be capable of being but not yet to be. (Λ.6 1071b22–6)¹⁸

¹⁶ See §13.3.2 below.

¹⁷ My discussion of the passage is indebted to Stephen Menn.

¹⁸ καίτοι ἀπορία· δοκεῖ γάρ (1) τὸ μὲν ἐνεργοῦν πᾶν δύνασθαι (2) τὸ δὲ δυνάμενον οὐ πᾶν ἐνεργεῖν, ὥστε (3) πρότερον εἶναι τὴν δύναμιν. ἀλλὰ μὴν εἰ τοῦτο, (4) οὐθὲν ἔσται τῶν ὄντων· (5) ἐνδέχεται γάρ δύνασθαι μὲν εἶναι μήπω δ’ εἶναι. Modified Ross translation.

This argument is an application of PLATO'S CRITERION to the case of capacities and their exercise. Aristotle begins with the generally accepted assumption that everything that acts is able to act (1).

PREMISE: Necessarily, if x φ -s, then x is able to φ .

On the other hand, it is *not* the case that, if x is able to φ , then x φ -s. For instance, it is possible for someone to be able to build a house and yet not to engage in building a house. Aristotle argued for precisely this claim in Theta 3, where he rebutted Megaricism.

One can restate these claims as follows: for any thing that φ -s, if that thing's capacity for φ -ing were not, then that thing's φ -ing would not be, but not vice versa. But then, according to PLATO'S CRITERION, the thing's capacity is prior in being to the thing's *energeia*. Moreover, it follows that, if there were no capacities, then there would be no *energeiai*, but there could be capacities without there being any *energeiai*. Thus, by a further application of PLATO'S CRITERION, capacity (in general) is prior to *energeia* (in general).

This is the conclusion that Aristotle reaches in sentence (3) of the passage just quoted. But he does not advance this conclusion in his own name. The argument for it rests on something that merely *seems* to be the case (1). This leaves it open that he will deny the PREMISE that what φ -s has the capacity to φ . As we will see below, this is precisely what Aristotle does in Theta 8. In Λ .6, he relies on his treatment from Theta 8 when he says:

To suppose capacity prior to *energeia*, then, is in a way right, and in a way not; and we have said how. (Λ .6 1072a3–4)¹⁹

In Theta 8, Aristotle denies the PREMISE. Eternal things engage in activities *without exercising a capacity*. In Theta 8, the emphasis is on the heavenly bodies, but of course the conclusions there will apply to the unmoved movers as well. One of the main points of Theta 8 is to prepare for the solution to this problem in Lambda 6.

We, however, continue to face a problem of interpretation. Let us accept for the moment that Aristotle rejects the inference from (say) 'God thinks' to 'God has the capacity to think.' But Aristotle accepts the inference from 'Socrates thinks' to 'Socrates has the capacity to think.' That is, Aristotle accepts the PREMISE in a form restricted to perishable things. Eternal *energeiai*

¹⁹ τὸ μὲν δὴ δύνασθαι οἶσθαι ἐνεργείας πρότερον ἔστι μὲν ὡς καλῶς ἔστι δ' ὡς οὐ (εἴρηται δὲ πῶς). Ross follows Bonitz in claiming that the reference is not to Θ , but to the passage quoted just above, 1071b22–6 (see Ross's commentary, *ad loc.*). Ross gives some philological evidence, which I consider relevant but not decisive. And his evidence is outweighed by the fact that Aristotle himself characterizes the argument at 1071b22–6 as the presentation of a *problem* that needs solving. This problem is solved by understanding properly in what way capacity is and is not prior to *energeia*. But Aristotle explains this in Theta 8, not anywhere in Λ , and hence the reference cannot be to 1071b22–6, and is almost certainly to Theta 8. (Dancy agrees [34, p. 81].)

are not the exercise of capacities, but non-eternal *energeiai* are exercises of capacities. Thus the argument from Lambda 6 just sketched for the priority of capacities applies to perishable things. Yet Aristotle clearly and emphatically asserts in Theta 8 that *energeia* has priority in being among the perishable things themselves. This is a decisive reason to think that Aristotle is applying some other criterion for priority in being, when he discusses perishable things in Theta 8.

This is not explicit. When Aristotle discusses perishable things in Theta 8, he simply ignores PLATO'S CRITERION. However, the distinction between the two criteria is subtly but definitely marked in the text, in three ways.

First, discussing perishable things, Aristotle characterizes the priority of *energeia* as priority in being *and form*. Discussing eternal things, by contrast, he speaks of the priority of *energeia* in being only, not in form. We saw that priority in account and priority in time were further explained as priority in account *and knowledge* and as priority in time *and genesis*. In each case, the additional term gave further explanation of what the priority in question amounted to. We expect the same pattern here. Priority in being *and form* should be recognizable as priority in being, but it should also be contrasted with some other way of understanding priority in being, as we saw was the case with priority in account and priority in time. The other way is specified by PLATO'S CRITERION. We will return in a moment to the question of how to distinguish priority in being *and form* from simple priority in being, but it is at least clear that there ought to be some difference.

Second, when Aristotle turns to eternal beings, he signals that he is going to use a different criterion for priority in being: "But, in addition, [*energeia* is prior in being to capacity] in a stricter sense [than that discussed for perishable things]" (1050b6; *alla mēn kai kuriōterōs*). This stricter sense clearly corresponds to PLATO'S CRITERION.

Third, the different structures of the two arguments demand different criteria for priority in being. The discussion of eternal things concerns the priority of some things over some other things. Two non-overlapping groups of things are compared. For perishable things, however, Aristotle compares the *energeiai* and capacities of the very same perishable individuals. For instance, he compares a boy's manhood with his subsequent manhood in *energeia*. A single human being is compared with himself, at two different stages of his development. This seems to call for two different conceptions of priority in being.²⁰

²⁰ A similar view is also defended by Panayides [70]. He does not consider that ontological priority might be more broadly construed than Plato's criterion. Partly this reason, he ends up concluding that "Aristotle makes a very loose use of the expression 'priority in substance' " [70, page 342]. I prefer to identify priority in being with ontological priority

A passage from *Physics* VIII.7 confirms that PLATO'S CRITERION is distinct from priority in being (*ousia*). Aristotle there distinguishes a nameless sense of priority, specified by PLATO'S CRITERION, from priority in being (*ousia*; 260b17–19).²¹

The problem is to find another criterion, and Aristotle offers us no guidance here and little guidance elsewhere about how we might do so.²²

The most helpful passage for solving this problem is in *Categories* 12, where Aristotle discusses the senses of 'prior.' There it becomes clear that priority in being is ontological dependence, broadly construed. Aristotle first announces that there are four senses of priority. He does not label the senses of the priority, as he does in Delta 7 and Theta 8 (priority *in* this or that). But Aristotle gives PLATO'S CRITERION as the definition of one of the four. From this, I infer that he is speaking about priority in the very sense that he will, in later writings, call priority in being or priority in nature.

Aristotle then unexpectedly introduces a fifth sense of priority, not previously announced. He does so by observing that we think there is priority in being where, by PLATO'S CRITERION, there is not. Since Aristotle applies PLATO'S CRITERION, he must be speaking about priority in being—but about a case of priority in being that is not correctly decided by PLATO'S CRITERION. He considers the relationship between the fact that there is a human being and the truth of the sentence, "There is a human being." The being of the human being and the truth of the sentence are reciprocally entailing: the one has being if and only if the other does. So, by PLATO'S CRITERION, it would seem that neither is prior. Yet, intuitively, it seems that the human being, not the truth of the sentence, has priority. Aristotle offers an account of why this should be so:

broadly construed, which can then be specified in different ways depending on context. Dancy cautiously notes the problems about Aristotle's label 'priority in substance' [34, pages 88–9] and about the problems in interpreting the argument in terms of PLATO'S CRITERION [34, p. 91, 97]. I cannot tell whether he thinks 'priority in substance' is or is not used univocally in Theta 8.

²¹ There is something odd about this, since both in Delta 12 and in Theta 8 he clearly does think of PLATO'S CRITERION as a criterion for priority in being and nature. This might cause confusion, but it merely shows that Aristotle has a shortage of satisfactory labels. See also *Physics* VIII.9 265a22–5. See below for further remarks on *Physics* VIII.

²² An alternative strategy is adopted by Charlotte Witt in [85]. She attributes to Aristotle the view that the universal, being *F*, exists only when something or other is *F*. And she concludes that nothing can be *F* in capacity unless something is actually *F*. I have two reasons for not adopting this strategy. First, it attributes to Aristotle an extremely strong principle about universals on the basis of rather thin evidence. Second, and more importantly, I do not see how this view can give a satisfactory account of the argument Aristotle gives for his view. That argument hinges on the teleological relation of capacities and *energeiai*, which has nothing to do with the existence-conditions for universals.

The true sentence is in no way a cause of the thing's being, whereas the thing does appear, in a way, to be the cause of the sentence's being true. For by the thing's being or not, the sentence is said to be true or false. (14b18–22)²³

The thing has priority in being over the sentence because it is the cause of the sentence's being true and not vice versa. Those things have priority in being on which the other things depend.²⁴

PLATO'S CRITERION covers the most dramatic cases of priority in being, such as the priority of God and the heavenly bodies over perishable things. In those cases, the priority is so strong that one thing can have being without the other thing's having being. But the point of PLATO'S CRITERION is to articulate a certain kind of ontological dependence. *Categories* 12 shows that if PLATO'S CRITERION fails to vindicate our strongly held assumptions about ontological dependence, so much the worse for PLATO'S CRITERION. Aristotle expresses this broad construal of priority in being by saying, "Prior in being is that which, being separate, exceeds in being" (*Metaphysics* M.2 1077b2–3).²⁵ This vague but appealing intuition gets spelled out in different ways in different contexts by filling in what it means to exceed in being. PLATO'S CRITERION is one way to do that.

Thus, I approach Theta 8 on the assumption that priority in being is ontological dependence broadly construed, and that PLATO'S CRITERION may well fail to capture the relevant sort of ontological dependence. Within Theta 8, Aristotle's argument is the best clue to what Aristotle means by priority in being for perishable things. As he begins to discuss the priority of *energeia* among perishable things, the first assumption he states is this:

What is posterior in genesis is prior in form and being (for instance, a man to a boy or a human being to a seed, for the one already has the form and the other does not).

(Theta 8 1050a4–6)²⁶

Aristotle here employs the notion of priority and posteriority in genesis, which was also, I argued, present in the discussion of *when* things have being in capacity. This same concept of priority in genesis also occurs in the previous argument, for the conclusion that *energeia* has priority in time *and* genesis.

This argument introduces a new premise about the by-now familiar concept of priority in genesis: what is posterior in genesis is prior in being. Below I

²³ ἔστι δὲ ὁ μὲν ἀληθοῦς λόγος οὐδαμῶς αἴτιος τοῦ εἶναι τὸ πρᾶγμα, τὸ μέντοι πρᾶγμα φαίνεται πως αἴτιον τοῦ εἶναι ἀληθῆ τὸν λόγον· τῷ γὰρ εἶναι τὸ πρᾶγμα ἢ μὴ ἀληθοῦς ὁ λόγος ἢ ψευδὴς λέγεται.

²⁴ In the very next chapter, on what it is to be simultaneous (*hama*), Aristotle says more than once that if *X* is the cause of *Y* but not vice versa, then they cannot be simultaneous, since a priority-relation must obtain between them (14b27–9, 15a7–10).

²⁵ τῇ μὲν γὰρ οὐσίᾳ πρότερα ὅσα χωριζόμενα τῷ εἶναι ὑπερβάλλει.

²⁶ τὰ τῇ γενέσει ὕστερα τῷ εἶδει καὶ τῇ οὐσίᾳ πρότερα (οἶον ἀνὴρ παιδὸς καὶ ἄνθρωπος σπέρματος· τὸ μὲν γὰρ ἦδη ἔχει τὸ εἶδος τὸ δ' οὐ).

will discuss what this assumption amounts to, and whether it is reasonable. For now, I concentrate on what it reveals about the relevant concept of priority in being. It reveals, first, that he is here considering only things that come into being (and pass away).

Moreover, priority is here, as in the argument for temporal priority, relative to some temporally extended process of change. The sequence of stages of the change is ordered according to priority in being, so that stages that are prior in being occur later in the change. Part of the idea is that each change is directed towards some final state, in which something *is* something: the matter *is* a human being; the human being *is* wise. These are states of *being*. Becomings unfold into beings.

Priority in being is relative to this final state. There is an ordering relation among the stages that lead up to the final state. What is closer to that state has priority in being. In each of Aristotle's examples, there is something (boy, seed) that does not have a certain form (man, human being), but is supposed to acquire that form. The boy and the seed are both clearly prior in genesis to the man and the human being. The boy comes into being as an intermediate stage in the genesis of a man. The seed comes into being as the initial stage in the genesis of a human being. The man is the fully developed boy: once the boy has grown into a man, he has (fully) the human form that he was supposed to acquire. Likewise, the human being is the fully developed seed: once the seed has become a human being, it has acquired the form that it was supposed to acquire. And it is very natural to think that, with respect to any given form, there is nothing prior in form to the actual and complete possession of that form.

Thus, there is a sequence of stages that can be considered in terms of the two relations, priority in genesis and priority in being. These will order the sequence in reverse. It would seem that *x* is prior in being to *y* if and only if *y* is prior in genesis to *x*. And the form is thus both an end (in the order induced by the priority-in-genesis relation) and a beginning (in the order induced by the priority-in-being relation). Aristotle calls the form in question both an end and a beginning (1050a7–9). This is not merely a playful pun, but a serious point about how a certain sequence of stages can be ordered either one way or another.

The same wordplay occurs in a passage *Physics* VIII already cited above. There, priority in being (by contrast with PLATO'S CRITERION) is connected with the very principle we find in Theta 8:

In general, what is coming into being turns out to be incomplete and proceeding towards a principle. And so what is posterior in genesis is prior in nature.

(261a13–14)²⁷

²⁷ ὅλως τε φαίνεται τὸ γιγνόμενον ἀτελὲς καὶ ἐπ' ἀρχὴν ἰόν, ὥστε τὸ τῇ γενέσει ὕστερον τῇ φύσει πρότερον εἶναι.

This passage shows that priority in being cannot simply be defined as posteriority in genesis. It is a substantive conclusion that they are connected in this way.²⁸ I will have much more to say below about this. For now, it is important to add that the idea occurs in numerous passages, signaling how important this commitment is.²⁹

Thus priority in being is relative to the form that is the end of the relevant change. Of course, some changes are interrupted and never achieve their end. But this presents no problem, because the changes are, for Aristotle, intrinsically directed towards certain results, whether or not those results are achieved.

A boy and a man are comparable because they are stages in the acquisition of the same form.³⁰ Thus, some things are not comparable with respect to priority in genesis. The sun, which, according to Aristotle, never came into being, presumably is not prior or posterior in genesis to anything. A drop of wine is neither prior nor posterior in form to a human being, because it is neither prior nor posterior in genesis to a human being.

A trickier question is whether, say, earth has priority in genesis over a human being. But it seems to be fairly clear that it does not. We learned in Theta 7 that earth is not a human being in capacity, because it has to be changed before the process of imposing the human form on 'it' can begin. This suggests that earth, like a drop of wine, simply stands outside the normal process by which a human being is generated from something that is in capacity a human being.

PLATO'S CRITERION, by contrast, appears to have unrestricted application. Applied to a human being and a drop of wine, it yields the result that they are on an ontological par; neither is prior. By contrast, for our alternative criterion, there is no ordering relation, not even being on a par, between a human being and a drop of wine.

Aristotle does not make any statement about the relationship between a boy and a seed, but the juxtaposed examples invite us to consider their relationship. At least one thing is clear: the seed is prior in genesis to the boy, and hence the boy is prior in form and being to the seed. The boy does not have (fully) the form that he is supposed to have, but he is closer to having that form than the seed is.

²⁸ This is also clear from a parallel argument in the *Parts of Animals* (see next note).

²⁹ *Parts of Animals* II.1 646a24–b2, *Generation of Animals* II.6 724a19–22; *Rhetoric* II.19 (1392a19–22). He also mentions the idea in a way that suggest his commitment to it at *Metaphysics* A.8 989a15–18 and M.2 1077a18–20.

³⁰ The example also occurs in the passage from the *Rhetoric* cited in the last note. I assume that sameness of kind is sufficient. That is, one can compare not only one individual at different stages of its development, but also two individuals at different stages, so long as one compares them with respect to the same form. If one believes in particular forms, then the relevant form will not be numerically one, but it will be specifically one.

The boy is closer to having the form in two distinct senses. First, in the sequence of stages leading up to full manhood, the boy is later than the seed. This is what it means that the boy is posterior in genesis. Second, the boy fulfills more of the norms of the human form than the seed. The boy, for instance, can walk and talk. Of course, the boy lacks a crucial capacity of adult human beings: he cannot reproduce. But the boy is, nonetheless, clearly closer than the seed to fulfilling the norms of the human form.

These two things are to be distinguished, but they are not independent of one another. They necessarily come together, on the assumption Aristotle makes here: what is posterior in genesis is prior in being. The structure of the change is for the sake of the end of the change, i.e., the change is structured as it is in order to fulfill the relevant norms. Each of the parts is for the sake of the end.

This should suffice to give the reader an initial grasp of the priority-in-being relation and its logic. In what follows, I will further clarify the nature of this relation. There is, however, another question one might want to raise: in what sense is this a notion of priority in *being*? Doesn't the relevant concept collapse into being merely the notion of fulfilling some set of norms to a greater or lesser degree?

Aristotle never addresses this question directly, but I think his idea must be this. There is priority in being because, say, a boy is directed towards becoming and then *being* different from the way he now is, whereas a full-grown flourishing man is not. The boy is directed towards becoming a man. The man is simply supposed to go on being himself. For this reason, there is a non-reciprocal dependence among their essences (*ousiai*). What it is to be a boy depends on what it is to be a man, but not vice versa. If there were no such thing as what it is to be a man, there would be no such thing as what it is to be a boy, but not vice versa. This does not quite fulfill PLATO'S CRITERION, but it is sufficiently similar in spirit that one can see why it, too, should count as priority in being.

One might be tempted to reformulate this idea by saying, 'You can't understand what a boy is without understanding what a man is.' This formulation is suggestive, and perhaps helpful, but it is also somewhat misleading. The claim is not about cognition. Aristotle has already argued that *energeia* has cognitive priority: he called this priority in account and knowledge. The claim here concerns priority in being. It is, I think, perfectly true that you cannot understand what a boy is without understanding what a man is. But one has to distinguish this truth from the ontological priority of *energeia*.

Another tempting reformulation is this: 'There is an asymmetrical *causal* relationship between boys and men. The man is a final cause for the boy, but not vice versa.' But Aristotle is not simply reiterating the claim that boys are for the sake of an end that men have already achieved. That idea is already

captured by the saying that men are posterior in genesis to boys. Aristotle articulates a general connection between the relation of priority in generation and the relation of priority in being. He seems to think that the relations of priority in generation are as they are *because of* the relations of priority in being. The boy is in capacity a man. The being-in-*energeia* of a man is part of the essence of the boy's capacity; what it is to be a man in *energeia*, partially constitutes the capacity of the boy. It is because of these priority-in-being relations that the boy comes first in the process of generation and the man comes later. By contrast, the being-in-capacity of the boy is merely a condition for the subsequent man in *energeia*. The being-in-capacity is not constitutive of that man, but merely necessary for it.

In short, 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. This is precisely what Aristotle will argue for.³¹

A more straightforward illustration might help to clarify the claim. Containers are things with the capacity to contain. A container is in capacity (engaged in) containing. What it is to be a container depends on what the *energeia*, containing, is. Thus containing has priority in being over the capacity to contain. Nevertheless, nothing can be contained without a container. The capacity to contain is a necessary condition on anything's being contained.

Thus, on my interpretation, it is perfectly possible for there to be something that is in capacity φ -ing, without there being anything that is engaged in φ -ing.³² I take this to be a strength of my interpretation, because I take this to be an eminently reasonable view. To give an example, consider the discovery of the art of housebuilding. (Aristotle seems to think that the art of housebuilding has been discovered innumerable times, after the periodic catastrophes that cast civilization into ruins.) Some single person might grasp the art of housebuilding, and be the only person in the universe to have it.

³¹ My account of priority in being for perishable things clears up the difficulties that Panayides and Dancy struggle with. Both agree that there are serious difficulties in applying PLATO'S CRITERION to perishable things. Dancy tries to construe the text as an argument that the *energeiai* of perishable things fulfill PLATO'S CRITERION, without satisfactory results, as he concedes [34, p. 97]. Panayides makes no clear statement about what the definition of priority in being in Theta 8 is, but I take it that he simply equates priority in being with posteriority in genesis. That would not be satisfactory. For the connection Aristotle assumes between priority in being and posteriority in genesis is not a definition, but a substantive assumption, as is clear from the arguments Aristotle gives at *Physics* VIII.7 261a13–14 and *Parts of Animals* II.1 646a24–b2.

³² On Witt's view, by contrast, it is impossible (for Aristotle) that there be things that can φ without things that are actually φ -ing.

When he takes a lunch break, there is no housebuilding taking place in the world. But even then, he can build a house, and the *energeia* of housebuilding has priority in being over the art of housebuilding.

Thus it would be grossly misleading simply to apply PLATO'S CRITERION and conclude that capacity has priority over *energeia* for perishable things. This is because the capacities are essentially forward looking. They are directed towards the subsequent activities, whereas the activities are not directed towards capacities. What it is to be φ -ing determines what it is to be able to φ , and not vice versa.

13.3.2 Argument

Perishable things

Aristotle's discussion of the priority of *energeia* for perishable things is fairly long (1050a4–b6), but he states the core of the argument briefly and clearly at the outset (1050a4–16). The remainder of the discussion shows that this opening argument really does cover *all* capacities and *energeiai* of perishable things. Equipped with the right reading of that opening argument, we will be able to read the remainder of the text with little difficulty. For that reason, I first discuss the opening argument in detail, then treat the remainder of the text somewhat cursorily.

I have already quoted the crucial assumption of Aristotle's argument for *energeia*'s priority in being among perishable things. This is the assumption that what is posterior in genesis is prior in being and form. Naturally enough, he further argues that *energeia* is posterior in genesis. Thus the argument is as follows:

PREMISE I: What is posterior in genesis is prior in being.

PREMISE II: *Energeiai* are posterior in genesis.

CONCLUSION: *Energeiai* are prior in being.

The argument is valid: if the premises are true, then the conclusion is also true. Thus the central question we face is whether the premises are true, or at least might reasonably be thought to be true.

Aristotle gives at least some explanation or argument for each of the premises. In the following quotation, he asserts PREMISE I and supports it in (1), then gives a compressed argument for PREMISE II in (2) and (3):

Moreover, [*energeia* is prior] in being as well, (1) first because what is posterior in genesis is prior in form and being (for instance, a man to a boy and a human being to a seed, for the one already has the form and the other does not), and (2) because (a) everything that comes into being proceeds toward a principle and an end (for that for

the sake of which is a principle and coming into being is for the sake of the end), but (b) *energeia* is the end, and the capacity is acquired for its sake.

(Θ.8 1050a4–10)³³

PREMISE I reveals two important things about Aristotle's intention. First, the argument concerns only things that come into being (and therefore also perish). Only to such things does the concept of priority in genesis have application. Second, Aristotle speaks here of priority in being *and form*. As I have already explained, priority in being and form is to be distinguished from unqualified priority in being. Standard priority in being is tested by PLATO'S CRITERION, which can compare distinct objects, as well as objects of different kinds. Priority in being and form is priority with respect to some form or other. It has application where PLATO'S CRITERION did not: it applies to the different stages of development of one thing, such as a single human being. And its application is limited as PLATO'S CRITERION was not: it only applies to things that can be compared with respect to the same form. It does not apply, for instance, to the sun and a badger.

While Aristotle offers no general argument for PREMISE I, he gives two examples. These examples are to explain what he means by it and to persuade us to accept it: "for instance, a man [is prior in being] to a boy and a human being [is prior in being] to a seed, for the one already has the form and the other does not." I have already analyzed these examples at some length, with a view to clarifying priority in being. They also serve to support Aristotle's assumption. When someone says, of a boy, 'He is a man,' this is true, i.e., the boy is in capacity a man. But it is true without qualification of a (well-developed and flourishing) man that he is a man. Thus this is, intuitively, the prior case. This can be filled out in two connected ways, I have already suggested: in terms of how many stages intervene between the given stage and its fully developed and final state, and in terms of how well the given stages fulfill the norms set by the fully developed and final stage.

I have also already claimed that these two things are necessarily connected, because all stages of a change are for the sake of the same end. Aristotle himself makes this point in arguing for PREMISE II, which states that *energeiai* are posterior in genesis.³⁴ This argument begins by noting, "(2) everything

³³ Ἀλλὰ μὴν καὶ οὐσίᾳ γε, (1) πρῶτον μὲν ὅτι τὰ τῇ γενέσει ὕστερα τῷ εἶδει καὶ τῇ οὐσίᾳ πρότερα (οἷον ἀνὴρ παιδὸς καὶ ἄνθρωπος σπέρματος· τὸ μὲν γὰρ ἤδη ἔχει τὸ εἶδος τὸ δ' οὐ), καὶ (2) ὅτι (α) ἀπαν ἐπ' ἀρχὴν βαδίζει τὸ γινόμενον καὶ τέλος (ἀρχὴ γὰρ τὸ οὐ ἔνεκα, τοῦ τέλους δὲ ἔνεκα ἡ γένεσις), (β) τέλος δ' ἡ ἐνέργεια, καὶ τούτου χάριν ἡ δύναμις λαμβάνεται.

³⁴ Pseudo-Alexander takes Aristotle to be giving two independent arguments for *energeia*'s priority in being [73, p. 587]. One is (1), which he understands as I do. He simply provides the second premise of the argument himself, and finds an independent argument for Aristotle's claim in (2). This is an understandable reading of the text: (1)

that comes into being proceeds toward a principle and an end (for that for the sake of which is a principle and coming into being is for the sake of the end).” With this, Aristotle gives a general characterization of posteriority in genesis. This will help clarify both priority in being and the connection between it and priority in genesis.

Priority in genesis relations are determined by for-the-sake-of relations. Consider, for instance, the baking of a marble cake. One makes a mass of homogeneous dough, then separates it into two parts. One part is mixed with chopped almonds, and the other with chocolate. These two portions of dough are then swirled together. Of course, the baker normally mixes in either the almonds or the chocolate first. Once he has produced an almond dough (or a chocolate dough), he then produces the other. He does not start mixing in the almonds, then start on the chocolate, and then alternate between the two. But it is arbitrary which is produced first, and it would not result in an inferior cake if he were to alternate between the two processes. Thus neither has priority in genesis.³⁵ By contrast, the homogeneous dough, without almonds and without chocolate, is prior to both; and both are themselves prior to the marbled dough at the final stage.

Aristotle exploits this connection between posteriority in being and the for-the-sake-of relation in (2b). He says, “*energeia* is the end, and the capacity is acquired for its sake.” In every case, capacities are for the sake of something other than themselves. In particular, capacities are acquired for the sake of *energeiai*. Aristotle supports this claim with some examples:

(3) For it is not in order to have sight that animals see, but rather they have sight in order that they see, and, likewise, [people] also have the art of housebuilding in order that they build houses, and contemplative knowledge in order that they contemplate. But they don’t contemplate in order to have contemplative knowledge, except people who are practicing. And these people do not contemplate, except in a way.

(Theta 8 1050a10–14)³⁶

begins with “first because . . .” and (2) continues with “and because . . .” But note that (1) is introduced by *ὅτι μέν*, and there is no answering *δέ* with the *ὅτι* at the beginning of (2) (or elsewhere). As far as the Greek goes, either reading is possible. Ross, for instance, agrees with me that (1), (2a), and (2b) are all parts of a single argument, although we disagree about what the overall argument is.

³⁵ This is a case in which we can apply the test for priority in genesis, and it yields a result, namely that the two stages are on a par. This is not to be confused with the impossibility of applying the criterion at all.

³⁶ (3) οὐ γὰρ ἵνα ὄψιν ἔχωσιν ὁρᾶσι τὰ ζῷα ἀλλ’ ὅπως ὁρῶσιν ὄψιν ἔχουσιν, ὁμοίως δὲ καὶ οἰκοδομικὴν ἵνα οἰκοδομῶσι καὶ τὴν θεωρητικὴν ἵνα θεωρῶσιν· ἀλλ’ οὐ θεωροῦσιν ἵνα θεωρητικὴν ἔχωσιν, εἰ μὴ οἱ μελετῶντες· οὗτοι δὲ οὐχὶ θεωροῦσιν ἀλλ’ ἢ ὥδι, †ἢ ὅτι οὐδὲν δέονται θεωρεῖν†. I omit the words in daggers. Barnes omits *ὅτι* and translates, “or else they have no need to theorize,” but it is not at all clear to me what the point of this might be in the context.

Sight is for the sake of seeing; the art of housebuilding is for the sake of building houses; contemplative knowledge is for the sake of contemplating. In each case, the capacity is for the sake of the *energeia*.

Practicing might seem to present a counterexample. In practicing, one might think, someone engages in an *energeia* for the sake of the capacity exercised. For instance, someone who can play the piano might practice playing the piano. Such a person seems to engage in playing the piano for the sake of her capacity to play the piano: she wants to improve her piano-playing capacity, and that is why she plays.

Aristotle says that such people do not yet have the capacity in question, in which case what they are doing does not count as an exercise of the capacity: fumbling around on the piano, even if some things happen to sound competent, is not playing the piano in the sense in which Horowitz could play the piano. Such fumbling is not the exercise of the capacity to play the piano, even when the fumbling is not merely random but rather directed towards acquiring the capacity.

Of course, there are people who can play the piano (according to any normal usage of that phrase), but who nonetheless practice to improve their playing. There are two sorts of case. In the one case, the person is trying to extend their capacity. For instance, someone who cannot play fast parallel octaves with one hand might practice doing so. In such a case, the person's capacity to play the piano is somehow imperfect, and the person is trying to acquire a new capacity—not the capacity to play the piano at all, but specifically the capacity to play fast parallel octaves with one hand. In another sort of case, the person exercises a capacity that she already has, in order to ensure that she doesn't lose it. This is not a case Aristotle discusses directly, but I think he should say something like this: just as one might exercise the capacity to build a house with an ulterior motive (e.g., to make money), so one can exercise one's pianistic skill with an ulterior motive (e.g., not to lose the skill). Whatever one's ulterior motive, the capacity in question is nevertheless for the sake of its exercise. Even the practicing pianist will agree that the capacity for whose sake she practices is in turn for the sake of the *energeia*, playing the piano.

When an ambitious young pianist enters the practice room in the morning, intending to practice parallel octaves for the second day in a row, she may not know which sort of practice she will engage in. Having practiced parallel octaves the day before, she may find that she has acquired the capacity to play them, and she will then exercise this capacity in the hopes of not losing it. Or she may find that, although she practiced parallel octaves the day before, she does not yet have the capacity in question. She has to start again by fumbling, as she did yesterday.

Aristotle's claim that capacities are for the sake of their exercise seems to me simply true (assuming there are for-the-sake-of relations in nature). It does

seem that all capacities are for the sake of their exercise, never vice versa. A capacity can, of course, be used for something other than its proper end. One can use shoes to hammer nails, or the art of housebuilding to destroy houses. But each capacity is *for* something. What is done for the sake of a capacity is really done for the sake of the eventual exercise of that capacity.

Together, these considerations yield an excellent argument for PREMISE II. Apparently, Aristotle understands himself in (2a) to claim:

PREMISE IIA: If x is for the sake of y , then y is posterior in genesis to x .

We also have, from (2b), the following:

PREMISE IIB: All capacities are for the sake of their corresponding *energeiai*.

The conclusion sought can be validly inferred:

PREMISE II: *Energeiai* are posterior in genesis to their capacities.

These premises also, more loosely, support PREMISE I, by elaborating its theoretical background. PREMISE I states that what is posterior in genesis is prior in being. As we have just seen, priority and posteriority in genesis are determined by for-the-sake-of relations. We have also seen that one thing has priority in being over another when it more fully fulfills the norms for what they both already are. This is why a boy has priority in being over a (human) seed, and why a man has priority over a boy. This is also why human beings and the sun are not comparable with respect to priority in being: there is no one thing they both are.

Against this background, it makes sense that what is posterior in genesis should be prior in being. The process of genesis is the path by which something that is not (in *energeia*) F comes to be F . As the subject of change traverses that path, it comes closer and closer to being F . As it comes closer and closer to being F , it becomes a fuller and fuller realization of an F . It thus seems that PREMISE I amounts to the claim that there are no meandering processes of genesis. That is, there are no processes of genesis in which something gets farther and farther from being F , only to end up being F .

This may sound implausible. After all, I might set out to sail from New York to London, but visit Cuba first. But Cuba is farther from London than New York. This description fails to distinguish two sorts of cases. In one, I end up in Cuba by accident, perhaps because of a drastic navigational error. In such a case, Cuba is indeed farther from my destination. Although I arrive in Cuba before I arrive in London, being in Cuba is not prior in genesis, because my arrival there is not for the sake of arriving in London.

Likewise, an animal whose development is markedly slowed by illness, but which does reach full maturity, has been, as it were, blown off course. Aristotle's claim does not cover such cases. The priority-in-genesis relation is fixed by for-the-sake-of-relations. Even if a period of illness intervenes in an

animal's development, that period is not therefore prior or posterior in genesis to other parts of the animal's development. Because it stands outside the for-the-sake-of relations that structure the animal's development, it is neither prior nor posterior in genesis.

In another sort of case, I intend to take a two-part vacation, sailing first to Cuba and then to London. But in that case, sailing to Cuba does not in fact take me farther from my destination. In fact, if I sailed straight to London, I would fail to reach my goal, in the sense that I would fail to take a vacation that is partly in Cuba.

These examples help Aristotle's principle seem more plausible, I think. But there is still another kind of case that might seem to present difficulties for his claim. Consider, for instance, the relationship among a freshly hatched caterpillar, the same caterpillar after it has gorged on the leaves of a tree, and the same creature after it has transformed itself into a butterfly. The form of the butterfly presumably has, as an implicit norm, that the creature should be able to fly. But neither the newly hatched caterpillar nor the fat caterpillar is able to fly. The fat caterpillar is no closer to being able to fly than the newly hatched caterpillar. If anything, it seems farther from being able to fly, since it is heavier. Nor do there seem to be any other norms of butterfly-hood that the fat caterpillar fulfills and that newly hatched caterpillar does not.

It is as if one made a list of the normative properties of the mature organism, and then crudely counted how many of these properties the stage in question already exhibits. This way of thinking about priority in being seems to contradict the view that the fat caterpillar is prior in being to the newly hatched caterpillar. But Aristotle clearly is committed to that view. So we need a more nuanced view of what counts as 'being closer to' the full-fledged butterfly.

The key is to consider, again, the role of the for-the-sake-of relation in genesis. The caterpillar fattens itself up for the sake of something—in particular, for the sake of the arduous transformation into a butterfly. A lepidopterist knows that fattening up is, in the caterpillar's existence, a step towards flying, even though fattening up would not be such a step in the life of, say, Icarus. The fat caterpillar *is* closer to fulfilling the norm of flying than the newly hatched caterpillar. But 'closer' here does not *mean* 'farther along in the process of generation.' The two cannot simply mean the same thing, since the process of generation can be explained in terms of what has priority in being. The lepidopterist, for instance, can explain why the process of generation has the structure it does in terms of priority in being. It is because the fat caterpillar is one step closer to being able to fly that it comes later in the process.

To the non-scientist, the development of a butterfly out of a caterpillar seems to involve a detour. But once one understands the organism better, one understands that not growing fat would, in fact, be a step away from being able to fly, just because the fat is needed to transform into a butterfly. In a labyrinth, the right way to measure the distance to the destination is via the

available paths. Similarly, the lepidopterist knows the paths available to the butterfly-to-be, and thus knows how to tell which caterpillar is closer to being a butterfly.

Another such case is grinding coffee beans. An ill-informed observer might think that grinding coffee beans is destroying them. The expert coffee maker knows that ground coffee is closer to coffee than whole coffee beans. But this closeness does not derive from the fact that coffee beans get made into coffee grounds in the production of a cup of coffee. Rather, it is because coffee grounds are closer to coffee that coffee beans get made into coffee grounds.

In sum, Aristotle's assumption that what is posterior in genesis is prior in being seems to me plausible, but substantive. It is a robust claim about how the processes of genesis in the world are structured. And it suggests a program for how to go about understanding those processes.

Aristotle, by contrast, 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.

This contrasts with another strategy of explanation—presumably the Giants'. Starting with the capacities that there are as a brute basic fact, one asks how those capacities came to be exercised. Aristotle rejects this order of explanation. The earlier parts of a process of genesis depend on the later parts, in such a way that everything is finally dependent on the end. It is not that the end is what it is because there were certain capacities that got exercised in certain ways. Rather, the capacities are what they are because of what the end is. For instance, the caterpillar's capacity to develop as it does is essentially a capacity to develop *so as to turn into a butterfly*. In other words, what is posterior in genesis is prior in being.

The remainder of the discussion of priority in being for generated things (up to 1050b6) deals with various capacities and *energeiai*. In each case, it shows that the capacities are for the sake of *energeiai*, so that the argument given above will apply. Four kinds of case are treated: (1) the *energeia* of form relative to matter; (2) processes that seem to be for the sake of a capacity; (3) doings that have an end over and above the *energeia* (such as building a house); and (4) of doings that do not have some end over and about the *energeia* (such as seeing).

The first case considered is the way in which matter has in capacity a form. Aristotle seems to have in mind substantial change. The matter in question

is matter that might take on a substantial form, such as the wood and bricks that might constitute a house or the acorn that might develop into an oak tree. Aristotle's two sentences are cryptic, but they fit neatly into the argument if we recall that we are here discussing priority in being *and form*:

(4) Moreover, matter has being-in-capacity because it may enter the form. And whenever it has being-in-*energeia*, it is then in the form. (Θ.8 1050a15–16)³⁷

Aristotle offers no explicit explanation of what these remarks have to do with priority in being. The issue receives terse treatment because it is too obvious to belabor. *Energeia* has priority with respect to form because being-in-*energeia* just *is* having the relevant form. The formless matter, which has being-in-capacity, is farther from the form than the enformed matter, which has being-in-*energeia*.

When Aristotle says, “matter has being-in-capacity *because* it may enter the form,” he is explaining why, in this case, being-in-capacity is posterior in being and form to being-in-*energeia*. Aristotle asserts that once the matter has “entered” the form *F*, it is in *energeia F*. The point is that the form, hence the *energeia*, is posterior in genesis: it is *because* the matter might *later* enter the form that it now has being-in-capacity. Thus the *energeia*, like the form, is prior in being.³⁸

The second case considered presents a threat to Aristotle's position (Θ.8 1050a16–23). Consider a teacher's ability to teach. It seems that the teacher is to bring it about that a student has some knowledge. But the knowledge that the student is to acquire, is a capacity (either to understand or to act). So it seems that teaching (an *energeia*) is not for the sake of an activity, but of a capacity. Thus the capacity is posterior in genesis, and hence prior in being. This would be a counterexample to the claim that *energeiai* are posterior in genesis.

Aristotle answers that the end of teaching is not the mere capacity that the student is to acquire, but is rather the *energeia* that is the exercise of

³⁷ ἔτι ἡ ὕλη ἔστι δυνάμει ὅτι ἔλθῃσι ἂν εἰς τὸ εἶδος· ὅταν δέ γε ἐνεργείᾳ ᾗ, τότε ἐν τῷ εἶδει ἐστίν.

³⁸ Some recent interpreters have approached *Metaphysics* Theta with an interest in the light it sheds on the problem of how generated composites of matter and form can be unified substances. (For instance Kosman [55], [56] and Gill [45, chapters 6 and 7].) They do so because they read H.6 as having addressed this issue, in terms of being-in-capacity and being-in-*energeia*, but not entirely satisfactorily. They hope to find satisfaction in Theta's discussion of these two ways of being. Strangely, they have tended to look to Theta 6, rather than Theta 8, for enlightenment. Yet these two lines from Theta 8 are the place where *Metaphysics* Theta directly addresses the issue. It would be strange to think that these two lines express the main point of *Metaphysics* Theta. Nevertheless, one might think that these terse remarks could help us find a more satisfactory understanding of H.6. But I think that these terse remarks rely on, rather than elaborate, the connection between form and *energeia* established in Book H.

that capacity. The end of teaching geometry is not merely to endow students with the ability to understand geometry. The end of teaching geometry is that students should use their knowledge to understand geometrical figures, demonstrations, and diagrams. Nature, too, says Aristotle, never takes a mere capacity as an end: “For the end is the work, and the work is *energeia*, which is why even the name ‘*energeia*’ is said in accordance with the work and extends to fulfillment” (Θ.8 1050a21–3).³⁹ For instance, it is not human nature’s end simply to acquire the capacity to speak. The end is the work that the speaker has to do, and the work is the activity, the *energeia*: speaking. We already discussed such a case: practicing the piano, i.e., playing the piano, for the sake of the capacity to play the piano, which is itself for the sake of the *energeia*, playing the piano. The cases in question are not counterexamples to the claim that capacities are always for the sake of the corresponding activities. Although some *energeiai* are for the sake of a capacity, the capacity in question is itself always for the sake of an *energeia*.

Finally, Aristotle then considers the two contrasting groups of cases, one of which presents a problem. The unproblematic cases are those in which the “exercise [of the capacity] is last” (ἔσχατον ἢ χρῆσις; Θ.8 1050a24). He explains, “for instance, seeing is [the exercise] of sight, and, besides this, no other product comes into being from sight” (Θ.8 1050a24–5).⁴⁰ Aristotle here, as often in his earlier writings, uses ‘exercise’ (χρῆσις) as a synonym for *energeia*.⁴¹ We can easily fill in the steps of the argument. The *energeia* is the final end of the capacity. Therefore the capacity is for the sake of the *energeia*. Therefore the *energeia* is posterior in genesis to the capacity. Therefore it is prior in being. Aristotle here notes that these cases are properly described by PREMISE II, and so his argument applies to them. That is why he emphasizes not only that the *energeia* is posterior in genesis to the capacity, but that nothing further is posterior in genesis to it (1050a24–5), and hence prior in being: *energeia* not only has priority over capacity, but has primacy in being over everything.

But there are other, problematic cases. In those cases, the *energeia* in question is a ‘full-blooded’ change. In these cases, unlike the case of seeing, there is something that comes into being posterior to the *energeia*. That product would seem to be posterior in genesis, and hence prior in being, to the *energeia*. Consider the housebuilder’s capacity to build a house. It would seem that there is a further end beyond the producing of a house, namely the house. Of course, given the things Aristotle has already said, we know that the final end is not simply that there be a house in the sense of, ‘a

³⁹ τὸ γὰρ ἔργον τέλος, ἡ δὲ ἐνέργεια τὸ ἔργον, διὸ καὶ τοῦνομα ἐνέργεια λέγεται κατὰ τὸ ἔργον καὶ συντείνει πρὸς τὴν ἐντελέχειαν.

⁴⁰ οἷον ὄψεως ἢ ὄρασις, καὶ οὐθὲν γίγνεται παρὰ ταύτην ἕτερον ἀπὸ τῆς ὀψεως.

⁴¹ See §8.4.2, p. 163 ff.

structure that is ready to serve as a house,' but rather a house that is in *energeia* sheltering human beings. But what about the relationship between the housebuilder's own capacity and activity? About that, Aristotle remarks that the activity of building a house, while not an end in itself, is "more" (Θ.8 1050a18) the end than the capacity on its own. Thus these cases, too, fall under PREMISE II, and the housebuilder's activity has priority in being over his capacity.

Aristotle goes on to offer some general observations about such cases (1050a30–b3). He says that the activity of the producer is in the thing getting produced.⁴² This is merely an elaboration of the remark he made at the end of the previous section, that the activity of the housebuilder is "together with" (ἔμμε; 1050a29) the house.⁴³ It is a further way of showing how the *energeia* is more closely tied to the end than the capacity. For the housebuilder's capacity to build is a property of the housebuilder: it is in the housebuilder. But the *energeia* that is the exercise of that capacity, the production of a house, is in the materials that are becoming a house. The *energeia*, but not the capacity, is thus together with the end.

Aristotle concludes the first part of the discussion of the priority in being. First, he identifies being (*ousia*) and form with *energeia*. Then he reiterates his main conclusion, that *energeia* has priority in being (by which he means, in being *and* form). Last, he reiterates, in new terms, the conclusion he has already argued for, that being-in-*energeia* has priority in time:

Hence it is evident that (1) being and form is *energeia*. For this reason, it is evident that (2) *energeia* is prior to capacity in being, and, as we said, (3) one *energeia* always precedes another in time, up to the *energeia* of what in each case primarily brings about change. (Theta 8 1050b3–6)⁴⁴

This seems to me fairly clear, except for the relevance of (3) to the context. I suggest that Aristotle is here drawing on an assumption from Z.7–9, that all genesis is the imposition of a form that the moving cause already has (in some sense of 'has'). If all genesis is the imposition of form by a moving cause that already has the form, and form *is energeia*, then it follows that the moving cause must already have being-in-*energeia*.

⁴² Cf. *Physics* III.3 where Aristotle gives a worked-out argument for this same claim.

⁴³ The Londenenses make heavy weather of the fact that the activity of housebuilding is not simultaneous with (ἔμμε) the house [28, pp. 143–4]. The solution seems to me clear: take ἔμμε in its non-temporal sense, which is also standard, and take the further claim that the productive activity is in the product as an explanation of what Aristotle meant by it. For the non-temporal sense of ἔμμε, see *Physics* V.3 (226b21–3).

⁴⁴ ὥστε φανερόν ὅτι ἡ οὐσία καὶ τὸ εἶδος ἐνέργειά ἐστιν. κατὰ τε δὴ τοῦτον τὸν λόγον φανερόν ὅτι πρότερον τῇ οὐσίᾳ ἐνέργεια δυνάμει, καὶ ὥσπερ εἵπομεν, τοῦ χρόνου αἰὲν προλαμβάνει ἐνέργεια ἑτέρα πρὸ ἑτέρας ἕως τῆς τοῦ αἰὲν κινουῦντος πρώτως.

Eternal things

I have already indicated that Aristotle uses PLATO'S CRITERION in his argument concerning eternal things:

PLATO'S CRITERION: x is prior in being to y if and only, if x were not, y would not be.

One might therefore expect here an argument for a conclusion of the form, 'if the x 's were not, then the y 's would not be, but not vice versa.' For instance, if eternal things were not, no perishable things would be, but not vice versa.

In fact, however, Aristotle does not argue for any such conclusion here, but merely assumes the priority of eternal things over perishable things. He argues that this is itself a case of the priority of *energeia* over capacity. The lynchpin of the argument is the idea that if something is eternally a certain way, then its being that way is not the exercise of any capacity. For instance, if something is eternally a heavenly sphere, then its being a heavenly sphere is not the exercise of any capacity of anything (for instance, a capacity of some underlying matter) to be a sphere. And if something is eternally rotating, then its rotating is not the exercise of a capacity to rotate. Thus the passage begins in this way:

But, in addition, [*energeia* is prior in being to capacity] in a stricter sense. For (1) the eternal things are prior in being to the perishable, and (2) nothing is in capacity an eternal thing. (Theta 8 1050b6–8)⁴⁵

This little passage states the two premises of Aristotle's argument, and its conclusion. But the premises, as formulated, do not yield a logically valid argument. Clearly, the argument goes roughly like this:

PREMISE I: Eternal things are prior in being to perishable things.

PREMISE II: Nothing is in capacity eternal.

CONCLUSION: *Energeia* is prior to capacity.⁴⁶

As just noted, the passage does not offer an argument for PREMISE I. When Aristotle mentions it again, below, he simply reiterates the claim and invokes PLATO'S CRITERION: "And yet, these [eternal] things are primary, for if they

⁴⁵ ἀλλὰ μὴν καὶ κυριώτερος· τὰ μὲν γὰρ αἰδία πρότερα τῇ οὐσίᾳ τῶν φθαρτῶν, ἔστι δ' οὐθὲν δυνάμει αἰδιον.

⁴⁶ I will speak both of eternal things and of being something eternally. What is the relation between these locutions? Well, for something to be an eternal thing is for it to be what it is eternally. Of course, predicates other than what-is-it predicates might apply to something eternally. The predicate, 'in motion,' for instance, might apply to something eternally. Presumably, only things that are what they are eternally can have predicates in other categories apply to them eternally.

were not, nothing would be" (Theta 8 1050b19).⁴⁷ One would like to know why, if there were nothing eternal, then there would be nothing at all.

While Aristotle does not explain, we can see why it is reasonable to think this. For he thinks that the eternal things are responsible for there being any perishable things at all. The endless series of perishable things requires eternal things to ensure its continuance. If there were no eternal things, then there would be no perishable things. Since everything is either perishable or eternal, there would, in that case, be nothing at all.

Aristotle does argue for this view elsewhere, notably in *Physics* VIII and *Metaphysics* Λ. But even if one were to reject those arguments, the argument in Theta 8 would be of great interest. If correct, it demonstrates a crucial condition on any proposed eternal thing. The crucial assumption is thus not that there are eternal things, but that *if* there are, then they are the principles of the perishable things. This is, presumably, equally true of Thales' water, of Anaxagoras' mind, of Empedocles' love and strife, and of Plato's forms.

The only philosopher who seems to have believed in something eternal that is not a principle of the perishables is Parmenides.⁴⁸ But since Parmenides did not believe that perishable things have being at all, he is not in any straightforward way a counterexample.

The main problem about Aristotle's argument in Theta 8 is to see how PREMISE II warrants the inference from PREMISE I to the CONCLUSION. Fortunately, the passage goes on to discuss PREMISE II at some length. I have already hinted how I think it is to be understood: for anything that is eternally *F*, its being *F* cannot be the exercise of a capacity. Later in the passage, we find confirmation that this is what Aristotle has in mind. He contrasts perishable things with eternal things, saying that continuous motion is strenuous for perishable things. Then he says why this is so:

For the being [of perishable things], being matter and capacity, not *energeia*, is the cause of this. (Theta 8 1050b27–8)⁴⁹

For now, the important point is that, while Aristotle thinks of the being of perishable and eternal things as primarily *energeia*, the *energeia* of perishable things is always the exercise of a capacity, whereas that of the eternal things is not. For instance, God's being what God is, is not the exercise of something's capacity to be God. Notably, this claim applies to eternal perceptible things as well, such as the heavenly bodies: the sun's being what it is and doing what it does is not the exercise of something's capacity to be a sun or to do what the sun does.

⁴⁷ καίτοι ταῦτα πρῶτα· εἰ γὰρ ταῦτα μὴ ἦν, οὐθὲν ἂν ἦν. He does not explicitly say "and not vice versa," but that is obviously to be understood.

⁴⁸ And possibly Speusippus.

⁴⁹ ἡ γὰρ οὐσία ὕλη καὶ δύναμις οὔσα, οὐκ ἐνέργεια, αἰτία τοῦτου.

To understand this claim, it will help to consider a contrasting case. Let us return to our well-worn example of a house. When a housebuilder builds a house, he exploits the capacities of some buildable materials. For instance, he exploits the capacity of one piece of wood to support another. Similarly, an oak tree's being an oak tree is the exercise of some capacities in the underlying matter. To paraphrase a remark from earlier in the chapter, the matter has being-in-capacity because it might enter the form.⁵⁰ Thus the acquisition of form is also the exercise of capacities in the matter. Whatever comes into being, comes into being from some matter, and the coming into the being is the exercising of the matter's capacities to undergo changes. Thus, for any generated thing, its being what it is, is the outcome of the exercise of certain capacities of its matter. This is what it is to be a generated thing: to be the outcome of the exercise of certain capacities, in matter, for change. The possibility of generated things requires that there be matter with capacities for undergoing to relevant kinds of change.

But not everything came into being, according to Aristotle. If something never came into being, then there is no need for it to be conceived in this way. God's thinking, for instance, is not the exercise of a capacity.⁵¹ This is not to say that God is incapable of thinking. But it is also not the case that God has a capacity to think, a capacity that, in thinking, God exercises. God's thinking is simply a self-standing *energeia*. In general, for any eternal thing, its being what it is, is simply a self-standing *energeia*, rather than the exercise of an underlying capacity.

The further argument turns on a premise that could be taken in two ways. The premise is that eternal things are imperishable. Aristotle requires that, if something were in capacity eternal, then it would be *possible* for it to perish. The argument thus runs as follows:

PREMISE III: Eternal things are not perishable.

PREMISE IV: If something were in capacity eternal, then some eternal thing would be perishable.

Hence (PREMISE II): Nothing is in capacity an eternal thing.

This construal of the argument faces the difficulty that PREMISE III is questionable. It seems that there could be something that exists forever, but of which it is true that it could perish. God, for instance, might make something last forever, although it is within his power to destroy it or just to let it fall apart. And this, in fact, is precisely the way in which Plato makes Timaeus describe the world.⁵²

⁵⁰ Cf. Theta 8 1050a15–16.

⁵¹ I am working on the assumption that God's being what God is just *is* God's thinking, much as my being what I am just *is* my living.

⁵² See §6.3 on page 133 for quotations and some discussion.

Despite this difficulty, it becomes clear in the unfolding argument that this is the correct construal. The argument hinges on the relationship between capacity and possibility.⁵³

The argument is the following. (1) Every capacity is simultaneously of the contradictory, for what is not capable of belonging would not belong to anything, whereas it is possible for everything that is capable not to be active. (2) Therefore, both to be and not to be are possible for that which is capable of being. (3) Therefore, the same thing is able both to be and not to be. (4) But not to be is possible for that which is capable of not being. (5) And what could possibly not be is perishable, either simply, or in that very respect in which it is said to be possible not to be, either in place or in quantity or quality. And perishable without qualification is perishable in substance. (6) Therefore, nothing that is imperishable without qualification is in capacity without qualification. (7) (But nothing prevents its being-in-capacity in some respect, for instance, in quality or location.) (8) Therefore, all such things are in *energeia*. None of the things that necessarily are in capacity simply. Indeed, these things are primary, for if they were not nothing would be.

(*Theta* 8 1050b6–19)⁵⁴

One might have hoped that Aristotle would here argue for the controversial PREMISE III. Unfortunately, he says little about it.⁵⁵ He simply presupposes it in (8). His argument here focuses on PREMISE IV, which is stated in (6). (My PREMISE IV is the contrapositive of Aristotle's formulation in (6).) I will return to Aristotle's reasons for accepting PREMISE III below, and focus first on Aristotle's argument for PREMISE IV.

The argument is based on an equivalence between having a capacity (*dunamis*), being able (*dunaton*), and being-in-capacity (*einaí dunamei*). Something can have being-in-capacity only in virtue of some underlying capacities that it has (for instance, the capacities in the materials for a house, in virtue of which they can be built into a house). Those capacities may or may not be powers (*dunameis kata kinēsin*); what is important for this argument

⁵³ Aristotle carefully marks this distinction, in the passage quoted here, with terms *endekhomenon* and *dunaton*. In some other contexts, *dunaton* means 'possible,' but here he reserves *endekhomenon* for 'possible' and uses *dunaton* for 'to be able,' where this means, 'to have a capacity.'

⁵⁴ λόγος δὲ ὁδε: (1) πᾶσα δύναμις ἅμα τῆς ἀντιφάσεώς ἐστιν· τὸ μὲν γὰρ μὴ δυνατόν ὑπάρχειν οὐκ ἂν ὑπάρξειεν οὐθενί, τὸ δυνατόν δὲ πᾶν ἐνδέχεται μὴ ἐνεργεῖν. (2) τὸ ἄρα δυνατόν εἶναι ἐνδέχεται καὶ εἶναι καὶ μὴ εἶναι. (3) τὸ αὐτὸ ἄρα δυνατόν καὶ εἶναι καὶ μὴ εἶναι. (4) τὸ δὲ δυνατόν μὴ εἶναι ἐνδέχεται μὴ εἶναι. (5) τὸ δὲ ἐνδεχόμενον μὴ εἶναι φθαρτόν, ἢ ἀπλῶς ἢ τοῦτο αὐτὸ ὃ λέγεται ἐνδέχεσθαι μὴ εἶναι, ἢ κατὰ τόπον ἢ κατὰ τὸ ποσὸν ἢ ποιόν· ἀπλῶς δὲ τὸ κατ' οὐσίαν. (6) οὐθὲν ἄρα τῶν ἀφθάρτων ἀπλῶς δυναμίει ἐστιν ἀπλῶς (7) κατὰ τι δὲ οὐδὲν κωλύει, οἷον ποιὸν ἢ ποῦ· (8) ἐνεργεῖα ἄρα πάντα· οὐδὲ τῶν ἐξ ἀνάγκης ὄντων· καίτοι ταῦτα πρῶτα· εἰ γὰρ ταῦτα μὴ ἦν, οὐθὲν ἂν ἦν. Punctuation modified. The printed texts have parentheses around the last phrase, καίτοι... ἦν.

⁵⁵ He does however argue for this view in *de Caelo* I.12, an extremely difficult chapter, which Sarah Broadie discusses in *Passage and Possibility* [83].

is that there be some capacities or other, in every case of being-in-capacity. But this is precisely what Aristotle argued for in his discussion of being-in-capacity in Theta 7. Thus he is entitled to assume:

PREMISE V: If something is in capacity F , it has a capacity to be F .

In the passage quoted, he also argues for:

PREMISE VI: If something has a capacity to be F , then it is possible that it not be F .

PREMISE V and PREMISE VI together entail:

If something is in capacity F , then it is possible that it not be F .

But if we substitute ‘eternal’ for F , then we have:

Hence (PREMISE VII): If something is in capacity eternal, then it is possible that it not be eternal.

Eternal things are those that exist for all of infinite time. Something that is not eternal does not exist for all of infinite time. That is, there is some time at which it does not exist. So something that is possibly not eternal is something that possibly is not at all.

Aristotle, rightly, defines perishability as the possibility of not being (5). Thus we have reached the conclusion we sought:

Hence (PREMISE IV): If something were in capacity eternal, then some eternal thing would be perishable.

The protasis of PREMISE IV speaks of something that is in capacity an eternal thing. This would be the matter for an eternal thing, which, in its own right, is merely in capacity the eternal thing. The eternal thing would be the composite of that matter and the form that the matter, *ex hypothesi*, eternally has. But such a thing is impossible for Aristotle.

Thus there is a valid argument for PREMISE IV. Before saying something more about the argument, we need to consider a simple generalization, which Aristotle himself notes in the text. The conclusion, in the formulation I have given, concerns “eternal things.” But an eternal thing is something that is eternally F , where the predicate in question specifies what the thing in question is. However, no role was played in the argument by the assumption that the predicate specifies what the thing is. So the conclusion applies to any case of something’s being eternally F , no matter what category the predicate F falls into. Aristotle mentions in particular the predicate “is moving” (intransitive). “If there is something eternally moving, it is not moving in capacity, except from here to there” (1050b20–2).

How should we understand this last, cryptic remark? Consider something eternally moving. Its moving, rather than not moving, is not the exercise of

a capacity to move rather than to rest. But Aristotle does allow that it is in capacity moving from here to there. Perhaps Aristotle has in mind the following. Consider any two points, *A* and *B*, on the path of an object in eternal cyclical motion. Then the object moves from *A* to *B* and from *B* to *A*. While it is moving from *A* to *B*, it is certainly not moving from *B* to *A*, and vice versa.⁵⁶ Hence while it is moving from *A* to *B*, it is certainly not moving in *energeia* from *B* to *A*. However, it would be intolerable to deny that the object is in capacity moving from *B* to *A*, since the object will do so, without first undergoing any intrinsic change that could endow it with a capacity that it now lacks.⁵⁷ It is not entirely clear whether such a thing, that is in capacity moving from here to there, now possesses a capacity—not exercised—for moving from here to there. Below, I will give some reason to think that it does not (whereby I mean to restrict my claim that every case of being-in-capacity is a case of possession of a capacity). I hope to elaborate elsewhere on these thoughts, and on the connected notion of matter with respect to place (*hulē topikē*).

So Aristotle thinks that whatever is eternally *F*, for any predicate *F*, is *F* in *energeia*, and that neither it nor some underlying matter is in capacity *F*. One might have expected Aristotle therefore to think that no sentences of the form, “*A* is in capacity *F*,” are true of eternal things. (Let’s stipulate that if there is any truth of that form about a thing, then it *partakes* of being-in-capacity.) But this is wrong. Some eternal things do partake of being-in-capacity. More interestingly, if something is eternally *changing*, then, due to the structure of change, it must, for any given period of time, be changing from some state to some other state. Aristotle seems to assume that no change is an eternal asymptotic approach to a final state that is never achieved. So, assuming that the eternally changing thing actually reaches the state it is changing to, the change from any definite state to any other cannot be the eternal change in question. Thus, it is the very nature of the predicate *F* in this case, namely “changing,” that entails that the eternal thing partakes of being-in-capacity. Every case of eternal change requires associated being-in-capacity.

⁵⁶ This probably does not apply to a series of three distinct points, *A*, *B*, and *C*: it may well be that the object is moving from *A* to *B* and from *A* to *C* at the same time. Whether it applies to two pairs of points, *A* & *B*, *C* & *D*, will depend on further assumptions.

⁵⁷ This way of taking the passage seems to me preferable to the usual reading, of Makin and Ross, on which the idea is that the eternally moving object is in capacity located at the places where it is not now but will be. First, the Greek speaks not of being here or there, but of *moving from* here to there (using words similar to English ‘whence’ and ‘whither’). The grammar of the sentence clearly still involves the participle ‘moving.’ Thus the idea should not be that the object is in *energeia* here, but in capacity there, but rather that it is in *energeia* moving from here to there, but in capacity from there to here. This also fits better with Aristotle’s view, expressed in the *Physics*, that moving things are not in *energeia* but only in capacity at the places they pass through.

I would further speculate that the *only* eternal things that partake of being-in-capacity are things that are eternally changing. On the further assumption that all and only perceptible things change (a view that Aristotle seems to hold), then all and only eternal things that partake of being-in-capacity are perceptible. Nothing eternal and imperceptible would partake of being-in-capacity.

We have seen that Aristotle has a logically valid and philosophically worthwhile argument for his view. The interesting and controversial assumption on which it rests is PREMISE VI: capacities are not necessarily exercised. In the passage already quoted, Aristotle offers some argument in favor of the assumption:

(1) Every capacity is simultaneously of the contradictory, for what is not capable of belonging would not belong to anything, whereas it is possible for everything that is capable not to be active. (2) Therefore, both to be and not to be are possible for that which is capable of being. (3) Therefore, the same thing is able both to be and not to be.

There are many cases in which claims (1), (2), and (3) are all straightforwardly true. A housebuilder, for instance, has the capacity to build a house, but this capacity need not be exercised (as we learned in the discussion of Megaricism). One and the same thing is both able to build a house and able not to build a house. Or, to take another example, consider some salt. Some salt has the capacity to be dissolved in water, but this capacity need not be exercised. Again, one and the same thing is both able to be dissolved and able not to be dissolved.

But there are problematic cases, and they are not marginal ones. The problematic cases are those in which it is essential to something that it exercise some capacity. It is essential, for instance, to a candle flame that it burn. Stop it from burning, and the flame is gone. Yet presumably the flame's burning is the exercise of a capacity to burn. So Aristotle seems committed to saying, in accordance with (3), that the flame is able both to burn and not to burn, which sounds false. Similarly, if a living thing ceases to live, it ceases to be altogether. Yet a living thing's living is the exercise of a capacity to live. This follows from Aristotle's definition of the soul as the first *entelekheia* of a body that is in capacity alive.⁵⁸

The solution is to understand the negation as having wide scope. The claim is not that the flame has the capacity to not-burn, but rather that the capacity to burn is not necessarily exercised. For this claim, it is not a problem that, once the burning ceases, the candle flame ceases to be. Similarly, a human being's living is the exercise of a capacity to live. Perhaps there is not even a single thing that gains and loses the capacity to live. Once a human being dies, what

⁵⁸ *de Anima* II.1 412a27–8.

remains is not something that exercised its capacity to live during the person's life, but a plurality of things with diverse capacities. Nonetheless, a human being's living is the exercise of a capacity that is of the contradictory. That is, the capacity might cease to be exercised, so that the human being ceases to live. Because of the special features of such circumstances, this also results in the human being's irrevocable destruction.

This was the right way to understand the more straightforward cases, too. The housebuilder does not have two capacities, each for a different *energeia*: one capacity for building a house and another for not-building. The housebuilder has the capacity to engage in housebuilding, but this capacity is sometimes exercised and sometimes not. It is in this sense that the capacity is "of the contradictory." No capacities are necessarily exercised.

This is not to be confused with the earlier claim, from Theta 2, that *rational* capacities can produce the opposite of what they normally produce.⁵⁹ According to that claim, a qualified artisan can exercise their one capacity in two ways. In that case, there are two different activities, although there is only one capacity for engaging in them.

Here, Aristotle is saying not that anything with a capacity to φ can also engage in an activity other than φ -ing, namely not φ -ing. Rather, he is saying that any capacity to φ is such that it might not be exercised. This does not entail that, for anything that is φ -ing in virtue of a capacity to φ , that very thing might not φ . Ceasing to φ might be the destruction of the thing in question. But it does mean that, for anything that is φ -ing in virtue of a capacity to φ , the φ -ing might cease. (And in fact will, at some time, cease.) In some cases, what was φ -ing is still around, but not φ -ing—as when the housebuilder stops for lunch. In other cases, what was φ -ing isn't around any more—as when the fire stops burning, or a living thing stops living.

This view of capacities emerged from Aristotle's rebuttal of the Megarics in Theta 3. That argument should be read, I argued, as claiming that there are some capacities that are not active. But Aristotle accuses the Megarics of making capacity and *energeia* one and the same. This accusation derives from the thought that any capacity worthy of the name is distinct from the corresponding *energeia*, in the sense that it might not be exercised. If there were, *per impossibile* a capacity that were necessarily exercised, then it would be identical with its own *energeia*. That is, there would not in fact be a capacity in the only meaningful sense that Aristotle recognizes capacities: properties distinct from the *energeiai* that are their exercise. This derives from the very point of the concept of a capacity, which the Megarics failed to grasp. Capacities are the intrinsic properties of things that constitute their 'complete readiness' to be agents or patients in changes that sometimes do and sometimes

⁵⁹ Theta 2 uses the term 'contradictory' (*antiphasis*), whereas Theta 8 speaks of opposites (*enantia*).

do not occur. Capacities, together with certain associated circumstances, are invoked to explain why certain changes occur on the occasions when they do.

Let us consider a putative counterexample, say some indestructible fire, which has a capacity for burning that is necessarily and eternally exercised. The fire would, presumably, have certain features in virtue of which it burned things. But Aristotle would say that those features simply constitute the *energeia* of the fire. There could not be, *ex hypothesi*, a feature of the fire in virtue of which it was able to burn, over and above those features that constituted its *energeia*. For if there were such a feature, then either it itself is an *energeia* (and not a capacity), or it is not necessarily active, and hence the fire does not necessarily burn. A putative capacity that was necessarily exercised would not be a capacity at all, but rather an *energeia*.

Aristotle also goes on to say that capacities wear out. Given the context, it is reasonable to assume Aristotle thinks capacities *necessarily* wear out. This is a reason to think that an eternally moving thing never exercises a capacity to move from here to there, even though it is in capacity moving from here to there (before doing so in *energeia*). Familiar things wear out through the exercise of their capacities: knives grow dull, axles break, watches become inaccurate, plants and animals die. But Aristotle explains why this is not so for eternally changed things:

Nor do they [i.e., the heavenly bodies] wear out as they achieve this. For them, change is not concerned with a capacity for a contradictory, as it is for destructible things, so that the continuity of change is laborious. Their being, which is matter and capacity, not *energeia*, is the cause of this. (Θ.8 1050b24–8)⁶⁰

φ-ing is laborious for something that φ-s by exercising a capacity. For instance, running in a circle is, for a human being, laborious. Indeed, all human activities whatsoever are, in this sense, laborious: the human being wears out through doing them. Of course, we do not notice the laborious character of many of our activities, but we do notice the way in which human beings' capacity to move deteriorates as they age. These capacities are, gradually, strained and worn down.

Of course, Aristotle is claiming not only that this is true of human beings, but that it is necessarily true of *all* capacities whatsoever. It is unclear why he thinks so. I suggest that this view flows from his rejection of Megaricism, together with certain further assumptions. If we assume that every capacity worthy of the name is distinct from its corresponding *energeia*, and we assume that the exercise of every capacity involves *interaction* with other things,

⁶⁰ (1) οὐδὲ κάμνει τοῦτο δρῶντα· (2) οὐ γὰρ περὶ τὴν δύναμιν τῆς ἀντιφάσεως αὐτοῖς, οἷον τοῖς ψῦχα τοῖς, ἢ κίνησις, ὥστε ἐπίπονον εἶναι τὴν συνέχειαν τῆς κινήσεως· (3) ἡ γὰρ οὐσία ὕλη καὶ δύναμις οὔσα, οὐκ ἐνέργεια, αἰτία τούτου.

then every exercise of a capacity is laborious because its interaction with the environment constitutes some resistance to its exercise, and this resistance will, especially in continuous changing, wear out the capacity. (I assume that this means the capacity will be lost, and this will in some cases constitute the destruction of the thing in question.)

The explicit association between capacities and matter, in the passage just quoted, supports this suggestion. Suppose that things have capacities if and only if they have matter. Hence only matter-form composites have capacities. It would be reasonable, then, to think that all of the capacities of composites are somehow connected with their matter. So capacities wear out through being exercised, because their matter is acted on whenever the thing is active.

One might also raise another kind of problem for Aristotle's view. As I mentioned above, it seems possible for God to choose to make it impossible that (say) the heavens be destroyed, even if the heavens have the capacity to be destroyed. This, again, is the view apparently espoused in Plato's *Timaeus*.⁶¹

To this objection, Aristotle might respond that he is invoking the criterion for possibility given at the end of Theta 3. According to that criterion, it is possible for something to be destroyed if nothing impossible follows from the supposition that it is in *energeia* destroyed. This means that no necessary truth is contradicted by the conjunction of the supposition with all other necessary truths. By this criterion, it is possible for the Timaeian heavens to be destroyed, even if God chooses to ensure that they are never destroyed. For surely, if God chooses to ensure that they are never destroyed, then God might choose to allow them to be destroyed—hence there is no contradiction in the supposition that the heavens are destroyed.

Thus when Aristotle assumes, in PREMISE III, that it is impossible for eternal things to perish, he must be assuming that their perishing would contradict a necessary truth. This contrasts starkly with what Plato makes Timaeus say about the heavens: they are destructible but will never be destroyed. It seems a perfectly coherent view.

Aristotle's rejection of this view seems to lie at the heart of his thinking about the ultimate principles of the world. He assumes that, in order for there to be a proper explanation of why there are any perishable things, there has to be something that is responsible (*aition*) for there being perishable things. And he seems to think that being responsible for this, in the relevant sense, cannot be contingent. That is, whatever is responsible for there being perishable things, is necessarily responsible for it. Things could not have been otherwise.

Plato's story in the *Timaeus* is, for Aristotle, merely a pretty story. That is not because Plato paints an indulgently rosy picture of the world. (Indeed, as

⁶¹ See §6.3 on page 133 for some further discussion.

we will see in Theta 9, Aristotle's view is, in a way, even rosier.) Rather, the Timaeus Craftsman does not provide us with any proper insight into why there is a perceptible cosmos. For Timaeus presents the story as if the Craftsman chose to produce the world, which strongly suggests that it is a contingent matter that the world exists at all: the Craftsman might have chosen not to create it.

One might interpret the *Timaeus* in a more sophisticated way, and deny that the Craftsman might not have produced the world. It is, for my purposes here, irrelevant whether such an interpretation is tenable or not. It is, however, relevant that such an interpretation would go hand in hand with accepting Aristotle's view about eternity, necessity, and explanation. On Aristotle's view, the *Timaeus* explains why there is a cosmos only to the extent that it presents the production of the cosmos as a necessary effect produced by the very natures of the principles of the cosmos. As Aristotle will put it in $\Lambda.6$, the ultimate principles of the world cannot be capacities. They must be *energeiai*. If the Craftsman really did choose to create the world, and really is such that the world goes on existing only because of his contingent will, then the *Timaeus* provides us with an 'explanation' of the genesis of the cosmos in terms of capacities of the Craftsman, capacities that he might or might not have exercised. And that, as Aristotle thinks, is no explanation at all.

The Bad Itself (with Speculations on Goodness) (Theta 9)

14.1 THE SIGNIFICANCE OF THETA 9

Having argued for *energeia*'s priority, Aristotle goes on to argue for its superiority. It is, he says, "both better and more honorable than excellent [*spoudaias*] capacity" (1051a4–5). He states this conclusion at the beginning of Theta 9. Then, after an argument of almost fantastic brevity, he concludes, "Thus it is clear that the bad is not something over and above the things" (1051a17–18). And he further concludes, "in the things at the level of principles, i.e., in the eternal things, there is nothing either bad or erring or corrupted (for corruption, too, is proper to bad things)" (1051a19–21).

These conclusions are of profound interest. They extend the results of Theta 8 into the realm of the metaphysics of value, and thereby make a further direct contribution to the science of wisdom. In the opening chapters of the *Metaphysics*, Aristotle had tried to identify the knowledge that would constitute wisdom. He found several different features that this science should exhibit (such as being general, and being hard to achieve). Among them is being the science "which knows for the sake what each thing must be done . . . and this end is the good in each class, and in general the best in the whole of nature" (A.2 982b5–7). This early remark already employs three intimately connected concepts that will be central in our discussion of Theta 9: that for-the-sake-of-which, the end, and the good.

As the *Metaphysics* continues, Aristotle repeatedly recalls this theme. In A.7, he criticizes his predecessors for having omitted this cause altogether. To be sure, some of them—e.g., Empedocles, Anaxagoras, and Plato—asserted that certain first causes are responsible for goodness *and* badness (A.6 988a14–17). But the causes in question are sources of motion (efficient causes), and not things for-the-sake-of-which anything happens (A.7 988b8–15). Aristotle's predecessors have thus failed to cite the good as a cause in its own proper mode of causation.

Moreover, in Book Beta, where Aristotle develops impassably that wisdom will have to solve, he works on the assumption that wisdom will involve knowledge of the good (B.2 996a21–b26). In Book Beta, this assumption

is defeasible. However, as the *Metaphysics* unfolds, nothing seems to defeat it. When Aristotle sets out a theory of principles, in Book Lambda, he addresses the question “in which way the nature of the whole has the good and the best, whether as something separated and itself by itself, or [as] its order” (Λ1075a11–13).¹ His answer is that the whole contains the good in both ways. He never says so explicitly, but he is clearly assuming that the good that is separate and on its own is the first unmoved mover of the heavens, God, whose nature Aristotle had discussed in Lambda 6–9.

As Lambda 10 unfolds, Aristotle seems to leave behind the theme of goodness, in favor of a litany of criticisms of predecessors. But these criticisms place special (although not exclusive) emphasis on the deficiencies of earlier views about the principles of goodness and badness. His first remarks concentrate on how opposites figure in his predecessors’ accounts of the whole. Perhaps he is prompted to take up this theme because he has just been discussing the good itself—a principle that might well be thought to have an opposite. He mentions Empedocles and Anaxagoras by name, and is clearly thinking of Plato as well, the very trio mentioned in the passage just cited in Book A. Aristotle’s Empedocles has two opposite principles—love and strife—one of which is the good and one of which is the bad (1075b1–7). (I will return in a moment to clarify what this means.) Thus love is the principle of goodness and strife the principle of badness.

Aristotle’s charge against Anaxagoras is hazier. In Anaxagoras’ system, the good is reason. Aristotle criticizes Anaxagoras, in terms reminiscent of A.7, for treating the good as a source of motion, rather than as an end. But Aristotle seems not to find a principle of badness explicit in Anaxagoras’ theory. Rather, Aristotle seems to think that Anaxagoras is willy-nilly committed to the existence of such a principle. He says, “it would be bizarre [*atopon*] not also to make something the opposite of the good, i.e., reason” (1075b10–11). Why this would be bizarre is not entirely clear. This, too, is a matter to be taken up later. For whatever reason, Aristotle seems to think that Anaxagoras has gone wrong by positing a principle of goodness to which some opposite principle of badness must be opposed (whether or not Anaxagoras himself recognized this). The charge against Anaxagoras is not merely that his theory is committed to the existence of principles that he had failed to make explicit. This would be a weak charge. Rather, the problem is that his theory commits him to a principle of badness that is, like his principle of goodness, imperishable (cf. 1071b6–7). He thus directly violates the explicit stricture of Theta 9: that there is nothing bad among the principles, i.e., the eternal things.

¹ ποτέρως ἔχει ἡ τοῦ ὅλου φύσις τὸ ἀγαθὸν καὶ τὸ ἄριστον, πότερον κεχωρισμένον τι καὶ αὐτὸ καὶ αὐτό, ἢ τὴν τάξιν.

On the Aristotelian theory that emerges in Lambda 10, there is a principle of goodness in the following sense: there is something good, separate and by itself, that is responsible for the goodness of “the nature of the whole” by being responsible for its order. But there is no corresponding principle of badness, as we infer from Aristotle’s emphatic remarks about his principle of goodness, from his silence about principles of badness in his own theory, and from his pointed criticism of the principles of badness in competing theories.

For several reasons, this is an important issue. First, one might well think that the sheer fact that there is badness requires explanation. Why is it that our world, and our lives, not only fail to be perfectly good but are, perhaps, in some respects downright bad? This was presumably one of the things that Empedocles, Anaxagoras, and Plato were trying to account for. To some people, it seemed to cry out for explanation:

Since the contraries of the various forms of good were also perceived to be present in nature—not only order and the beautiful, but also disorder and the ugly, and bad things in greater number than good, and ignoble things in greater number than beautiful things, therefore another thinker introduced love and strife . . . [F]riendship is the cause of good things, strife of bad. (*Metaphysics* A.4 984b32–985a7)

In addition to the intrinsic interest of this question, Aristotle considers it necessary to respond to his predecessors’ views, both in order to learn from them and in order to show his views’ superiority.

Second, there is the question of the scope of wisdom. Supposing that wisdom is a body of knowledge, what is it the knowledge of? In the passages already cited from Book Alpha, Aristotle had given some preliminary argument that it includes knowledge of the good. In achieving wisdom, we need to figure out whether it is also knowledge of the bad.

Third, there is the role of opposites. Aristotle works on the assumption, taken over from Plato, that for any pair of opposites, there is only one body of knowledge. If F^+ and F^- are opposites, then any science that has one of the two as its object also has the other as its object.² If we further assume that the good has an opposite, namely the bad, then the science of the good is also the science of the bad. So there is already some reason to think that it is wisdom’s job to know the bad.

² In Plato, see the passages cited in §4.1, pp. 72 ff., and also *Phaedo* 98d3–5: “The same man [who knows the best] necessarily knows the worse, too. For the knowledge about them [better and worse] has to be the same.” In Aristotle, see, for instance, *Θ.2* and *B.2* 996a20–1.

Furthermore, it is natural to assume that, for any pair of opposites, either both or neither is a principle.³ Thus if the good is a principle, one would expect the bad to be a principle as well.

All this makes it very surprising that Aristotle assumes in Book Lambda, without comment or explanation, that the good, but not the bad, is a principle. He has given arguments for the existence and nature of a good principle, and he seems to recognize in Lambda 10 highly general constraints on principles, and sciences of principles, that would require him to seek a bad principle to complement his good principle. Yet he does not. Why not? I think because he had already argued, in Theta 9, that there is not, and *could not possibly be* a principle of badness. This is the force of his conclusion, “in the things at the level of principles, i.e., in the eternal things, there is nothing either bad or erring or corrupted” (1051a19–21).

Aristotle’s argument hinges on a claim about the nature of badness, and it also suggests an answer to one of the most tantalizing questions in the interpretation of Aristotle: what is goodness? This question arises from Aristotle’s rejection of Plato’s *idea* of the good. This rejection, especially the version in *Nicomachean Ethics* I.6, is very famous. Less famous is a distinction that Aristotle makes in his discussion of the *idea* of the good in the *Eudemean Ethics*. There, he distinguishes the *idea* of the good from the good itself. Here is his definition of the good itself:

They say that the good itself is the best of all things⁴, and the good itself is that which (1) is first among the good things and (2) is the cause, by its presence, to the other things of being good.⁵ (*EE* I.8 1217b2–6)

The two conditions on being the good itself are distinct. The second is a causal condition: the good itself is the cause of being good for the other good things.⁶ The first condition is that the good itself be first among good things. This means that it is the best; it has the property of goodness in a paradigmatic way. If one is willing to call anything good, then surely that. Aristotle goes on to explain why the *idea* of the good—that which all good things have in

³ Aristotle seems to be working on this assumption at *A*.10 1075b20–4. He is at pains to make wisdom something primary, and hence without any opposite. He does not attempt to show that only one member of a pair of opposites may have one status, the other another.

⁴ Note that this mention of “the best” connects with the discussion of the best in *Metaphysics* Lambda 10).

⁵ φασὶ γὰρ ἄριστον μὲν εἶναι πάντων αὐτὸ τὸ ἀγαθόν, αὐτὸ δ’ εἶναι τὸ ἀγαθὸν ὃ ὑπάρχει τὸ τε πρῶτον εἶναι τῶν ἀγαθῶν καὶ τὸ αἰτίῳ τῇ παρουσίᾳ τοῖς ἄλλοις τοῦ ἀγαθοῦ εἶναι. ταῦτα δ’ ὑπάρχειν ἀμφοτέρω τῇ ιδέᾳ τοῦ ἀγαθοῦ.

⁶ I have modified the definition of the good itself by removing the words “by its presence.” I do so because I think that Aristotle is there using Plato’s language for talking about forms. For Plato, the good itself makes other things good *by its presence*. For Aristotle, it makes other things good in some other way.

common but which is separate from them—is the good itself.⁷ He denies that there is an *idea* of the good. (He also denies that the *idea* of the good, even if there were such a thing, could be the human good that concerns practical thought.) But this leaves open two questions:

1. What is goodness? That is, what is it that all good things have in common?
2. What is the good itself? That is, what is the first of all good things, because of which the other good things are good?

The first is a question about the property of goodness. The second is a question about what things that have this property exist.

It is fairly easy to find Aristotle's answer to the second question, even if there is a great deal about that answer that is not easy to understand. The good is the first unmoved mover of the heavens. How the first unmoved mover of the heavens is responsible for everything's goodness, is far from clear. Still, it is clear that the first unmoved mover of the heavens is not goodness: it is not something that all good things have in common. Plato had given one answer to both questions at once; Aristotle does not. His answer to the second question leaves the first question open.

But Aristotle nowhere answers the first question. In the *Nicomachean Ethics*, he raises the question of how the property of goodness is to be understood:

Hence the good is not something common [to all good things] in virtue of a single *idea*. But then in what way are things called good? They do not seem to be like the things that only chance to have the same name [τοῖς γε ἀπὸ τυχῆς ὁμωνύμοις]. Are goods one, then, by being derived from one good or by all contributing to one good, or are they rather one by analogy [ἀλλ' ἄρά γε τῷ ἄφ' ἐνὸς εἶναι ἢ πρὸς ἐν ἅπαντα συντελεῖν, ἢ μᾶλλον κατ' ἀναλογίαν]? Certainly as sight is in the body, so is reason in the soul, and so on in other cases. But perhaps these subjects had better be dismissed for the present; for perfect precision about them would be more appropriate to another branch of philosophy. (NE I.6 1096b26–31)

He here mentions two ways of thinking about the unity of the class of good things. One is already familiar to us from our discussion of *energeia*: analogy. The other is core-dependent homonymy, or is at least very similar to that. There is some primary good, such that all the other goods either derive from or contribute to it. But Aristotle does not say, either in the *Nicomachean Ethics* or anywhere else, how we ought to understand goodness.

The arguments about badness in Theta 9 strongly suggest an answer to this question: that Aristotle thinks goodness is (roughly speaking) *energeia*.

⁷ I derive this definition from the following lines, 1217b6–15.

14.2 IS EVERY *ENERGEIA* BETTER THAN ITS CAPACITY?

Given the high stakes, one might have expected Theta 9 to attract extensive commentary. But it has not. This is, I think, primarily because of the difficulty of the text. Most commentators have found the arguments sorely defective. Even setting aside those problems, the text is almost shockingly terse. From the first sentence of the chapter, it is hard to determine what precisely Aristotle is saying, let alone what the reasons for it are.

The most important question is whether Aristotle is making a restricted or an unrestricted claim about the superiority of *energeia* over capacity.⁸

RESTRICTED CLAIM: (a) If the *energeia* corresponding to a capacity is good, then it is better than the capacity. (b) And if the *energeia* corresponding to a capacity is bad, then it is worse than the capacity.

UNRESTRICTED CLAIM: The *energeia* of a capacity is better than the capacity.

These two claims are in grave tension with one another. For the RESTRICTED CLAIM strongly suggests, that some capacities have bad *energeiai*. And it says that, if so, then the *energeiai* are worse than the corresponding capacities. But the UNRESTRICTED CLAIM denies that the *energeia* of a capacity is ever worse than the capacity.

It is hard to tell which claim Aristotle is making in Theta 9. Makin says that Aristotle asserts clause (a) of the RESTRICTED CLAIM twice, at 1051a4–5 and 1051a15, but that is not quite accurate. The former sentence reads, “It is also clear, from the following, that *energeia* is both better and more honorable than excellent capacity.”⁹ But this does not straightforwardly state the RESTRICTED CLAIM, since it refers simply to *the energeia*.¹⁰ And the same goes for the second sentence he cites, which reads: “Hence the *energeia* is better.”¹¹ Makin also says that Aristotle asserts clause (b), but the same problem arises again. What Aristotle actually says is, “And in the case of bad things, the end and the *energeia* must be worse than the capacity”

⁸ I am borrowing Makin’s formulation of this issue. Despite my criticism of his reading, my own reading owes a deep debt to his formulation of the question.

⁹ ὅτι δὲ καὶ βελτίων καὶ τιμιωτέρα τῆς σπουδαίας δυνάμεως ἡ ἐνέργεια, ἐκ τῶνδε δῆλον.

¹⁰ Ross in Barnes translates, “That the *good* actuality is better and more valuable than the good potentiality is evident from the following argument” (p. 1660; my emphasis). Although σπουδαία occurs only with δύναμις, Ross takes it again with ἐνέργεια. This reading makes it harder, not easier, to construe the subsequent argument. For that argument shows that, of the two *energeiai* associated with a capacity, one is good and the other bad. That is enough to establish the conclusion. The argument does not introduce further considerations to decide whether the good *energeia* or the capacity is better.

¹¹ ἡ ἄρα ἐνέργεια βελτίων.

(1051a15–16).¹² Here, as before, Aristotle speaks of the *energeia* of a capacity, as if that were unambiguous. He is not speaking about the bad exercise of a good capacity, but about the exercise of the capacity of a bad thing—presumably, the exercise of a bad capacity. So here, too, the idea is not simply that capacities are neither good nor bad, whereas each *energeia* is either good or bad. But in this case—in the case of a bad thing—the *energeia* is bad, rather than good. In sum, the positive evidence in favor of the RESTRICTED CLAIM is very weak.

There is better evidence that Aristotle accepts the UNRESTRICTED CLAIM. The sentences I have just cited, which are the major conclusions of the first part of Theta 9, suggest this. Moreover, Aristotle's grand conclusions support reading him as making the UNRESTRICTED CLAIM. He says, "Thus it is clear that the bad is not something over and above the things. For the bad is posterior in nature to the capacity" (1051a17–19).¹³ The demotion of the bad here would seem to harmonize with the thought that it is only good *energeiai* that are properly *energeiai*. Even stronger support comes from the further conclusion, "Thus, in the things at the level of principles, i.e., in the eternal things, there is nothing either bad or erring or corrupted" (1051a19–21).¹⁴ This conclusion relies on Theta 8 and its conclusion that being eternally *F* cannot be the exercise of a capacity. The eternal things are pure *energeiai*, without underlying capacities. If Aristotle were merely saying that *energeiai* have some determinate value, then it would be impossible to see why eternal, pure *energeiai* should be good rather than bad.

Unfortunately, it cannot be that simple. For Aristotle says things that clearly contradict the UNRESTRICTED CLAIM. (This is the best reason to favor the RESTRICTED CLAIM.) Decisive evidence has already been cited: for bad things, the *energeia* is worse than the capacity. Moreover, the argument for the first claim of the chapter also contradicts the UNRESTRICTED CLAIM. That argument hinges on the premise that capacities are "of opposites." What precisely this means is a further problem of interpretation, to which I'll return. At any rate, Aristotle speaks of the *energeiai* (plural) associated with a capacity. There are two, one good and one bad. So this argument also contradicts the UNRESTRICTED CLAIM.

These difficulties reflect a genuine tension within Aristotle's thought. It is not merely sloppy writing, which gives a deceptive impression of tension.

¹² ἀνάγκη δὲ καὶ ἐπὶ τῶν κακῶν τὸ τέλος καὶ τὴν ἐνέργειαν εἶναι χεῖρον τῆς δυνάμεως.

¹³ δῆλον ἄρα ὅτι οὐκ ἔστι τὸ κακὸν παρὰ τὰ πράγματα· ὕστερον γὰρ τῇ φύσει τὸ κακὸν τῆς δυνάμεως.

¹⁴ οὐκ ἄρα οὐδ' ἐν τοῖς ἐξ ἀρχῆς καὶ τοῖς αἰδίοις οὐθὲν ἔστιν οὔτε κακὸν οὔτε ἀμάρτημα οὔτε διεφθαρμένον.

But neither is it sloppy thinking, which entangles Aristotle in self-contradiction. Aristotle is presenting a coherent but complex view about the metaphysics of badness.

Part of the solution is to discern the parallel between the discussion in Theta 8. There, Aristotle claimed that *energeia* had priority in being over capacity, but this amounted to different (but connected) things for perishable and eternal things. Likewise, here in Theta 9, the superiority of *energeia* amounts to different (but connected) things for perishable and eternal things.

In order to make good this proposal, we have to see that the central claim of the chapter is not one of its conclusions, but rather one of its premises: the bad is posterior to capacity. Rightly understood, this account of badness will relieve the tension among Aristotle's various claims without robbing them of content. It will give us different but connected ways of understanding the possibility of badness among perishable things and the sheer impossibility of badness among eternal things.

14.3 THE DEFINITION OF BADNESS

I take Aristotle to be giving a definition of badness when he says:

The bad is posterior in nature to capacity. (Theta 9 1051a18–19)¹⁵

This claim echoes the claims about *energeia* from Theta 8. There Aristotle claimed that *energeia* had priority over capacity in three ways: in account and knowledge, in time and genesis (although in a way capacity had priority), and in being. Now we learn that the bad is *posterior* in nature to capacity.

Priority in *nature* (*phusis*) and priority in *being* (*ousia*) are the same relation. In Delta 11, Aristotle uses the two terms equivalently, speaking of priority “in nature and being” (κατὰ φύσιν καὶ οὐσίαν; 1019a2–3). In M.2, Aristotle speaks of priority in being (*ousia*), contrasting it with priority in account; the fundamental idea seems to be the same as in Delta 11 (1077a36–b4). In *Categories* 12, Aristotle uses the phrase “prior in nature” for something that is a cause of *being* for something else (14a29–35). The support from other texts is reinforced by the context within *Metaphysics* Theta. Having given a lengthy argument for *energeia*'s priority in being, Aristotle uses a familiar synonym for “priority in being” in order to reach a further conclusion: *energeia* is prior to capacity, and capacity is prior to “the bad.”

¹⁵ ὕστερον γὰρ τῇ φύσει τὸ κακὸν τῆς δυνάμεως.

What could this possibly mean? It will take quite a lot of work to develop an answer.¹⁶ I will do so by working through the arguments of the chapter. Those arguments reach the following conclusions:

CONCLUSION 1: The *energeia* of an excellent capacity is better than the capacity.

CONCLUSION 2: The *energeia* of a bad capacity is worse than the capacity.

CONCLUSION 3: There is nothing bad over and above the things.

CONCLUSION 4: Among eternal things, there is nothing bad (or in any way defective or imperfect).

The conclusions form two pairs. CONCLUSIONS 1 and 2 concern badness among perishable things, which are not principles. CONCLUSIONS 3 and 4 concern principles, which are eternal. CONCLUSION 3 is primarily negative; it is a criticism of rival theories. CONCLUSION 4 is positive, a constraint on any theory of principles and a crucial contribution to Aristotle's own.

The definition of badness is introduced in the argument for CONCLUSION 3, but I think it stands in the background of the entire chapter. There is no argument for the definition. This is one of the things that suggests that it is a definition. If it were not a definition, it would surely be in need of argument, just as the similar claim about *energeia* is in need of argument. But there is motivation for it that emerges from the discussion of the *energeiai* of good and bad capacities. This motivation strongly suggests, as we will see, that Aristotle thinks goodness is (primary) *energeia*.

14.4 EXCELLENT CAPACITY

Throughout, I will work on the assumption that every capacity is for the sake of something, and in particular, for the sake of some *energeia*. Sometimes a capacity, even a good capacity, might bring about an *energeia* other than the one it is for. For instance, the art of housebuilding can be exercised so as to bring about a house, or it can be exercised so as to tear down a house. The art of medicine can be exercised so as to bring about health or sickness. But nevertheless, for each capacity, there is one and only one *energeia* that the capacity is for the sake of. Aristotle has prepared us for this idea in Theta 2. He was careful not only to argue that rational capacities can be exercised so

¹⁶ Makin notes that "commentators have struggled to make [the posteriority of badness to capacity] plausible" [19, p. 228]. He concludes that one should not derive from the posteriority of badness the conclusion that there is nothing bad over and above the things, although the text seems to do precisely this. But I think that we can find a rich and compelling argument in the chapter. Then there is no need to take the *gar* in 1051a18 as explicative, as Makin suggests. It introduces a justification, as it usually does.

as to bring about either of two opposite results, but also to argue that *only one* of those results is properly the result that the capacity is for.

Let us begin by considering only good (*spoudaia*) capacities. Aristotle begins Theta 9 by claiming that the *energeia* of such a capacity is better than the capacity. But what does he mean by “excellent capacity”? I think he means that the capacity in question is for the sake of a good *energeia*.¹⁷ And the good *energeia* that the capacity is for, is also “the” *energeia* that is better than the capacity.

We can think of the argument as adjudicating between competing claims to goodness of the *energeia* and the capacity. Both have legitimate claims. The capacity is, after all, excellent (*spoudaia*). This means that it is for the sake of a good *energeia*. Aristotle argues that the *energeia* is better by showing that the capacity is not, after all, good. (It is presumably a constraint on any reading of the argument that this conclusion not contradict the assumption that the capacity is excellent [*spoudaia*].)

One might lose sight of why there is need for argument here. Is it not obvious that the resulting *energeia* is better than the capacity from which it comes about? No, that is not obvious. For the capacity is the causal basis of the *energeia*. And in general, Aristotle (following Plato) tends to assume that whatever makes things *F* is itself at least as *F* as the things it makes *F*. For instance, Aristotle says that fire is the hottest thing because it is fire that causes other hot things to be hot (α.1 993b24–6).¹⁸ The good itself—both a paradigm and a cause of goodness—is also an example.

The difference between fire as a cause of heat and a capacity to heat is that fire only heats, whereas the capacity is “of opposites.”¹⁹ So if the capacity is to be evaluated by the goodness or badness of what it brings about, then it should inherit the value either of both results or neither. As Aristotle says, “*being able* must be both or neither alike” (1051a14–15).²⁰

¹⁷ The questions what Aristotle means by “excellent capacity” here, and what role this restriction plays in the argument, have been neglected by commentators. Ross, Makin, and Witt do not address them at all. I do not see any promising alternative to the interpretation I suggest. What else might be meant by “excellent capacity”? It might mean that the capacity in question only brings about good results. But this is refuted by Aristotle’s claim that capacities are “of opposites.” Or excellent capacities might be those that are *effective* in producing their ends. For instance, an excellent instance of the medical art is one that is especially effective at producing health (and sickness). But this plays no role in the argument. The examples Aristotle gives (moving, being healthy, building, being built) do not exhibit this restriction. Aristotle is speaking about the capacity to build in general, not only about especially good builders. And his assumption that capacities are of opposites is not restricted to capacities that are good in this sense.

¹⁸ I owe the citation to Makin.

¹⁹ This is presumably a problem for thinking of a capacity as a cause. Although each capacity is for some certain *energeia*, each capacity is “of opposites.” And Aristotle seems to subscribe to the restriction on causation that a cause cannot bring about opposites.

²⁰ τὸ δὲ δύνασθαι ὁμοίως ἀμφοτέρων ἢ οὐδέτερον.

But Aristotle has also argued emphatically that the two *energeiai*—the good one and the bad one—exclude each other:

Being able is, at the same time, of opposites, but opposites are unable to be at the same time, and it is impossible that both *energeiai* are around at the same time (for instance, being healthy and being sick). (1051a10–13)²¹

This is presumably sufficient to exclude the capacity's inheriting the value of both *energeiai*. Given that the capacity is to be evaluated by what it brings about, the capacity turns out to be neither good nor bad. Hence the *energeia* is better.

The heart of Aristotle's argument is the evaluation of a capacity in the light of its role in causation. But two important issues deserve further attention. First, in what sense are capacities "of opposites"? Aristotle had appeared to deny just this claim in his discussion of rational powers. Second, in what sense are there two *energeiai*? These two questions are connected. The cases that are most congenial to Aristotle's discussion here are those of rational powers. A rational power, it was argued in Theta 2, can be exercised in two ways. Aristotle implicitly reminds us of this when he mentions "building" and "tearing down" (1051a9–10). In such a case, there are two *energeiai*: building and tearing down. These *energeiai* are opposites. With that, we have our answers to both questions.

But these answers are not readily applicable to all cases. Most importantly, non-rational powers had been said in Theta 2 to be "one of one" (1046b6). For instance, a hot stone has the power to heat other things, but this is a power only to heat, and not also a power to cool. Water has the power to wet other things, but this is a power only to wet, and not also to dry. This creates two problems for the parallel with the art of housebuilding in Theta 9. First, in such cases, the capacity cannot be exercised so that an *energeia* occurs that is opposite to the *energeia* that the capacity is for. Second, in such cases, the capacity cannot be exercised so that *any* *energeia* occurs, other than the one *energeia* that the capacity is for. To exercise the capacity is to perform the one *energeia* that the capacity is for. This is *not* the case for rational abilities. To exercise the capacity is to perform *either* the *energeia* that the capacity is for or the opposite one. How can we solve these problems?

The only capacities that present a problem are active, non-rational powers. Active rational powers are obviously, on Aristotle's view of them, "of opposites." Aristotle has not given us an explicit discussion of passive, non-rational powers, but it seems fairly easy to see how they are "of opposites." Whatever has the capacity to be affected so as to become F^+ is also such as to be F^- . To borrow Aristotle's examples from here in Theta 9: what can be set in motion,

²¹ τὸ μὲν οὖν δύνασθαι τὰναντία ἅμα ὑπάρχει· τὰ δ' ἐναντία ἅμα ἀδύνατον, καὶ τὰς ἐνεργείας δὲ ἅμα ἀδύνατον ὑπάρχειν (οἷον ὑγιαίνειν καὶ κάμνειν).

can also be stopped; what can be built into a house, can also collapse; what can be made healthy, can also be made ill. It is presumably not an objection to Aristotle's view that, for instance, what is in capacity hot is not in capacity but rather in *energeia* cold, and thus, in a sense, cannot be made cold. The idea is that the thing in question has a single property which is such that it can become either hot or cold.

Nor do natures present a problem. As in Theta 8, natures are, for present purposes, capacities. (But they are not "capacities connected with change" in the sense of Theta 1, because they are not principles of change *in another thing*, but rather in the very thing that has the capacity in question.) Natures, like passive powers, are properties in virtue of which changes occur so that something becomes F^+ . But the change in question might not occur, or might go wrong in such a way that F^+ does not come about but rather F^- (or some intermediate state, in the cases where this is possible). Whatever is such as to end up F^+ by undergoing a *change* cannot now be F^+ . Fire's nature is to be at the periphery of the world, but it can be near the center. An immature human being's nature is to grow so as to have an (adult) human size, but it might not grow at all and remain too small for an adult. For any embodied living thing, it is its nature to live, but it might not live—and at some time will certainly cease to do so.

Let's consider a non-rational active power: say, a hot stone's power to warm some water. There are two ways to think about the stone's power to warm. On the one hand, one might think that it is a power that it loses when it turns cold again. On this view, I do not see how the capacity in question—namely, the power to heat—is in any sense of opposites.

On the other hand, one might think that the stone's power to warm is a determination of an underlying capacity for being warm or cold. The stone has a capacity for being warm or cold (not two capacities, one to be warm and one to be cold). When something makes the stone hot, this capacity is its power to warm things. On this view, it would be in virtue of *that very capacity* that the stone can also cool—although, of course, the stone cannot cool while it is hot.²²

In sum, all capacities are properties that are subject to change. (The properties that do not change, i.e. are eternal, are not *energeiai* of capacities at all.) Being subject to change, they can be gained and lost. Some powers can be exercised in two ways, to bring about opposite results, because they are patterns or guides for an independent principle of motion (the soul). Other

²² One might instead take the opposite *energeia* to be simply the non-exercise of the capacity in question. I myself read Theta 8 (1050b24–34) as saying this. But I think that the point in Theta 8 was different from the point here. In Theta 8, he does not explicitly claim, as he does in Theta 9, that each capacity is connected with two *energeiai*. Moreover, these *energeiai* are said in Theta 9 to be *opposites*, and not merely contradictories. Mere non-heating is not the opposite of heating.

powers can be exercised in two ways, so that opposite results come about, because they are passive powers whose fate is in the lap of the various active powers. Some powers can be exercised in two ways, to bring about opposite results, because they are determinations of capacities to have a certain property that can then be passed on to another item. Such capacities are of opposites in that the thing in question has the power to make other things F^+ in virtue of being F^+ itself. It is now F^+ in *energeia*, but it became F^+ ; before it became F^+ , it was F^+ in capacity and was not- F^+ in *energeia*.

Yet another qualification has to be made to this account. As formulated, it does not cover cases where the property of being F^+ is an essential property of the thing in question—such that, before F^+ was acquired, the thing in question did not even exist, and once F^+ is lost again, the thing in question will perish. Take for instance fire: it cannot lose the power to heat (its own heat) without also ceasing to be altogether. So it is not the case that there is something that is potentially hot and, once it becomes hot, it is fire.²³ In such cases, we should still say that the power in question is the determination of a capacity that is of opposites. But if that capacity gets determined in the other way (so that the thing becomes, e.g., cold and has the power to cool), then the thing in question goes out of existence. So we should not say that, for every thing that has an active non-rational power, that very thing might have precisely the opposite power (in virtue of the same underlying capacity), but rather that every power is a determination of something that is in capacity such as to have that power, but also such as to have the opposite power.

14.5 BAD THINGS

After the opening argument about excellent capacity, Aristotle introduces a new element into the ontological hierarchy, one which had not figured in Theta 8: bad things.

And in the case of bad things, the end and the *energeia* must be worse than the capacity. For the very thing that is able is [capable] of *both* opposites.

(1051a15–17)²⁴

Aristotle says here, clearly and shockingly, that there are not only bad *energeiai* but also bad *energeiai* that are *ends*. By this he means that the capacities, whose exercise the *energeia* in question is, are for the sake of that

²³ Prime matter would be such a thing: it is first cold in *energeia* and hot in capacity, then becomes fire and is hot in *energeia*. It is still around after it ceases to be fire. I do not myself believe that Aristotle accepted prime matter. But Aristotle's views about opposites and capacities are independent of this issue.

²⁴ ἀνάγκη δὲ καὶ ἐπὶ τῶν κακῶν τὸ τέλος καὶ τὴν ἐνέργειαν εἶναι χεῖρον τῆς δυνάμεως· τὸ γὰρ δυνάμενον ταῦτ' ἄμφω τᾶναντία.

bad *energeia*. Thus the case of bad things (*epi tōn kakōn*) complements the case of excellent capacity (*spouaia dunamis*).

The argument that the *energeia* in question is worse than the capacity in question has the same structure as the argument that the *energeia* of an excellent capacity is better than the capacity. For the ‘evil’ capacity, like the excellent one, admits of both good and bad *energeiai*. (This is what Aristotle is saying in the second sentence of the quotation just above.) Hence the capacity is “neither or both” good and bad. But it cannot be both. Therefore it is neither. But the bad *energeia* is bad, and hence worse than the capacity.

At this point, we need to consider a serious contradiction that threatens Aristotle’s theory. In Theta 8, Aristotle had argued that *energeia* is prior in being to capacity. His argument was based on the general principle that what is posterior in generation is prior in being. Posteriority in generation turned out to be determined by for-the-sake-of relations. And Aristotle also argued that capacities are for the sake of their *energeiai*. Here in Theta 9, he admits bad things, that have capacities that are for the sake of a bad *energeia*. By the arguments of Theta 8, the capacity is for the sake of the bad *energeia*. Hence the bad *energeia* is posterior in generation. Hence the bad *energeia* is prior in being. But this directly contradicts the definition of badness that, I have asserted, is the central thesis of Theta 9: the bad is *posterior* in being to capacity. To avoid this contradiction is one of the central constraints on any interpretation of Theta 9.

Up to this point, Aristotle has been discussing excellent capacity, i.e., capacity whose end is something good. He is careful to distinguish the current class of cases by saying that the bad *energeia* is the end. The *energeia* in question is not the misuse of the capacity. Surprisingly, these capacities are for the sake of the bad *energeia*, as Aristotle makes clear by calling the *energeia* the end.

To avoid the contradiction, we should qualify the assumption that every capacity is straightforwardly for the sake of the corresponding *energeia*. As a first step, we need to find some “bad things,” in a sense that contrasts with the first part of the chapter, on excellent capacity. Finding these things, and seeing how they are not subject to the contradiction that threatens, will illuminate the posteriority of badness.

Let us begin by reviewing what Aristotle has already said about badness. This is not much, because he was concentrating on excellent capacities. Such capacities are of opposites, and this means that they can be exercised so as to bring about their proper end, but they can also be exercised so as to bring about another end. To reuse our well-worn example: a doctor can make patients healthy or sick. In this case, it is particularly appealing to think that the doctor, in the one case, is *misusing* their capacity, to bring about a bad result (sickness). Sickness is a bad state of the body. The doctor has an excellent capacity, so the doctor is not a bad thing. On the contrary, the doctor is a good

thing. Nevertheless, the excellent capacity can be misused by the doctor to bring about results that are, by the standards of doctoring, bad.

At least two sorts of thing can happen. The doctor might intentionally make the patient sick, for reasons independent of the art of medicine. Perhaps the doctor believes he ought to heal the patient but is overcome by hatred or self-interest (perhaps Bulstrode in *Middlemarch* is such a case—although he is not a doctor, he is charged with someone's medical care). Perhaps the doctor decides to make the patient sick and acts on this decision, either for noble or base reasons. On the other hand, the doctor might intend to make the patient healthy, but nevertheless make the patient sick. Perhaps the doctor is incompetent, having only partially and badly mastered the art of medicine. Perhaps the doctor administers the wrong medicine by chance—say, someone mislabeled a container. Perhaps external factors intervene: the doctor's treatment presupposed that the warm weather would hold, but there is a cold snap that causes the doctor's treatment to backfire.

On the side of the patient, too, there is a capacity—namely, the capacity to be made healthy. Being healthy is the proper end of that capacity, but it is also the capacity in virtue of which the person might turn out to be sick. Things might work out badly for the patient, but the patient has an excellent capacity, and to that extent does not seem to qualify as a bad thing.

In some cases, the severity of the patient's condition, or facts about the circumstances, might preclude even a perfect doctor's making the patient healthy. But this does not mean that there is no doctoring to do. The doctor might slow a patient's decline, and ease the patient's discomfort. In such a case, the patient does not end up healthy, but this is not because of any misuse of the art of medicine. It is because something can lose the capacity to become healthy, or have this capacity severely impaired, and because the conditions, under which a sick person can be made healthy again, do not always obtain.

The capacities in question—the art of medicine and the capacity to be healed—are correlative active and passive powers. But other familiar capacities do not seem to introduce essentially different considerations. As with powers, external factors might interfere, so that a thing's nature might not be effective in achieving its end. (And some natural things, like the simple bodies, are (arguably) at the mercy of other things for achieving their ends: in order to reach their appointed places, these things have to be moved by other things.²⁵)

As with powers, the capacity in question might be defective, like an incompetent doctor. Due to its defective nature, the thing in question will not, even in optimal circumstances, fulfill the norms of its own kind. For instance, some human beings are unable to speak, or to reproduce. Such entities seem most naturally described not as *bad*, strictly speaking, but rather as falling short

²⁵ See Sean Kelsey's recent paper for an explanation and defense of this view [52].

of perfection. The resulting human being may not be able to flourish in the fullest way available to a human being, but he or she is nevertheless to some extent good: able to live independently within our society, able to read, able to eat and drink. It is because of the thing's nature that it has ended up this way, but it is nevertheless a good thing: both in the sense that the capacity in question is for a good end, and in the sense that the resulting thing is to some extent good.

However, it is not possible for a nature to be misused, so as to bring about a result opposite to its proper end. This is possible for rational powers because of the way they are lodged in a soul—an independent principle of motion that can turn the knowledge in question to either of two uses. Natures are not rational powers and thus are “one of one.” A fish's nature never acts for the sake of anything except the ends of fishy life, and certainly never the sake of the opposite (if there is one).

In sum, even if the only capacities were excellent ones, there could still be plenty of imperfection and badness in the world. The exigencies to which all changes are subject entail that capacities sometimes fail to achieve their ends. In such cases, the changing thing ends up more or less badly off. Moreover, rational capacities can be misused.

In all these cases, it is fairly easy to see how the badness in question is posterior in being to capacity. The badness can be understood in terms of the norms of the proper end of an excellent capacity. And this can be construed as a definitional claim: what it is to engage in bad doctoring derives from what it is to have the art of medicine, a capacity whose end is health, not sickness. What it is to be sick, derives from what it is to have a certain capacity, namely the capacity whose proper end is to be healthy. What it is for an animal to develop badly derives from what it is to have the nature of the species in question, the nature being a capacity whose end is a flourishing member of the species. For these cases, at least, I think that Aristotle's claim that the bad is posterior in being to capacity is attractive.

This catalog, wide-ranging though it is, omits a more robust form of badness. All the capacities mentioned are good at least to the minimal extent that they are for the sake of good ends. Yet one can imagine, at least, a more lurid kind of badness, consisting in capacities that are for the sake of bad ends. This is what Aristotle, shockingly but clearly, admitted into his philosophy in the quotation with which this section began. He admits not only capacities with a bad *energeia*, but bad *energeiai* that are the *end* of the corresponding capacity.

What sorts of things does Aristotle have in mind? Many candidates turn out *either* not genuinely bad, but only lousy members of their kind *or* not really to be anything at all, but merely ruined former members of kinds. Instruments of torture and deception, however, seem to me good candidates for bad things in the relevant sense. The things in question have to have torture and deception as

their ends. Shackles and daggers, which can certainly be used for torture, have other, presumably good ends. An iron maiden, which is made for torture and has no other end, is perhaps something bad. Counterfeit money and loaded dice might also count as bad in this sense. The corresponding arts of torture and deception would be too, if there are any.²⁶

Perhaps the most interesting cases are vices. They are capacities in the sense relevant to *Metaphysics* Theta. The difficulty is to determine what end a vice (or complete vice) serves. About some vices, it is quite easy to think that they have ends: gluttony serves the end of bodily pleasure; injustice serves the end of one's getting more than one's share of money, property, and honor, cowardice serves the end of survival, rashness of victory and glory, stinginess of preserving financial assets. But it is not so clear that these ends are themselves bad. The problem with cowardice is not seeking survival as such; the courageous person also seeks survival. The problem with cowardice is that it involves excessive fear of some things, and inadequate fear of others. Similarly, the bodily pleasure that gluttony seeks is, in a sense, a good thing.²⁷

So, if we are going to take vicious people as bad things in the sense of Theta 9, then the ends they pursue will have to be specified somewhat differently. For instance, one might think of the end of cowardice as survival at all costs. It is important to remember here that vice is to be distinguished from vicious behavior. The akratic person performs vicious acts, but is not vicious because they act against their decision. The vicious person acts according to their decision, and must thus be committed to the pursuit of some ends that are bad. Moreover, this decision expresses a stable state of character, which involves beliefs and other motivations that together aim at the bad ends chosen.²⁸ Presumably, there will also be *something* good about the end: the bodily pleasure of the glutton, or the survival of the coward. That is, in aiming at bodily pleasure or survival, the vicious person aims at something good. But in aiming at survival *at all costs*, or bodily pleasure *in such quantity*, the vicious person aims at something bad.

Cases like this present a problem for Aristotle's claim that the bad is posterior in being to capacity. For it is plausible to say what Aristotle said

²⁶ There is some reason to think that Aristotle presupposes all arts have good ends (see, e.g., the first sentence of the *Nicomachean Ethics*).

²⁷ I wonder whether there is also such a thing as complete vice, corresponding to the complete virtue of full-fledged *phronēsis*. There are at least two questions here. (1) Is it possible for someone to be totally vicious, combining all the vices that there are to have? (2) Is there a single, unitary state that is perfect vice? One might think that the vices do not constitute a collective unity the way the virtues do. A multiply vicious person merely has many vices, not one grand vice. Whether question (2) should be answered yes or no, depends perhaps on whether there is a single end of all vice, as happiness is the end of all virtue.

²⁸ Vice is not only stable but incurable (*aniatos*; NE VII.8 1150b32).

in Theta 8: what it is to *have* vice depends on what it is to *exercise* vice. According to the arguments of Theta 8, the badness of vicious activity is prior, not posterior, to vice because it is precisely what vice is for.

I think that we can rescue Aristotle from contradiction with a more precise account of the capacity involved in vice, drawing on my account of how capacities are “of opposites.” A human being is born with certain motivational and cognitive capacities—capacities for moving and perceiving—that are in need of education. They need education even if the person is to achieve the comparatively modest end of leading a normal life in a society like that of ancient Athens or the modern US, let alone the fulfillment of their end, which I assume to be practical and theoretical wisdom (*phronēsis* and *sophia*). For perfect virtue to be achieved, the human being will first have to undergo many changes. The newborn cannot even speak, let alone deliberate. This is connected with the fact that the newborn cannot be moved by someone else’s suffering, or by considerations about someone else’s welfare. The newborn has a so-called first potentiality for virtue: a capacity to undergo a change (the acquisition of virtue), whose end is in a way the state of being virtuous and in a way the *energeia* of that state (the living of a virtuous life). Because this is a capacity for undergoing a change that results in a capacity, and because the change can go badly wrong, there is the possibility for the product of the change having a bad end.²⁹

This is the key to seeing how the badness of vice is posterior to capacity. The badness of vicious activity is not posterior to the badness of vice. But the badness of vice, although it is a capacity, is also an *energeia* of a sort. For it was the outcome of a change, the process of maturation and education that the person in question underwent. It is this capacity to change so as to become vicious or virtuous, and not vice itself, that is of opposites.

Moreover, vicious activity is posterior to that capacity, and not to vice itself. For the capacity to develop into a vicious or virtuous person is itself posterior to virtuous activity. The capacity is for the sake of virtue, which is in turn for the sake of virtuous activity, which is a final end, not for the sake of something further. What it is to be virtuous depends on what it is to exercise virtue. Likewise, what it is to be virtuous in capacity depends on what it is to be virtuous in *energeia*. In each case, what is prior sets the norms for what is posterior: what it is to be virtuous activity sets the norms for virtue, and what it is to be virtuous sets the norms for being virtuous in capacity.

Being virtuous in capacity is not having a capacity to perform virtuous actions, but is rather having a capacity to change so as to turn out virtuous. The development of a virtuous person can go wrong, so that the person turns

²⁹ One would like to know much more about how Aristotle thinks vice comes about. Plato, in the *Republic*, tells us a great deal about what can go wrong in a person’s development so that they end up vicious. Aristotle is reticent on the topic.

out vicious rather than virtuous. In that case, the person has a vice, a settled disposition to do downright bad things, and the bad things that the person does are the end served by their disposition.³⁰ (If a coward flees battle, but is struck down nevertheless due to having hesitated too long, then the coward has done a bad job of performing the cowardly action.) The vice is the corruption of a capacity to develop into a virtuous person. That is, what it is to have a vice is to have a settled disposition for the sake of performing certain actions, such that this disposition is the outcome of a developmental process that started from a disposition that was for the sake of performing precisely *not* those actions, but other actions instead. The very essence of vice is bad in the sense that the essence of vice includes the very norms of virtue that vice systematically rejects. It includes those norms because vice is the bad outcome of a change that starts with a capacity for something to change so as to become virtuous.

This is my account of the posteriority of badness. Bad things in the full-blooded sense—something with a capacity that is for the sake of something bad—can only come about in restricted circumstances. Such things are, necessarily, the outcome of a change. The change in question must be the exercise of a capacity for changing so as to become something good—something with a capacity that is for the sake of something good. In some cases, instead of acquiring a capacity that is for the sake of something good, the thing acquires a capacity that is for the sake of something bad.

In the normal and good case, the capacity acquired is for the sake of something good. What it is to be that capacity depends on the good thing for whose sake it is. And what it is to be the capacity to acquire that capacity, likewise depends both on the good capacity and the exercise of it. In the case of a bad thing, the ontological hierarchy is inverted. What it is to be the bad capacity depends on what it is to be the capacity to acquire a good capacity. (I do not, however, see any reason to think that the exercise of the bad capacity depends on that capacity.)

I wish I had a clear view of what conditions are necessary and sufficient for the possibility that a change issue is something bad in the full-blooded sense. I have specified some necessary conditions for this, but I do not think that they are sufficient. For instance, the materials for a house might seem to fulfill the necessary conditions, but I do not see how it is possible to produce a house that is bad in the full-blooded sense. Any putative house that serves a bad end would seem not to be a house. Perhaps the problem is that the house, although it does have capacities, does not have any capacities to perform actions. Perhaps bad things can only come about through a course of

³⁰ To be precise, the end is not the actions performed, but the things thereby gained: not theft, but the stolen object is the end. Thus there is a crucial 'structural' difference in the teleological structures of virtue and vice: virtuous actions are performed for their own sake, vicious ones are not.

development that results in *active* capacities, to perform actions on one's own in appropriate circumstances. One can imagine, for instance, that the training of a violinist might go so badly wrong that the violinist ends up with a settled disposition to produce horrifying sounds. This is the end of the disposition, something the violinist values. At any rate, I do not now know how to specify necessary and sufficient conditions for the possibility of full-blooded badness.

However, I hope to have given a compelling account of what it means that badness is posterior in nature to capacity, in a way that seems plausible and appealing. I will now go on to explain how this conception of badness also serves as a crucial premise for the subsequent argument of Theta 9.

14.6 THE BAD ITSELF

When Aristotle says, "Thus it is clear that the bad is not something over and above the things," I think he means that there is no bad itself, in a sense parallel to the good itself.³¹ There is no first among bad things that is the cause of badness to the other bad things. In other words, there is no principle of badness, such as Empedocles' Strife or Plato's Receptacle.³² Recall that the good itself is to be *necessarily* the first among good things, because of which the other things are good. Likewise for the bad itself, if there were such a thing.

That there is no such thing follows easily from two assumptions. First, badness is posterior in nature to capacity. Second (from Theta 8), no capacities

³¹ Ross suggests that Aristotle has in mind the forms of evil that Plato has Socrates describe in various passages: *Republic* III 402c & V 476a, along with *Theaetetus* 176e. Ross does not flesh out what he means, but the idea seems to be something like this: there is not anything that all bad things have in common; they simply fail to have the good state that good things have in common. Makin rejects the connection with Plato (where the evidence is indeed slender), but adopts the same idea [19, pp. 229–31]. I think that this view is to be rejected on a number of grounds. Makin himself points out that this solution founders on the case of rational powers. Moreover, it faces the serious objection that there seem to be sciences of bad states, e.g., medicine includes knowledge of disease, and ethics, perhaps, of vice. A further objection is that the contrast between excellent capacities and bad things strongly suggests that there are bad things in some fairly strong sense. Lastly, Aristotle is here making a statement about something *separate* from the bad things. According to Ross and Makin, Aristotle is concerned about whether bad things have anything, as such, in common. Yet this says nothing about whether there is something bad separate from them. I conclude that he is here already talking about bad principles, of a certain sort.

³² Aristotle mentions a related view of Plato's in several texts, that there is a principle of badness called "the great and the small" or "the indefinite dyad" (*Metaphysics* A 998a14, Λ 1075a35, and N 1091b31). Ross thinks that Aristotle is rejecting this view in the sentence after the one I discuss here (1051a19–21). But there are no texts by Plato that explain the great and the small, or the indefinite dyad (at least not under those names). Thus I prefer to speak about the Receptacle, and do not see that any philosophical issues are thereby elided.

are necessarily exercised. (This view is intimately connected with the view that all capacities whatsoever are “of opposites.”) It is essential to capacities that it be open to them *not* to be exercised. And it is also essential to them to wear out, so that constant exercise will eventually lead to their destruction.

First I will argue for the conclusion that whatever in the world is bad, is posterior to a capacity that is for the sake of something good. This does not follow immediately from the assumption just mentioned. It merely follows that anything is posterior to some capacity. Whether the capacity is for the sake of a good or bad *energeia* depends on whether it is good or bad. But if the capacity in question is for the sake of a bad *energeia*, and hence itself bad, it must be posterior to a further capacity. (I confess that I am uncertain whether this corresponds to a real case.) Surely Aristotle would not allow an infinite series of bad capacities, each prior to the last. Therefore the series must terminate, with a capacity that is for the sake of a good *energeia*.

Now suppose that there is some single thing that is the worst thing in the world, and in that sense first among bad things. Its being the worst thing would be contingent, since no capacities are necessarily exercised. Nor would it be responsible for all the badness in the world (assuming that there were bad things before it came about and will be after it perishes). Even if, improbably, it did turn out to be the cause of all the other badness in the world at a certain moment, that could only be a contingent fact, since every case of badness derives (directly or indirectly) from a capacity whose end is good. Thus there is no bad itself.

With this, Aristotle has given a general argument for rejecting all bad principles of a certain sort: bad things, i.e., things with capacities whose end is a bad *energeia*. Empedocles’ Strife seems to be such a thing. Thus I think that Aristotle’s denial that there is a bad itself is a direct extension of the immediately preceding remarks about bad things. But the argument only works if it is necessarily true that badness is posterior to capacity. The simplest view would be that this is necessarily true because badness just is this kind of posteriority to capacity (posteriority that involves failing to conform to norms).

14.7 ONLY PERFECT PRINCIPLES

But might there nevertheless be a principle of badness in some weaker sense? Might there be a principle of badness whose end is not a bad *energeia*? It might be something that is active without having any end at all, or it might be something that has a good end that it, bizarrely, regularly fails to achieve, and thereby somehow brings about badness.

Plato's Receptacle is, I think, a principle of badness of the former sort. It is active, without its activity being end-directed. Its pre-cosmic disorderly motion does not serve any further end, nor is an end in itself. Nevertheless, the disorderly motion is characteristic of the Receptacle on its own. As we might put it, it is just what the Receptacle does. (I hesitate to say that it is the expression of the Receptacle's *nature*, since something so wild and amorphous seems unlikely to have a nature.) Moreover, this disorderliness interferes with the perfect replication of the divine craftsman's model. It is, thus, the ultimate source of badness in the world, without having a bad *energeia* as its end.³³

I am not aware of any thinkers who espoused views of the second sort, on which there are eternal but imperfect principles, which do not have a bad end but whose imperfection is the reason why there is badness. But perhaps Aristotle would say that someone like Thales, who traces everything back to the single principle *water*, is willy-nilly committed to such a view. For it would seem that the single principle in question would have to explain both why there is goodness, and also why there is badness. As the Athenian Stranger says in Plato's *Laws*, "And the next unavoidable admission, seeing that we are going to posit soul as the cause of *all* things, will be that it is the cause of the good things and the bad ones, both beautiful and ugly, both just and unjust, and all the opposites" (896d5–8; trans. Morrow in Cooper; translation modified, emphasis in original).

It is clear that Aristotle intends to rule out both possibilities. For he concludes not only that there is no bad itself, but also the following:

Thus, in the things at the level of principles, i.e., in the eternal things, there is nothing either bad or erring or corrupted (for corruption, too, is proper to bad things).

(Theta 9 1051a19–21)³⁴

This extends the denial that there is no bad itself. Not only is there no bad (*kakon*) eternal principle. No eternal principle could possibly be in any way corrupted (*diephtharmenon*) or fail to achieve its end (*hamartēma*). This rules out not only bad things—whose ends are bad *energeiai*—but also the sorts of badness that can occur among perishable things due to the presence of excellent capacities in them. Sickness, for instance, would presumably count as a corruption. It is an affliction that occurs because the capacity for health,

³³ A further important point about the way in which the Receptacle is not badness itself: the Receptacle is *persuaded* (not simply forced) to *cooperate with* (not simply refrain from impeding) reason. It is thus only to an extent incorrigible; it cannot be essentially opposed to the good order reason imposes. It does not systematically disrupt it in every way it can. In the finished cosmos, its motion is no longer merely disorderly (it moves the natural bodies to their natural places) and it may well be directed towards an end (the natural bodies being in their natural places).

³⁴ οὐκ ἄρα οὐδ' ἐν τοῖς ἐξ ἀρχῆς καὶ τοῖς αἰδιότοις οὐθὲν ἔστιν οὔτε κακὸν οὔτε ἀμάρτυμα οὔτε διεφθαρμένον (καὶ γὰρ ἡ διαφθορά τῶν κακῶν ἐστίν).

although it is for the sake of health, is of opposites. A housebuilder's failure, when building, to achieve the production of a house is an error. It might occur because of corruption (e.g., the housebuilder has only flawed mastery of the art, or is in a diseased state), or for a number of other reasons (defective materials, defective building conditions, deliberate external interference, some chance disruption).

Why does Aristotle think that he has ruled out *all* such phenomena among eternal things? The reason is that not only the bad *energeiai* of bad things but all badness whatsoever is posterior to capacity. But according to Theta 8, there are no capacities among eternal things. Hence there is nothing posterior to capacity. It is that simple.³⁵

14.8 SPECULATIONS ON GOODNESS

Given Aristotle's definition of badness, and his views about eternal things, there cannot be an eternal bad *energeia*, or even an eternal defective *energeia*. But should we accept his definition of badness? I have already tried to show, by canvassing many examples, how it seems very promising as an account of all sorts of badness among perishable things.

However, one might well doubt that the definition could be correct, on the grounds that, as far as the nature of badness goes, it is perfectly possible that there be an eternal bad *energeia*. Aristotle rejects previous views that there is some principle of badness. But his grounds for rejecting those principles of badness commit him not only to denying that they *do* exist, but even that they *could*. This is not a mere assertion, but the conclusion of an argument. Even better, Aristotle has argued for one of the main premises of the argument: that among eternal things there are no capacities. Unfortunately, however, Aristotle has not argued for the other crucial premise: his definition of badness.

We can sharpen the problem by considering a passage from Plato's *Laws*, where the Athenian Stranger considers precisely the possibility that the cosmos is governed by an evil-world soul (a sort of evil twin to the beneficent world-soul described in the *Timaeus*):

³⁵ It is worth registering a minor complication, pertinent to eternal but changing things such as the sun. Aristotle does allow in Theta 8 that something might be eternally changing. Thus its changing would not be the exercise of a capacity. But, to the extent that it is sometimes changing from *A* to *B*, but at other times from *B* to *C*, it will in a peculiar way partake of being-in-capacity. That is, when it is changing from *A* to *B*, it will only in capacity be changing from *B* to *C*. But such a thing partakes of being-in-capacity not because it has capacities, but because its *energeia* is an eternal change. Thus there is no capacity in play from which there could be deviation, or to which anything could be posterior.

Let us assume no fewer than two [souls as principles]: that which does good, and that which can bring about the opposites.³⁶

(896e5–6; trans. Morrow in Cooper, modified)

But this leaves open the question of which sort of soul is in charge, a good one or a bad one. The Athenian Stranger goes on to argue that the soul that is in charge is “wise and full of virtue” (*phronimon kai aretēs plēres*), not “that possessed of neither [wisdom nor virtue]” (*to mēdetera kektēmenon*, 897b8–c1). First, he argues that good souls produce certain sorts of motions (roughly, orderly ones) and bad souls produce other sorts of motions (roughly, disorderly ones). He then invites his interlocutors to consider the motions of the heavens, and all agree that they are of the sort caused by good souls, not bad ones. They conclude that our world is governed by good souls.

The argument from Plato’s *Laws* shows that Aristotle’s teacher had considered the possibility that the world is under the governance of an evil soul. We can also see in the *Laws* why Plato rejects this view. For Plato, we can know that our world is benevolently governed by beholding the regular motions of the heavens. But Plato’s argument does not show why it is of the nature of eternal principles, *as such*, to be good. It shows that *our* world is governed by a wise soul, but not that it is impossible for a world to be governed by an unwise soul. Even accepting Plato’s argument, one might think: we got lucky with our world.

Aristotle offers us a view that is, in this respect, more satisfying. On his view, it is not mere luck that the eternal principles of our world are good. The eternal principles could not have been anything but good, since they are eternal, and hence are pure *energeiai*, and hence have no capacities to which bad states could be posterior. Our world not only does not have, but could not have had, bad ultimate principles.

These results only apply to eternal worlds and their eternal principles. But the considerations that Aristotle gives in favor of thinking our world eternal, seem to be general considerations in favor of thinking that no world can come to be or pass away. Thus no world could have bad principles.

However satisfying this might be, there is a further difficult question about why we should think that there could not be an eternal bad soul. Of course, if we accept Aristotle’s definition of badness, there could not be. But the eternal governance of a bad soul seems conceivable—intuitively, such a thing is possible (as Plato’s own argument presupposes). This is a reason to doubt the account of badness.

What might Aristotle say in response to this? He might say that it is based on a misunderstanding of goodness. For perhaps his opinion is that goodness

³⁶ δυνάμει μὲν γὰρ ποῦ ἔλαττον μὴδὲν τιθώμεν, τῆς τε εὐεργέτιδος καὶ τῆς τάναντία δυνάμενης ἐξεργάζεσθαι.

is simply *energeia*—that is, *energeia* that is not posterior to any capacity. If this is his view, then he must think that the class of goods has merely analogical unity. This is a view that Aristotle elsewhere explicitly holds up for consideration.³⁷ He nowhere takes an explicit stand on the question what goodness is, but I think that the development of the argument in *Metaphysics* Theta, particularly chapters 8 and 9, strongly suggests that goodness ought to be understood simply as *energeia*—with the important restriction to *energeiai* that are *not* posterior to a capacity. This speculation explains two important features of the argument in *Metaphysics* Theta 9: first, that Aristotle thinks his definition of badness rules out the very possibility of an eternal evil principle (this is because an eternal *energeia* is, by definition, good); second, that Aristotle has so little to say about why we should accept these grand claims (this is because they are definitions).

There would be a great deal more work involved in working out this account of goodness on Aristotle's behalf. I cannot pursue that project here, but I would like to note two issues. First, it would seem that, to the extent that things stand in differing relations to *energeia* and capacity, they would also stand in different relations to goodness. The goodness of a living thing is the *energeia* that is the exercise of a capacity. The goodness of a heavenly body is an *energeia* that is not the exercise of a capacity, but such a body is nevertheless somehow caught up in *being-in-capacity* due to its changes. The goodness of God is an *energeia* that is not the exercise of any capacity, and is not in any way subject to change or involved in *being-in-capacity*.

Second, the notion of goodness played no role in the arguments of Theta 8. Thus Aristotle has given us a basis for seeing *energeia* as an *end* that does not immediately collapse into seeing it as goodness. But it would be a mistake to see this as a reductive account of goodness (as if we could then develop a fully satisfying set of sciences using *energeia* instead of goodness). Much more likely is that we have a network of mutually interconnected concepts: *energeia*, end, for-the-sake-of, good.

14.9 WISDOM AS A SCIENCE OF GOODNESS

Aristotle's claims in Theta 9 have far reaching importance for the project of achieving wisdom. The theory of principles that Aristotle espouses in Book A commits him to the existence of an eternal good principle, and strongly suggests the denial that there are any bad ultimate principles. Theta 9 offers

³⁷ See *NE* I.6 (1096b26–31), quoted above on page 329. Note that, of the views mentioned in the passage, the analogical unity of goodness is the only one to receive support.

reasoned argument that eternal principles (if there are any) are perfect and that there cannot be any bad ultimate principles.

Aristotle has found a way to articulate a theory of badness, on which badness turns out not to be the opposite of goodness. Rather, badness is posterior to the capacities that are for the sake of good *energeiai*. Sometimes, badness is a mere privation, the non-fulfillment of a capacity (as when a power's action encounters interference, or when the capacity for health is not exercised). Sometimes, badness is the misuse of a capacity. Sometimes, badness is the 'proper' use of a perverted capacity, as in vicious action. In every case, goodness and badness are related not as opposites, but rather as prior and posterior.

Thus Aristotle can continue to maintain, about each pair of opposites, that there is a single science of them, and that either both or neither are principles. His commitment to the superlative goodness of the ultimate principle does not require that his science also contain an opposite principle. The goodness of the ultimate principle just is its *energeia* (which is also its very being [*ousia*]). Not being the exercise of a capacity, this *energeia* could not possibly fail to occur or have anything opposed to it.

This is presumably connected with Aristotle's rebuke of Anaxagoras, which I discussed above in §14.1. Recall that Aristotle does not seem to think that Anaxagoras himself recognized a principle of badness. However, says Aristotle, "it would be bizarre [*atopon*] not also to make something the opposite of the good, i.e., mind" (Λ 10 1075b10–11). But why should Aristotle's view fare better than Anaxagoras'? After all, Aristotle uses the very same term for his ultimate good principle as Anaxagoras does: mind (*nous*). Perhaps the reason is to be inferred from Aristotle's praise of his own view, a few lines later:

And for everyone else, there has to be something opposite to wisdom, i.e., the most honorable knowledge, but not for us. For there is nothing opposite to what is primary.

(Λ 1075b20–21)³⁸

He seems to be saying that there are no entities opposite to the principles that his wisdom is the knowledge of. The most honorable knowledge is of the most honorable things.³⁹ This is one way to explain the relevance of the comment, "there is nothing opposite to what is primary." Capacities are posterior to, not opposite to, good *energeiai*. Bad *energeiai* are the exercise of capacities that are posterior to, not opposite to, other capacities.⁴⁰

³⁸ καὶ τοῖς μὲν ἄλλοις ἀνάγκη τῇ σοφίᾳ καὶ τῇ τιμιωτάτῃ ἐπιστήμῃ εἶναι τι ἐναντίον, ἡμῖν δ' οὐ. οὐ γὰρ ἐστὶν ἐναντίον τῷ πρῶτῳ οὐδέν.

³⁹ Cf. *Metaphysics* Θ.9 1051a4 & *NE* VI.7 1141a19–21.

⁴⁰ Of course, Aristotle also describes the science he is seeking as primary (E.1 1026a29–31).

These contributions to wisdom concern Aristotle's theory of the good itself, not his views about goodness. They are, therefore, entirely independent of my speculative identification of goodness with (non-derivative) *energeia*. But if we think of this as a further claim that emerges from *Metaphysics* Theta, then we have a further major contribution to the science of wisdom. It turns out to offer knowledge of the good itself, but also of goodness.

Aristotle thinks that our world has only good, indeed perfect, principles, and necessarily so. Nevertheless, he manages to make room for badness and for lurid varieties of badness. The badness is authentic: it does not merely appear bad to us, because of our local or distorted perspective on the world. And the badness is intelligible. Badness is essentially deviation from the norms embodied in capacities, but the explanatory role of capacities gives Aristotle a variety of resources for explaining how it is that our world, despite depending on a good principle, is not perfect. This theory of goodness and badness is a remarkable philosophical achievement.

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