Aristotle On Two-Way Powers

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Abstract
This paper offers a reading of Aristotle's view of two-way powers and points out where related views about Aristotle and two-way powers can go wrong. It argues that Aristotelian two-way powers consist in, and are based in, systematic knowledge; that they are all, without exception, principles of change in another, or in oneself as other; and that the topic of voluntary action in Aristotle is a quite different topic. It follows from this that the Aristotelian view of two-way powers has nothing much to do with freedom. The paper also argues that Aristotle's view of two-way powers is the best in the history of Western philosophy, because it's the only view on which both contrary exercises of the power are explained as no accident, relative to the power. Subsequent views of two-way powers tend to violate the general principle that powers explain their actualizations as no accident, relative to the power.

1. Introduction

I would like to offer a reading of Aristotle on two-way powers and to point out where related views about Aristotle and two-way powers can go wrong. I think Aristotle's account of two-way powers is worth taking seriously, but also that it has little to do with freedom, and that there are easy over-generalizations to make about his discussion of so-called 'rational powers' in *Metaphysics* Book *Theta*. I also think that Aristotle's view of two-way powers is the best in the history of Western philosophy, and that careful attention to his view can reveal why subsequent theorizing about two-way powers is often misguided. This deeper motivation for the present paper can only be partially vindicated here. Proper vindication would require comparison to too many intricate, ingenious views. But I think it worth mentioning at the outset to clarify the philosophical stakes: they are large.

For the sake of brevity, I only discuss a few reasonable objections as I proceed. I hope this will be read in the spirit it is written: as an invitation to further discussion, rather than a thin pretence that

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there is nothing more to be said on these matters. For similar reasons, I compare my view mostly to the views of contemporary philosophers who draw inspiration from Aristotle, rather than the views of medieval interpreters or close readers of *Metaphysics* Book *Theta* like Makin (2006) and Beere (2009).

2. Interpretive Claims

2.1. Aristotelian two-way powers are based in, and consist in, systematic knowledge

Aristotle never used the term 'two-way power'.[1] In the relevant main text, *Metaphysics* Book *Theta*, Chapters 2 and 5, Aristotle's term is *dunamis meta logou*, or 'potentiality with an account'. This is often translated as 'rational power': an elegant but potentially misleading contraction. I prefer the uglier 'account-based power' to 'rational power', for reasons I explain below.

Aristotle gives arts like medicine and building as examples of account-based powers. Account-based powers, unlike other powers, are directed to contraries. Hot stones have a power to heat. Hot stones don't, as such, have a power to cool. The expert doctor, by contrast, can produce health by applying her medical knowledge, but she can also produce illness by applying that knowledge if she wants. The reason account-based powers are distinctively capable of contraries, unlike *all* other powers involved in motion or change, is that they're based in *systematic knowledge*. Aristotle (*Metaphysics* Book *Theta*, 1046b7-10) takes pains to explain that account-based powers are unlike non-account-based powers because 'knowledge is an account, and the same account clarifies both the thing and the privation, though not in the same way'. For example, the medical art includes an account of health, which clarifies health and also the privation of health, illness. 'Systematic knowledge' is my term for this kind of account. It's because they depend on this kind of account that I call them 'account-based powers'.

Although Aristotle didn't use the term, there is a relatively clear reason to call account-based powers 'two-way powers', because

[1] Steward (2021) suggests that Duns Scotus was probably first to use the term 'two-way power'.

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they're directed to contraries, like health and illness, in a distinctive way.

'Systematic knowledge' is my term, not Aristotle's. Why think that this knowledge is *systematic*? Couldn't an 'account of health' be wholly given in a solitary abstract formula: as the good condition of a living thing's body, say? No. Aristotle (*Physics*, 194a20-25) says 'it is the part of the same discipline to know the form and the matter up to a point (*e.g.,* the doctor has a knowledge of health and also of bile and phlegm, in which health is realized and the builder both of the form of the house and of the matter, namely that it is bricks and beams, and so forth)'. So even if an account of health is exhausted by an abstract formula, in the *medical art* this formula must be connected to material conditions. Besides, Aristotle's illustration of *how* an account of health can be put to work also indicates that it is not exhausted by a mere solitary abstract formula, but involves rich conceptual connections:

> The healthy subject, then, is produced as the result of the following train of thought; since *this* is health, if the subject is to be healthy *this* must first be present, *e.g.*, a uniform state of body, and if this is to be present, there must be heat; and the physician goes on thinking thus until he brings the matter to a final step which he himself can take. (Aristotle, *Metaphysics*, 1032b5-10).

Here we see a detailed, systematic account of health put to work in the service of desired change. At its core, the account answers the question 'What is health?'. The answer to this question is not the empty abstract formula 'Whatever is the good condition of a living body' because it *follows* from the account of health ('…since *this* is health…') that various consequent conditional claims hold ('if the subject is to be healthy…', *etc.*). In other words, the relevant account of health already includes rich connections to other ideas, like uniformity, change, heat, and so on. I call this 'systematic knowledge' to indicate that it is *detailed* and involves *many contentful connections* organized around *central ideas*.

Why not just say that two-way powers are based in 'scientific knowledge'? This is true, but it risks missing something important: namely, that it is through *systematic connections between theory and practice* that we make sense of the power making it no accident that something relevant is produced. Two-way powers consist in *productive* systematic knowledge that contains a core of *theoretical* systematic knowledge. For Aristotle, scientific knowledge (*epistêmê*), strictly speaking, is *theoretical*, not *practical* or *productive*, and indeed is a kind of *pure theory*, because it's of what's universal,

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necessary, and eternal.[2] For the medical art, part of the theoretical core presumably includes universal, necessary, eternal truths like 'Uniformity of the body must be present for a subject to be healthy.' But such *theory* is not, as such, concerned with *practicalities*. A mere theoretician might know all about the nature of health and still not know how to put this theory to productive use, because they are at a loss when dealing practically with the contingent. *No* body of *mere* theory is a *productive* science, and it is *the medical art* that is an example of a two-way power, not merely its (purely) theoretical core. The sketched example of medical practical reasoning illustrates this. At later steps in the reasoning, we depart from theoretical considerations about health, uniformity, heat, *etc*., and instead consider premises that concern *practically-significant aspects of the situation* (*e.g*., 'This patient is cold'), and *what the physician can do here and now* (*e.g*., 'Rubbing would warm this patient.'). The reasoning traces a path from the purely theoretical core of the medical art, which *is* scientific knowledge, strictly speaking, to its productive outer layers, which are not. The medical art too is 'systematic knowledge' in my sense; it's a suitably loose term.[3]

Why then is 'rational power' a potentially misleading translation of *dunamis meta logou*? If one simply followed this translation, it would be natural to assume that a rational power is any capacity, disposition, habit, *etc*., that is somehow assignable to the rational part of the soul, such as the power to know, or knowing Greek, or perhaps flute-playing, or even the capacity to obey one's master. One

[2] Aristotle, *Nicomachean Ethics*, 1139b15–30. There are less strict senses of "scientific knowledge" (*epistêmê*) available. Any science which deals with matter will also contain truths about what happens *for the most part*, rather than strictly universally (Aristotle, *Metaphysics*, 1026b25-35). It is a good question in what sense such truths are contingent, given that they aren't accidental, but I need not deal with that here. The point is not about whether we can call two-way powers sciences in some extended sense – we plainly can if we want to, and sometimes Aristotle writes this way – but whether there is something for productive knowledge to *be* apart from a species of merely theoretical knowledge.

[3] Systematic knowledge need not be exhausted by a set of universal judgments. Depending on the case, it can include other things, like good judgment about how to apply general principles to the particulars of the case at hand, and specific recognitional capacities developed through practice. It is hard to see how the medical art could fare better than mere theory in being the principle of specific contingent changes if it were exhausted by a set of universal judgments.

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might then think that what Aristotle says about two-way powers generalizes to these powers. The account of two-way powers doesn't generalize in this way. Aristotle never provides clear examples of a *dunamis meta logou* apart from medicine and building. Flute playing is explicitly given as an example of a power that does *not* involve *learning*, although it does involve practice (Aristotle, *Metaphysics,* 1047b30–35): in the text, it functions as a *contrast* to building and medicine, rather than as another example of the same kind of power. Aristotle is also clear, early in the *Metaphysics*, that skills acquired merely through habituation and experience are like the one-way powers of inanimate things:

> … knowledge and understanding belong to art rather than to experience, and we suppose artists to be wiser than men of experience … and this because the former know the cause, but the latter do not. For men of experience know that the thing is so, but do not know why, while the others know the 'why' and the cause. Hence we think that the master-workers in each craft are more honourable and know in a truer sense and are wiser than the manual workers, because they know the causes of the things that are done (we think the manual workers are like certain lifeless things which act indeed, but act without knowing what they do, as fire burns,—but while the lifeless things perform each of their functions by a natural tendency, the labourers perform them through habit) … (Aristotle, *Metaphysics*, 981a20–981b10).

Even if the power of a manual labourer to respond promptly and competently to the order 'Make a wall of bricks here' is assignable to the rational part of the soul, it is *not* like the master-builder deploying her account-based power. The habit of the manual labourer, however well-developed, is not a two-way power: it is instead like fire's one-way power to burn. This is quite plausible. Someone may be very well habituated to assemble walls of bricks at command while having little or no idea how to take the bricks apart again.[4] Their habit of assembling walls doesn't become a two-way power by being coupled with another habit that deals with orders

[4] Frost (2020) argues that a thug who breaks someone's face is exercising rudimentary medical knowledge. Sometimes that's true: consider a thug who gives a simple (horrifying) monologue about *why* a broken face hurts before he breaks a face. But most other times, the thug acts on the basis of mere experience of what hurts victims, without knowledge of *why*

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like 'Demolish that wall'. The manual labourer's habit would rather need the *systematic articulation* involved in knowing *what* a wall is; *why* it is as it is when serving its function well, *etc.; how* those relate to bricks, and to what one can do here and now; *etc.* – in other words, all that's involved in the *systematic knowledge of building* – to count as a two-way power. The same goes for knowing Greek and similar cases. It is one thing to efficiently and habitually conduct linguistic exchanges in Greek – a kind of 'manual labouring' at language – and quite another to be a master-linguist who knows grammar and the 'whys' of linguistic production.

2.2. Systematic knowledge is the only explanation of how two-way powers are possible

Aristotle's only explanation of how two-way powers are possible, given that every other principle of change is 'one-way', turns on the fact that an account of something like health is also, in a way, an account of the privation of that thing. He also flirts with an objection that two-way powers are impossible, because they are powers for contraries, and one might want to produce both at once, but nothing can have both contraries produced in it at once (Aristotle, *Metaphysics,* 1048a15–25). He clearly thinks that the possibility of two-way powers is puzzling enough to be worth explaining and defending.

If there were Aristotelian two-way powers that didn't consist in systematic knowledge, we would expect a different explanation of their possibility, or at least acknowledgement that this is a puzzling unresolved question. For example, if non-human animals or young children or uneducated manual labourers or natural slaves had two-way powers that didn't consist in systematic knowledge, we would expect Aristotle to try to explain how these powers are possible, even though they are quite different from medicine and building. But there is nothing like that – not even a hint – in the entire corpus.

Aristotle says many times that self-moving animals have in themselves a principle of motion *and* rest. For example, discussing the self-motion of living things, Aristotle (*Physics* 255a5–10) says that '… if *e.g.* a thing can cause itself to walk it can also cause itself not to walk'. Is the self-motion of a giraffe a two-way power because it

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it hurts playing a role in explaining what they do and why it's no accident that they hurt their victim.

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concerns motion and rest? No. *It's not puzzling*. There is no need for *that* sort of power to invoke knowledge, or something analogous, to explain how the power is even possible, in contrast to all the other 'one way' powers that there are.[5] In fact, Aristotle (*Metaphysics* 1051a5-11) says that *all* potentialities are in some sense for contraries:

> Everything of which we say that it can do something, is alike capable of contraries, *e.g.* that of which we say that it can be healthy is the same as that which can be ill, and has both potentialities at once; for one and the same potentiality is a potentiality for health and illness, for rest and motion, for building and throwing down, for being built and being thrown down.

That again is not puzzling (at least for Aristotle). Apart from the power to build, these others are not examples of two-way powers in the special puzzling sense whose possibility, in contrast to one-way powers, requires explanation by appeal to knowledge.

What's the difference? Aristotle (*Metaphysics*, 1050b30–35) says that 'that which can move another in this way can also move it not in this way, *i.e.* if it acts according to [an account]. But the same [non-account-based powers] can produce opposite results only by their presence or absence'. It's a little unclear how to understand 'their presence or absence' here.[6] However we understand it, the passage

[5] This is not to say that there is nothing for Aristotle to explain concerning the possibility of self-motion in animals. Berryman (2002), for example, argues that self-motion in nonhuman animals is primarily local motion, and that *pneuma* plays a crucial role in the explanation of such motion. (*Pneuma* is no kind of systematic knowledge, nor closely analogous.)

[6] In English it's unclear whether 'their [presence or absence]' refers to the results or to the potentialities. The Greek suggests that the potentialities are the subject of presence or absence. (Thanks to Jessica Gelber for help with translation here.) On philosophical grounds, both may be appropriate, depending on the case. Something already hot cannot be (further) heated. It only has one way to go, temperature-wise. Here an *absence of potentiality* helps explain being cooled, *if* being cooled is what is going on. Lukewarm rocks can be heated, but they can be cooled too. Here, both potentialities are present, but what differs is which actualization is present. In this case, the absence of a *result* – *i.e.,* the absence of the *actualization* of the *present* potential to be heated – helps explain being cooled. A more elegant interpretation treats 'presence or absence' in a more concrete and literal way. I suspect Aristotle really means to be speaking of the presence or absence of the *things which have* potentialities, rather than the potentialities

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marks a contrast in how account-based and non-account-based powers work to relevant contraries. The doctor's account-based power produces health or illness *through its actualization*. But a power to be heated, even if it is in some sense the same as the power to be cooled, does not produce being cooled *through its actualization*. If the power to be heated is actualized, because something hot is present, the bearer of the power is *heated*, not cooled. It is only on condition of the absence of being heated – *absence* of that actualization or 'result', for one reason or another – that the bearer is cooled.

We should also note that when Aristotle (in translation) says that 'one and the same' potentiality is a potentiality for health and illness, we shouldn't take him too seriously. Elsewhere, Aristotle (*Physics* 201a30–201b5) says that '[to] be capable of health and to be capable of illness are not the same; for if they were there would be no difference between being ill and being well. Yet the subject both of health and of sickness – whether it is humour or blood – is one and the same'. So, he was probably speaking loosely when saying that one and the same *potentiality* is for opposites.

2.3. Aristotelian two-way powers are determined to exercise by separate desire or choice

For Aristotle, non-account-based powers have conditions of exercise that are necessary and sufficient for exercise. If a hot rock meets a suitable heatable thing, in suitable conditions, *it heats it*. But account-based powers have conditions of exercise that are merely necessary for exercise. If a doctor meets a patient who is in suitable conditions to be healed or sickened through applying medical knowledge, it is not yet determined what will happen. For

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themselves. A potentiality cannot be present (near) or not as such, because there are no free-standing potentialities. Only the bearer of a potentiality can be present (near) or not. How, then, does a hot rock heat? By being near heatable things. How does it cool? By not being near. Again: how is a heatable thing heated? By being near a hot thing. How is it cooled? By not being near a hot thing, or by being near a cold thing, or both. Contrast the doctor. How does a doctor heal? By being near and doctoring in accord with desire or choice to heal. How does a doctor sicken? By being near and doctoring in accord with desire or choice to sicken. However we interpret 'their presence or absence', being cooled is never explained by the *actualization* of the power to be heated, so the contrast to two-way powers noted in the main text stands.

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this reason, Aristotle (*Metaphysics*, 1048a9) says that '[that] which decides [which way the power is exercised], then, must be something else; I mean by this, desire [*orexis*] or choice [*prohairesis*]'. Without determination by desire or choice, considered as alien to the two-way power itself, the two-way power won't be exercised at all. For example, an indifferent doctor might play golf instead of expertly healing or sickening her patient: in that case, her two-way power is not exercised one way or the other. Whatever change there is in the patient's condition in such a case is not explained by application of the doctor's knowledge (one way or the other).[7] The case is different with deliberate expert poisoning. There the doctor *wants* to sicken, and their knowledge does have a distinctive positive role to play in explaining the relevant change.[8]

Many aspects of rationality don't involve determination to exercise by separate desire or choice. Understanding something brief, said loudly, in a language I understand, when conditions are ripe for understanding it (*i.e.,* I am not lost in thought, asleep, *etc.*), doesn't depend on desire or choice the way that concentrating on a boring conversation does. I just understand what is said, whether I like it or not. Similarly for many aspects of theoretical knowledge. It is not as though, knowing health, one only knows illness by desiring or choosing to know it. Rather, in knowing health one *already* knows illness (albeit in a different way, as the privation of health). One can't help but know it. Similarly, for 'moral virtue'. The virtuous person does not have their virtue *further* determined to exercise by separate desire or choice: rather it already includes some desires and not others. If someone virtuous (or better: someone we thought virtuous)

[7] Depending on the case, it might be negligent and bad for the doctor to act this way. If it is, and the doctor is properly assigned as privative cause of subsequent sickening, it is still not the doctor's *application of knowledge* that explains the sickening. Rather, the explanation is that the doctor *didn't apply their knowledge* (one way or the other), and they should have, and the existing prior causes were working (independently) towards illness.

[8] What if the doctor *wants* to heal (or wants to sicken) and judges that the patient will heal (or sicken) without intervention, and so does nothing? There the doctor's inaction is explained by their knowledge and desire. Perhaps we could say that there is an extended "refraining" kind of actualization of the power here (*cf.* Frost 2020). But the actualization does not constitute or explain a relevant *change*; it constitutes or explains the doctor's *inaction*. The relevant change has a reality and principle independent of this extended sense of actualization of an account-based power: it was going to happen anyway.

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does something vicious, that is not their *virtue* at work in the 'opposite' way; but if a master-builder demolishes their house, that *is* their building art at work in the 'opposite' way. Similarly for practical wisdom. Aristotle (*Nicomachean Ethics,* 1144b30) is very clear that one cannot have practical wisdom without having moral virtue and vice versa. So as with true moral virtue, if someone practically wise (or better: someone we thought practically wise) does something vicious, that is *not* practical wisdom at work in the 'opposite' way. Practical wisdom is not a two-way power.

Kenny (1975, pp. 52–53) says that a dog has a two-way ability to come when called, or not, and that this ability 'interested Aristotle, who drew a sharp distinction between rational powers, such as the ability to speak Greek, and natural powers like the power of fire to burn.' He goes on to criticize Aristotle for conflating two-way powers and rational powers, because, for example, understanding things said in a language I know isn't normally determined by desire or choice. We can already see that Kenny is wrong about Aristotle in several ways. Aristotle doesn't think that *any* non-rational animal has *any* two-way power. Metaphysically, he wasn't much interested in the powers of non-rational animals, except insofar as they are powers of self-motion, which is not, as such, a two-way power, because it's not based in systematic knowledge. Aristotle doesn't think that merely habitually speaking Greek is a two-way power either; that is 'manual labouring at language'. One needs systematic knowledge to inform one's speech (in order to produce something) before a two-way power is really in view.

2.4. Aristotelian two-way powers are principles of change

At the opening of *Metaphysics* Book *Theta*, Aristotle says that he will first explain potentiality in 'the strictest sense', which concerns motion and change, even though this is not most useful overall. (This is an example of Aristotle proceeding from what is most intelligible to us to what is most intelligible as such.) It is only in Chapter 6 of that Book that he turns to discuss potentiality in other senses, understood by analogy with potentialities that are principles of change. The entire discussion of account-based powers is within the scope of this restriction. There is no attempt to describe analogous two-way powers that are *not* principles of change, as there is discussion of potentially being a statue as analogous to potentially heating. We may conclude that two-way powers are principles of change.

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Aristotle had restrictive views about change. He argues that apart from generation and corruption, there are only three kinds of change: change in place, change in quality (in the sense of being acted upon), or change in quantity (Aristotle, *Physics*, 226a15–b10). He explicitly denies that to acquire virtue of character or an intellectual virtue like scientific knowledge is to change in quality: rather it is a perfection (Aristotle, *Physics*, 246b5-15). So, if we don't see the possessor of a two-way power making a difference in place, quality (in the sense of being acted upon), or quantity, then no change is, strictly speaking, at work, and neither is any two-way power. For example, if to judge or to choose is not to *change oneself*, in *Aristotle's* sense of 'change', it is not the exercise of an Aristotelian two-way power.

Aristotle's claims about change are softened a touch in *De Anima*, but not by much. There he says that 'what possesses knowledge becomes an actual knower by a transition which is either not an alteration of it at all (being in reality a development into [the same state and into] actuality) or at least an alteration in a quite different sense' (Aristotle, *On the Soul*, 417b5–10). Later he says that 'alteration' (*i.e.*, change in quality) is an 'incorrect term' to use for further actualization of potentialities, but also that we can't help using the term (Aristotle, *On the Soul*, 418a1–5). The best we can do is acknowledge that change in this 'further actualization' sense is quite unlike change in the sense of being acted upon by another.[9]

One might think that Aristotle left it to the reader to work out analogous two-way powers which are not principles of change, and that Chapter 6 of *Metaphysics* Book *Theta* sketches examples of how to carry out this exercise. But none of the examples given there (such as waking; being a statue; seeing; *etc.*) suggest two opposed ways of actualizing one and the same power. There is a good reason why Aristotle restricts his discussion of account-based powers to principles of change (proper). Consider the doctor's activity in abstraction from the specific effect produced (whether health or illness). Whatever the case, the doctor is doing the same thing: *applying her medical knowledge*. There is no opposition between exercises at this level of abstraction. If we bring the patient into our thought of this activity, but abstract from the specific change effected, we *still*

[9] *Cf.* Shields (2007), who argues that there are unresolved problems about mental change and causation in Aristotle's philosophy, but who also notes that no one these days seems to be doing much better. My concern in this paper is not to argue that Aristotle's philosophy of mind is consistent and correct in all respects.

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have no opposition between exercises: whatever the case, the doctor is *applying medical knowledge to effect a specific change in the patient*. We need to consider not only the patient involved, but the specific contrary effected in the patient, before we bring two opposed *ways of exercising* one and the same power into view: healing and sickening. That is the basic reason why two-way powers are all principles of change, and not merely analogous to principles of change. It is only with principles of change that *two opposed ways of exercising one and the same power* emerge, such as the way towards health, and the opposite way towards illness.

Consider how this point applies to many forms of further actualizing a capacity to know, such as reflecting on what one knows, or attending to what one knows, *etc*. A power to know health is surely a 'rational power' in some sense. To reflect is not to change oneself, in Aristotle's restrictive sense of 'change', but let us suppose for a moment ('helplessly') that such further actualizations of a power to know health are closely analogous to genuine change. One might then think that even *merely* theoretical (*i.e*., non-productive) knowledge is an excellent candidate to be a two-way power, because it is knowledge, and the same account clarifies the thing and its privation, *etc*. It's true that knowing illness is not opposed to knowing health, in that to know health just is to know illness too. But when one *reflects* on what one knows, aren't there two opposed *ways* of reflecting: one for reflecting on health and one for reflecting on illness? No. There are (at least) two *varieties* of reflecting on what one knows, which are defined by objects that are contraries. But the varieties themselves are not opposed in a way that makes for genuine 'two-ness'. We only understand illness *through* health, as its privation: there is no way to reflect on illness without reflecting *thereby* on that of which it is the privation. So, reflecting on illness is not *opposed* to reflecting on health in a way that makes sense of 'two ways'. The same goes for similar acts, like attending to illness: *thereby* one attends to health, of which it is the privation.

2.5. Aristotelian two-way powers are principles of change in another, or in oneself as other

Two-way powers are principles of change. Can we conclude something stronger? Aristotle (*Metaphysics*, 1019a15–20) says, '[c]apacity [*dunamis*] … is the source, in general, of change or movement in another thing or in the same thing *qua* other'. (Here he is defining the primary sense of *dunamis*, before moving on to analogous senses

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in Chapter 6 of *Metaphysics* Book *Theta*.) If the doctor heals herself, what she produces is health, not the medical art, and it is as patient, not as doctor, that she is healed. Perhaps we may conclude that two-way powers are all principles of change *in another* or *in oneself as other*. That is: all two-way powers involve *alienation* (real, or at least notional) from what they act on or produce.

What about capacities for activities like flute-playing, or dancing? Such skills are not aimed at a product distinct from the activity, but they are surely principles of change or motion.[10] When exercising such skills, one *moves oneself*, changing one's location or the position of one's limbs, *etc*. Here we seem to deal with aspects of 'second nature', where nature is a principle of motion or change in oneself.[11] Such exercises seem determined to exercise by separate desire or choice. An indifferent flute player won't play the flute; she must want or choose to if she is to play. Can't such aspects of second nature provide examples of two-way powers that don't involve alienation from what they act on or produce?

I don't think such skills are two-way powers, and I will return to that issue in the next section. For now, supposing that they are (somehow) two-way powers, it is enough to note that this doesn't challenge the claim about alienation. Skill in flute-playing is a principle of change in the air and (thereby) what's audible and perhaps even (thereby) the audience. None of these *are* the flute-player, just as such: alienation is involved. Even the relevant changes in the flautist's lungs, lips, and limbs involve alienation. Aristotle (*Physics*, 257a1–15) is relatively clear that self-motion is only possible in something that has *parts* that *are moved*, and that are not identical with the mover, nor with the whole, if that is different. This is not to say that Aristotle doesn't really believe in self-motion; he clearly

[10] Aristotle did not think of performances as *products*, as we capitalists are sometimes wont to do. Relatedly, he did not think we *produce* history in or through our acts. Production requires real material to work on, like wood or stone; not merely notional material, such as 'events', or 'aspects of events'. It is a sign of dealing with real material in production that what one does with the material can, in principle at least, be undone. A building can be demolished; a healthy person can be made sick. But there is no undoing *history* once it is 'made' (*cf*. Aristotle's quotation at *Nicomachean Ethics*, 1139b5–10).

[11] See Graham (1999, pp. 76–77) for reflections on the (rough, not entirely consistent) opposition between nature and power in Aristotle's philosophy.

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does. It is just to say that the flute player *is not* her lungs, and neither is her skill. Aristotelian self-motion is only possible *through* a specific kind of other-motion: the kind involved in moving one's parts.

2.6. Aristotelian two-way powers are all arts (i.e. productive forms of knowledge)

Aristotle (*Metaphysics*, 1046b1–5) says that 'all arts, *i.e.* all productive forms of knowledge, are potentialities; they are principles of change in another thing or in the artist himself considered as other'. Building and medicine are the only examples Aristotle gives of account-based powers. Aristotle is not shy of varying examples when doing so illustrates important conceptual points. May we conclude that Aristotelian two-way powers are all *arts, i.e.*, productive forms of knowledge?

What of skills like flute-playing or dancing? Although such skills are principles of many relevant changes, they are not, as such, aimed at production of an effect distinct from the activity itself. Rather the end of flute-playing lies in playing the flute (well); the end of dancing likes in dancing (well); *etc*. These skills seem dependent on desire or choice for their exercise. Why aren't they two-way powers?

The main reason is that such skills have no properly opposed contrary actualization. The medical art has healing and sickening as properly opposed contrary actualizations; neither is a determination of the other. The building art has building and demolishing as properly opposed actualizations. But what is the contrary exercise of the *power to play the flute*? Banjo-playing is not the contrary. No other instrument is the *opposite* of the flute, and one does not exercise one's *flute* playing skill in banjo playing. Refraining from playing the flute is not the contrary exercise of the power either. It is not the role of the art of *flute-playing* to decide when to refrain from flute playing, except where rests in music are concerned, and even there, one is still *playing the flute* in a broad sense. Resting in flute music is not *opposed* to flute-playing: it is part of it, much as pausing between breaths in CPR is part of the medical art. One might think that playing the flute *badly* – making many mistakes, playing in an ugly way, *etc*. – is the relevant contrary to playing the flute. But that doesn't make any sense. Being contrary is a kind of *opposition*. Playing the flute badly is not opposed to playing the flute. Indeed, if one is playing the flute badly one must be playing the flute: the former is a determination of the latter.

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Playing the flute badly is opposed to playing it *well*. But if someone who plays music well *deliberately* plays 'badly' they are, in a qualified sense (*i.e.* given a special aim), still playing well. It just might not sound that way. For example, I used to be in a choir. Once the chorister next to me mocked an unskilled singer who tended to sing flat by deliberately singing precisely a semi-tone flat the whole way through. This is very difficult! As an exercise in transposition, it was *masterful* (if mildly cruel): it *displayed great skill and knowledge*. The morality of mocking aside, it is only when considering the music as *product* – as faithful *production* of what's in the score, say – that we can say that it was bad; as musical mockery it was good. So we must put scare quotes around 'badly' for such cases. Aristotle agrees. In his commentary on deliberate limping in Plato's *Hippias Minor*, Aristotle (*Metaphysics*, 1025a5-15) explicitly describes deliberate limping as *pretending* to limp. Similarly, for playing the flute 'badly'. There isn't real opposition between expertly pretending to play badly and expertly playing the flute, because the former is a determination of the latter, albeit one that messes about with appearance and reality.

Can't an expert flautist play badly (without scare quotes) while drunk, or while deceived, or while pursuing an extraneous end that distracts from, or overcomes concern with, the end of flute playing? Yes, of course; they're only human. But in those cases, there is some special distorting factor: it is an *accident* that they play badly, given that they have the power to play well. If we are to model playing the flute badly on sickening through application of medical knowledge, we need to think of cases where it is *no accident* that the relevant contrary is realized, relative to the power in question. As noted in Section 2.2, two-way powers produce contraries *through their actualization*. To find a good analogy to a productive two-way power, the analogous power must be *fully at work* to its contrary. But there just isn't something like that available for powers that are not productive forms of knowledge.

Aristotle seems to think of skills like flute-playing as mere *knacks*, based mainly in repetition, habituation, and experience, rather than as *arts*, informed by knowledge of causes. Such skills are not based in systematic knowledge, so they aren't two-way powers (see §2.1). Flute-playing, so conceived, is a principle of change, but like fire's power to burn, or uneducated bricklaying, it is a 'one-way' principle of change that has only one way of being actualized. That said, the view that flute-playing in particular is a mere knack is clearly not central to Aristotle's philosophy. Let us suppose that for

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conservatory-educated flautists, their flute playing *is* at least partially informed by their knowledge of music theory. (Compare *thoroughly* uneducated buskers or young children who merely imitate.) Such flautists are not 'manual labourers at flute-playing'; they have some *science* informing what they expertly do. Is '*scientific* flute-playing' an example of a two-way power at work?

What have we imagined here? A pure musicologist might know all about music theory without those universal, necessary, eternal truths about melody, *etc*., informing what they do when they pick up a flute. If we conceive of scientific flute-playing as producing musical effects with a flute, then it is not the mere musicologist but the *master-composer* who is the one who knows the 'whys' of music in a way that is relevant to producing musical effects. Here we think of a composer as a 'builder of music', whether they work at building notation (as a builder might draw up a floor plan) or directly with the materials (*i.e*., the sounds) themselves. Conceived this way, the imagined art of 'scientific' flute-playing is a productive form of knowledge: it is *just* like building. Just as a master-builder might build an imposing lintel, a master-composer might produce a searing high C on the flute. The master-composer also knows how to produce the privation of the same; a two-way power is at work. (Compare the uneducated 'manual labourer' at flute playing who has no idea *why* this is a searing high C, *etc*.)

This way of conceiving of flute-playing doesn't seem very Aristotelian, because it makes the end of such flute playing lie in something distinct from the activity (namely, the effect). (It seems alright as an account of 'musical building', or composition, as we call it.) But if we suppose that 'scientific flute-playing' is instead a power for activity as such, and is not a productive form of knowledge, then we can't identify an appropriate contrary exercise of the relevant power, for the same reasons as before: no relevant *exercise* is properly *opposed* to flute-playing. Absent some other model for a non-productive two-way power, we may conclude that all Aristotelian two-way powers are arts, *i.e*., productive forms of knowledge. That's why Aristotle only gave medicine and building as examples.

2.7. Two-way powers explain both specific contrary effects as no accident, relative to the power

We have ruled out skills that aren't (productive) arts as examples of two-way powers. We have also ruled out some further actualizations

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of powers, such as reflection on what one knows, as examples of exercises of two-way powers that are (merely, 'helplessly') analogous to principles of change.

What of powers of theoretical judgment and choice, considered as topic-general two-way powers? One can believe something or deny that very same thing: aren't these clearly contrary exercises of one and the same theoretical power to judge? One can choose to do something or choose not to do that very same thing: aren't these clearly contrary exercises of one and the same practical power to choose?

Both belief and choice, as powers, have exercises defined by contrary objects, and this seems part of Aristotle's conception of such things. But I think they are not two-way powers nor closely analogous.

Earlier I noted that in order to find plausible analogous two-way powers which are *not* principles of change in something other, we must identify contrary exercises where it is no accident that the contrary is realized, relative to the power. Another way to put this: if an analogous two-way power is at work, then the systematic knowledge in which it consists must be *fully at work* in both contrary exercises. If an expert doctor heals you, it is no accident that you are healed, because they know what they're doing; *likewise* for being sickened. Any candidate analogous two-way powers must be like that: they must explain *both* contrary exercises or results as *no accident*, relative to the power.

One's knowledge can explain *a* judgment as no accident. If the evidence – what I know, considered collectively – points to the butler, that can explain my judgment that the butler did it as no accident, and perhaps even explain why I hit the truth rather than the false as no accident too, depending on what sort of evidence is involved and how much. But in that kind of case, the 'contrary judgment' *must be* an accident, relative to the power. If my evidence points to the butler, and I *deny* that they did it, then my denial is an accident relative to what I know; something else, like a desire not to cast aspersions, must explain my denial, and it will be an accident if I happen to be right. Similarly on the practical side. If my evidence – what I know about how to live well – suggests that drinking is a bad idea, that can explain my choice not to drink as no accident, and perhaps even explain why I hit the practical truth (where this is 'truth in agreement with right desire').[12] A weak-willed person might well

[12] Aristotle, *Nicomachean Ethics*, 1139a30-35

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drink in that situation. That choice and action is an accident with respect to what they know. They don't drink *because they know what to do*; they drink for some other reason. A given body of knowledge *cannot* explain *both* judgments on either side of a question – such as whether (to do) *A* or not – as no accident. Either one side would be an accident relative to the body of knowledge or they both would.

What about cases of equal and conflicting evidence? Sometimes we may face difficult situations where the evidence is (or at least, seems) equally plausible on both sides, and yet we have to make a judgment anyway. When we do, responsible judges (for example, in courts of law) often try to cite grounds that justify the judgment they make. But in doing so, they cite a subset of their relevant body of evidence. Relative to the *cited* body, the judgment may be no accident. But relative to the whole, *any* judgment is an accident, because *ex hypothesi* the whole does not *favour* it. Another way to put this: sometimes (in courts of law, say) we pretend, for good reasons, that we know less than we do.

I have focused on what's informed by knowledge: 'educated guesses' and 'informed choices' as we say. What about a power of judgment conceived in abstraction from knowledge, as some non-epistemic 'deciding factor'? Isn't that a two-way power? Certainly not in Aristotle's sense: it *precisely* doesn't consist in systematic knowledge. But I don't think this should count as a two-way power in anyone else's view either. Powers explain their exercises – their actualizations – as no accident. A primitive non-epistemic power of judgment explains that *something* was judged as no accident. But it never explains *that one determinate thing was judged*, and not the other, as no accident. So, it does not have two opposed actualizations. It merely has many determinations of *one* way of being actualized. It's like purely guessing that way. If I am told to guess which integer you are randomly thinking of, my power to guess can explain that I *guess something*, but it cannot explain that I guess 509 as no accident. Either something else explains that I guess 509 (perhaps it flashed in my imagination just now) or nothing in particular does. And my power to guess can never explain my guessing *correctly* as no accident.

Another way to put this: a non-epistemic power of judgment is not really a power to *discriminate* between alternatives, even if it is a power to *determine oneself* to *some* alternative. That is one reason why some libertarian views of free will have been criticized for mistaking freedom for slavery to chance.

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Recall that two-way powers consist in systematic knowledge like the arts of medicine or building (see §2.1) and that they are determined to exercise by separate desire or choice (see §2.3). On the theoretical side, it is usually only in pathological cases, like wishful thinking, that separate desire or choice could plausibly play a role in determining what one judges. There it is not knowledge but *mere desire or choice* which explains why one judges something. Otherwise, one usually is – and ought to be – pretty helpless in the face of the evidence. Where evidence is absent, or unclear, or equal on both sides, one is usually helpless to do anything but admit ignorance, unless desire or choice interferes and determines one to believe in a guess, or to imagine that there is more or less evidence than there is, or similar. We are of course often under pressure to *appear* poised to judge well when we aren't. There may also be special cases, like those James (2005, p. 4) describes in 'The Will to Believe', where determination to believe by desire or choice need not be pathological. But if so, they are fairly rare: the questions in such cases are, as James puts it, *living, forced*, and *momentous*. Most questions aren't momentous in the way that, say, religious belief is momentous. On the practical side, if choice were determined to exercise by *separate* desire or choice, a regress would threaten. Even if the regress didn't threaten, it would be the separate desire or choice that explains the relevant determined choice, not the chooser's *knowledge*. These are further reasons to deny that topic-general powers of judgment or choice are two-way powers.

2.8. Aristotle's view of two-way powers is pluralistic

Some medievals think *the will* is a (or the) two-way power: there is willing or *volition*, and there is 'nilling' or *nolition*, and these are opposed exercises of this topic-general power. What I have said already speaks against attributing anything like this view to Aristotle. Aristotle never talks about *the will* as a topic-general two-way power, or anything like it, such as *boulêsis* in general or *prohaeresis* in general. If the will were an Aristotelian two-way power, there would be a regress, for it would need separate desire or choice to determine its exercise. In the ethical works, Aristotle talks of the man or animal as the source of voluntary action, not 'the will'. So, if by 'two-way' power you mean 'the will', conceived as a topic-general power, Aristotle doesn't believe in it. As Oscar Wilde might say 'it is not one of his words'. If he did believe in it, his account of the will should dominate his practical philosophy, as it does dominate

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the practical philosophy of many medievals. But it doesn't, so, he didn't.[13]

There is a slightly more general point in the area. If by 'two-way' power you mean 'the will', then there is pressure to say that there is really only *one* two-way power: namely, the will. I think that's how it is for Lowe's (2008) view of two-way powers. He's almost *ecstatic* about how *special* such a power is, in contrast to *every other* power, even the spontaneous ones. That makes sense if you want the very idea of a two-way power to do some metaphysical heavy lifting, such as securing freedom in a way that is compatible with, say, God's presence in and grounding of all things. Something similar goes for those who mean 'agency' by 'two-way power'.[14] This pressure pushes directly against *any* kind of *pluralism* about two-way powers. Aristotle's view is clearly pluralistic. For Aristotle, there are *many* two-way powers, appropriate to explaining *many* diverse *specific* changes. (*Medicine* is not *building, etc.*) His is not a view on which the only two-way power is *the will*, or *agency as such,* or *knowledge in general,* or similar.

2.9. The capacity for voluntary action is not an Aristotelian two-way power

While discussing what is voluntary, Aristotle (*Nicomachean Ethics* 1110a15–20) says that when a captain is throwing his cargo overboard to save himself in a storm, 'the principle that moves the instrumental parts of the body in such actions is in him, and the things of which the moving principle is in a man himself are in his power to do or not to do'. One might think this is a clear reference to the two-way powers discussed in *Metaphysics* Book *Theta*. Alvarez (2013, p. 102, fn. 2), for example, after rehearsing the idea that Aristotle's two-way powers have conditions of exercise which are not sufficient for exercise, in contrast to one-way powers – a point that comes directly from *Metaphysics* Book *Theta* – immediately cites *Nicomachean Ethics* and *Eudemian Ethics* as places where

[13] That Aristotle did not think of the will as a topic-general two-way power is independent of whether, like Irwin (1992), one thinks Aristotle had *some* (inchoate; non-voluntarist) conception of the will. *Cf.* Frede (2011, p. 24), who argues for the stronger conclusion that 'Aristotle does not have a notion of a will'.

[14] You can resist the pressure, as Steward (2012, 2020) does, but you had better explain *why* you are resisting it.

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Aristotle discusses these powers. She doesn't say where to look, but one natural place to look is in the account of voluntary action. (What follows is not a direct criticism of Alvarez, but of a view that might be hers.)

The discussion of 'what is in one's power' in the *Nicomachean Ethics* and *Eudemian Ethics* has nothing much to do with the discussion of account-based powers in *Metaphysics* Book *Theta*. This can be easy to miss because of translation issues. The English word 'power' occurs in translations of passages in both texts, which might mislead us into thinking there is a connection. But the term *dunamis (meta logou)* doesn't appear in *Nicomachean Ethics* 1110a15–20. Instead, one finds talk of what is '*en autō*' and '*ep' autō*': what is 'in' a person and what is 'up to' them. Something similar applies to similar passages in the *Eudemian Ethics*, such as 1225b5–10, where the voluntary is again linked (in English translation) to 'what is in one's power'. *Dunamis (meta logou)* doesn't appear there either.

In English, when one says things like 'It is in my power to A', one often *means* that one has a relevant ability and one has opportunity, and perhaps authority, available too. (Think of 'It is in my power to banish you'.) For these cases, nothing stands in the way, or if there are obstacles (such as an official proclamation to be made), they are trivially overcome, so whether you do what it is in your power to do is up to *you* or on *you* or in *you*, not *something else*. I think that is a point Aristotle is rehearsing at *Nicomachean Ethics* 1110a15–20 in speaking of what is 'in one's power'; a basic and familiar one, which is why he doesn't even argue for it. *He doesn't think this needs explanation*. It's just a way of clarifying what it means to be the source of an action. (He then *applies* this in clarifying what 'voluntary' means. But that is not my topic here.) In contrast to the point about what is in one's power coming from the ethical works, Aristotle plainly *does* think that the non-canonical exercise of a *dunamis meta logou* needs explanation (see §2.2). There is no suggestion anywhere that young children or non-rational animals have the systematic knowledge in which two-way powers consist, and which explains their non-canonical exercises: *that* requires *learning* of a special kind. In the ethical works, Aristotle is very clear that both children and non-rational animals have voluntary action. So, if Aristotle has a view about two-way powers, it is an *exclusive* one, on which *only mature humans have them*. Relatedly, the discussion of voluntary action in the ethical works is a quite different topic.

One might grant my main point here about terms and texts, but then say that Aristotle really has *two* conceptions of two-way powers:

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one proper to the *Metaphysics* – call it the 'epistemic' conception, because of the role of knowledge – and the other proper to voluntary action – call it the 'voluntary' conception. I think Steward (2021) is trying for something close to this idea; she says there is a conception of two-way power based on scientific knowledge, and one based on the special explanatory role of desire as a 'deciding factor', and that only the former is explicit in the *Metaphysics*. (I am unsure if what follows tracks Steward's reading precisely, so again, treat it as a view that might be hers.)

What would this 'voluntary' conception of two-way powers be like? Consider a wolf caught in a trap that chews its leg off in a way that is directly analogous to the ship captain voluntarily throwing cargo overboard in a storm. We might say of this wolf that chewing its leg off is voluntary *in the circumstances*, but generally, involuntary: no one chews off their leg for fun, including wolves. (This is what Aristotle says about the ship captain's action of throwing cargo overboard in a storm.)

Could we then also say that 'the things of which the moving principle is in a wolf themselves are in the wolf's power to do or not to do'? Isn't that enough to ground a relevant Aristotelian 'voluntary conception' of a two-way power: a power *to do or not do*, as people sometimes say in this literature?

I think this is also wrong. Aristotle never clearly describes non-human animals as acting at their *discretion*, as if they could reason about what is best, and so oppose what appetite presents as good; rather they tend to be presented as *ruled* by their appetites. This idea is relatively clearly expressed in the *Eudemian Ethics*, where Aristotle notes that non-rational animals share a 'simplicity of moving principle' with inanimate objects, because they don't have different *forms* of principle at work in them:

> … in the inanimate the moving principle is simple, but in the animated there is more than one principle; for desire and reason do not always agree. And so with the other animals the action on compulsion is simple (just as in the inanimate), for they have not desire and reason opposing one another, but live by desire; but man has both, that is at a certain age, to which we attribute also the power of action; for we do not use this term of the child, nor of the brute, but only of the man who has come to act from reason. (Aristotle, *Eudemian Ethics,* 1224a20–30)

So, when the wolf chews off its leg, it is *not* analogous to the ship captain throwing stuff overboard; it is more like what happens when

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a ship is blown by two different breezes at once. The ship captain *calculates*: rationality moves him to do what he does, and as soon as he's calculated, he acts. The wolf may look like it has calculated, because it may take a while before it finally chews, but what is really going on is that a desire to be free grows stronger until it overcomes the pain of moving, much as a ship may be blown in one direction until a growing counter-breeze pushes it in another.

I think we can understand this view of non-rational animals in a way analogous to the discussion of judgment above. A given body of affections of the soul, prompted by appetites, emotions, perceptions, memories, imaginings, *etc.*, in the relevant circumstances, can explain an action as no accident. For example: a startled tiger usually freezes; a *really* startled tiger jumps; a tired tiger rests; an exhausted or *thoroughly* uninterested tiger sleeps. If a tiger is hungry but also more scared of a nearby elephant than hungry, that can explain its action of remaining still, lashing its tail in frustration. Relative to *that* body of affections of the soul, including their strengths and so on, it would be an accident if the tiger did something else, such as sleeping or charging at the elephant. In unusual cases, either something else would explain the action, or nothing would. (Unlike the case of rationality opposing sensory appetite, we are hard pressed to find such alien explanations *of action* in non-human animals; if the tiger were startled by a snake, that would alter the relevant body of affections of the soul.) There can be cases where a given body of affections of the soul is equally strong in favour of two alternatives: then either would be an accident relative to that body, given the lack of dominance of principle. Consider the conflicted tiger *on the verge* of fleeing or attacking; probably its imagination will tip the balance soon if nothing else does. There can also be cases where a given body of affections doesn't favour anything much; then doing something specific would be an accident relative to that body. As with analogous powers of judgment based on knowledge, there isn't a *two*-way power at work here, because this power for movement and rest based on (summing over) affections of the soul doesn't have two *opposed* actualizations which are *both* explained as *no accident*, relative to the power.

The tiger's principle of movement is a *sensory* one – it is determined by a body of affections traceable to memory, perception, and imagination. The rational human has another *form* of principle – an *epistemic* one, determined by what they know and conclude on the basis of deliberation. For us, in particular cases, these bodies might favour opposed actions. But if one hasn't grown up to love what's

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reasonable, then sensory appetite will tend to win such conflicts. Some of us are *still* slaves to appetite.[15]

If I am right, then there is an illicit reification possible from 'It is in an animal's power to do X, or not' to 'The animal has *a two-way power to do X or not*'. We shouldn't attribute this to Aristotle. If we did attribute it, he ought to have said that there is *as much of a puzzle* about animal self-motion as there is about medicine and building, and he would have needed to haul in explanatory tools that are *like* systematic knowledge, without *being* systematic knowledge, to explain how animals could possibly have powers directed to contraries. The best explanation of why he didn't do that is that he didn't reify in the way described. The topic of what it is one's power to do is different from that of two-way powers.

2.10. Contrary exercises of two-way powers are not, as such, defective, and two-way powers don't guide ethics

Kern (2017, p. 162), discussing Aristotle's view of rational capacities in *Metaphysics* Book *Theta* says 'rational capacities are the sorts of capacities that cannot only be used but also misused'. Later, she says that the contrary exercises of rational capacities are normatively *defective*:

> Examples of such privative cases would include a skier who crashes while slaloming, a literate person who misreads something, an accountant who miscalculates something, an architect who builds a house that collapses when the front door is opened, or a fluent speaker who misunderstands what her friend says to her. Or, finally, a doctor who does not make her patients healthy but instead does them in with a poisonous drug cocktail. (Kern, 2017, p. 169)

As an interpretation of Aristotle, this is quite wrong. Kern includes skills like skiing. We have seen why that is wrong in Section 2.6. Skiing has no opposed contrary *exercise*. A skier who crashes *accidentally* is not *using* her skill to make it no accident that there is an opposite change in something other. What she does is an *accident* relative to her power to ski, such as it is. If she produces a crash

[15] This is an evocative slogan: it's true enough, but it's not a comprehensive view of Aristotle's moral psychology all by itself. A proper account of Aristotle's view of *akrasia* would be much more subtle and involved. *Cf.* Müller (2015).

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deliberately, that is *pretending* to crash, which is not in opposition to skiing (well).

More importantly, and more generally, Aristotelian two-way powers *do not guide ethics*. No two-way power is addressed to how to live as such (whether individually, or collectively.) It is ultimately politics, not medicine, which decides which arts should be pursued, and *in what way*, and to what degree. A good politician might dictate war, and a good general in that war might dictate poisoning the opposing forces, and a good doctor might carry out orders to use their knowledge to *sicken* the enemy, secure in the knowledge that *this is what true virtue and practical wisdom require*. What Kern would call 'deviant misuse' of the power to heal – sickening the enemy – is rather *doctoring at its best* (in the circumstances). Aristotelian two-way powers do not 'guide' in the sense that Kern (2017, pp. 174–175) describes. If they did, doctors would know when to heal (always) or sicken (never) without knowing how to live.

This is what we should expect, given that Aristotelian two-way powers are exhausted by principles of change in something other, like medicine or building, and are determined to exercise by *separate* desire or choice. Being a good doctor doesn't make you a good person. It might mean you must have some natural virtues developed to some degree: learning typically requires some discipline. But the evil can be disciplined too in their evil, and the more disciplined, the more terrible they are.

3. Conclusion

It should be clear that on my interpretation that Aristotle's account of two-way powers has little to do with freedom. There is no hint of voluntarism in his view. Desire or choice plays a determining role for two-way powers, it is true. But two-way powers do not include comprehensive knowledge of how to live, how to realize oneself, how to be free, or similar. They are *servile* arts.

That will be disappointing for those who hope to find the key to why *we* are *special* in an account of two-way powers. Why then is Aristotle's view of two-way powers the best in Western philosophy?

Aristotle is the only theorist I know who takes pains to clearly define two-way powers *in contrast to one-way powers*. Subsequent views of two-way powers tend to make the contrast in exercises a matter of the *object* or *content* of exercise. In exercising the power, one chooses (or simply does) A or not A (or perhaps, chooses to suspend judgment, which is really choosing not to choose A or not A

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just yet.) But these powers can't explain both contraries in the right way. If based in knowledge (or some totality that plays a similar role, like a body of affections) then at most one exercise can be explained as non-accidental, relative to the power and the knowledge (or other totality) that informs exercise of that power on that occasion. The other exercise, if it occurs, must be explained by *additional* (distorting) *factors*, and so must be an accident, relative to the power and the body of knowledge (or other totality) that informs exercise of the power. If not based in knowledge, or some totality playing a similar role, then the *specific* act is *always* an accident, relative to the power: it is just like guessing in this regard.[16]

If we take it (as we should) as a conceptual truth that powers explain their actualizations as no accident relative to the power, then subsequent theories of two-way powers are like monsters. In each case, at *most* one of the contrary exercises can be explained as no accident, relative to the power; the other must be an accident relative to the power, and so *no exercise of* that *power*, simply as such: *i.e.*, without the qualification implied by appeal to special distorting or determining factors. I call them monsters because at least one half of them (and sometimes: all of them) is monstrous: a *special* distortion.

Another way to put this is to say that post-Aristotelian (so-called) two-way powers are not really fully *and simply* (*i.e.*, without special qualification) at work in both of their opposed exercises. At best, they are *hybrids* of some sort. There are many potential forms of such hybrid, such as an amalgam of two one-way powers, or an amalgam of a one-way power and some other quite different explanatory principle (like the mere *possibility* of not exercising the first power). As I said in the introduction, proper vindication of these claims would require comparison to many intricate, ingenious views. I hope I have said enough to persuade that there is a *very* difficult *logical* problem here for *all* such views.

It's no accident, I think, that many medieval scholars found Aristotle's remarks about productive powers inspiring. When I think of Christian medieval philosophy, the image of a dramatic confrontation with God comes to mind. For many such thinkers, everyone's primary vocation is to determine their relationship with

[16] As with guessing, there might be expected patterns of exercise for such a power: people sometimes have rough discernable habitual patterns for guessing numbers. But relative to the power itself – which is *defined* as having no totality (of knowledge, or something else) that informs it – the particular determinate exercise is an accident. What is no accident, relative to the power to guess, is simply that *something* is guessed.

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the divine, one way or the other. One is for God (good) or against. The options are contraries, and choosing one of them 'forced', because in *Revelation 3:16* we are told that the 'lukewarm' who try to avoid going one way or the other will be 'spewed out' of the divine mouth.[17] Against the backdrop of that drama, it is no wonder that theories of the will dominate medieval philosophy, and that the image of a master-crafter was an attractive one in making sense of the will. If significance in the eyes of the Lord is conceived as a *product*, then everyone's primary vocation is to *craft their own significance* in the eyes of the one who matters most. This is like a small version of God's role as supernal artisan of all Creation. Speaking metaphorically: in our own small way, we are little gods, made in the image of the divine artisan.[18]

Some of that drama is preserved in some atheist existentialist views, where we *craft our significance in the eyes of each other* (for there is no one else to matter to), and in some indeterminist views about free will, where we quite literally *make history* through our (undetermined) judgments or actions. Out of what do we make significance or history? Out of eyes? 'Recognitive attitudes'? Abstract relations? Feelings? The past? Bricks? No. Like God, we make significance or history *out of nothing*.

Aristotle did not have that kind of view. For him, production is not glorious and divine. He did not think of the divine as here on earth working at carpentry in the figure of Christ. Production is, for Aristotle, *thoroughly servile*. Its end lies in something else; something *better*. It requires *alienation* from what is acted upon and requires *material* (real material – some *thing* – not metaphorical material) to work on. Its home turf is entirely within the messy contingent realm of what can change, which is defined by incomplete motion from one or another contrary to its opposite, and back again. Most importantly, it requires subordination to virtue and practical wisdom to be worth doing.

The image of ourselves as crafting our own significance, or making history, is an *image*. It's an inspiring and empowering one: wonderfully empowering, as it makes us *all* out to be *divine*.

[17] Here I mean logically 'forced', in James's (2005, p. 4) sense: '[in a forced option there is] no possibility of not choosing.'

[18] I should stress that this is simply an image that I find helpful in making sense of some aspects of the history of ideas. I don't intend it as a *reading* of specific medieval thinkers. (It would be a rude caricature if it were intended that way.)

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Philosophical mistakes arise when we take the image out of context and treat it as stating something literally true.[19]

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