

IIIγ: Λ7, Λ9, Λ10: the nature of the ἀρχή and its causality

IIIγ1: Λ7: the ἀρχή as an object of thought and desire

IIIγ2: Λ7, Λ9, Λ10: the ἀρχή as νοῦς and as the good

IIIγ3: Λ10: resolution of aporiai about the good and about the ἀρχαί, failure of other attempts

IIIγ1: Λ7: the ἀρχή as an object of thought and desire

Λ6 shows the causal chain that (Aristotle thinks) genuinely leads up to a numerically single eternal first cause of all things, after Λ2-5 had shown that the other causal chains fail to reach such a single first cause. But Aristotle is not yet done. In Λ7, Λ9 and Λ10 he sets out to show that his preferred causal chain for getting to immaterial substances, and specifically to a first ἀρχή, can deliver on the promises of wisdom as a science of the ἀρχαί in A--as divine science (both knowledge of god and the knowledge a god would have), as a science of the good, and so on-- and also that it can resolve the aporiai of wisdom from B.<sup>1</sup> As we saw in Iβ1, one way the aporiai help to guide the search for wisdom is by serving as an ἴδιον of wisdom: as "the darkest man in the marketplace" tells us where to look for Coriscus and how to recognize him when we have found him, and ensures that we do not mistake someone else for Coriscus, so "the account that gives answers to these questions about the ἀρχαί and resolves the difficulties raised against those answers" tells us where to look for wisdom and how to recognize it, and how not to be taken in by a counterfeit. Λ7,9,10, coming at the end of the positive project of the Metaphysics, try to show that the end has been reached by recalling the beginning, by showing that Aristotle can now deliver on the promises of AB, and also by showing that his competitors cannot. Most obviously, Λ7 gives an elaborate argument that the ἀρχή we have come to know in Λ6 is a god, and the first part of Λ10 (1075a11-25) argues that it is a good-itself; then the remaining and larger part of Λ10 (1075a25-1076a4) argues that other accounts of the ἀρχαί cannot solve the aporiai, about the good or about the ἀρχαί generally. Perhaps to deliver on E1's promise of a "first philosophy" beyond physics it is enough to argue that the cause of each heavenly rotation is some immaterial substance, but to deliver on A's promise of wisdom, we must say what the ἀρχή is in itself and how it causes. In particular, to deliver on the promise of wisdom as knowledge of

<sup>1</sup>from the domain of this chapter I am excluding Λ8 together with the immediately preceding paragraph Λ7 1073a3-13, which were discussed at the end of IIIβ2b above, and which seem to form a unit, extracted by Aristotle from an earlier exoteric work (perhaps the De Philosophia) and expanded for use in Λ: these deal with the general attributes and number of the separate substances, and not specifically with νοῦς, the ἀρχή, or the good {exception: I may say something more here about Λ8 1074a38-b13, on the ancient opinion about the gods}. I will also exclude the opening of Λ7, 1072a19-26, which simply sums up the conclusions of Λ6, stressing what will be important for Λ7, namely the eternity of the eternally moved first heaven and therefore of what moves it, and that this mover is (pure) ἐνέργεια and unmoved. there is trouble both with the text and with the argument in this section around 1072a24, but fortunately no larger issue seems to hang on it (whether or not Jaeger's textual suggestion is right, he is surely right that the argument must be filled out by reference to Physics VIII,5 256b14-24; see also Ross and Laks ad locum). with my whole discussion of Λ7 compare Laks' article in Frede-Charles, which is always worth consulting, notably on textual issues and how they affect the structure of the argument. but I disagree with Laks' claim that Λ6-7 are a single argumentative unit, framed by the declaration at the beginning of Λ6 (1071b4-5) that there is an eternal unmoved substance, repeated (as the enunciation of a Euclidean proposition is repeated in the conclusion) in the last paragraph of Λ7 (1073a3-5). as described above, I think Λ7 (after the opening transitional section) is beginning an essentially different task from Λ6 (Laks does agree that further predicates get added to this substance in the course of Λ6-7); and I think that Λ7 1073a3-5 is part of the extract from the De Philosophia (or wherever) and is not especially echoing the beginning of Λ6 (Laks is aware of the argument that can be made to this effect)

the good, we must show what is good about the ἀρχή, where Plato had failed to show what was good about his ἀρχή, the One; and we must show that it is a cause by being good and not merely per accidens, where (according to A7) Anaxagoras and Empedocles had used νοῦς or Love only as a source of motion, and Plato had used the One only as the formal cause of the numbers, without using the fact that the ἀρχή is good in their explanations. Aristotle's strategy will be to argue (with Anaxagoras and the Timaeus) that the ἀρχή of the first heavenly motion is νοῦς, and then to investigate what this νοῦς νοεῖ, how it νοεῖ, and how it causes motion, concluding that it causes motion as a for-the-sake-of-which, as an object of thought and desire; he then argues, against Plato, that the good-itself is simply this νοῦς, and not a further ἀρχή superior to this νοῦς. Describing the good as νοῦς (and describing what kind of νοῦς it is) explains what is good about it, far better than describing it as the One; and showing that this νοῦς causes motion as a for-the-sake-of-which allows us to explain, better than Anaxagoras, why its goodness is relevant to its causality in the cosmos. In working this out, Aristotle will be showing that he can resolve the aporiai raised against Anaxagoras and Empedocles and Plato in A3-7, without falling into Speusippus' denial that the good is among the ἀρχαί; and he will be answering the long-delayed first aporia of B, asking whether the desired science is a science of the efficient or formal or final cause, deliberately asked first and answered last.<sup>2</sup>

In describing what the ἀρχή is like in itself, and how it causes, Aristotle progressively "purifies" the descriptions of νοῦς and its causality in Anaxagoras and especially in the Timaeus, stripping away any descriptions that would be appropriate only to material things and not to the divine νοῦς. The Timaeus is already "purifying" Anaxagoras in this way, but Aristotle thinks that Plato has not gone far enough, that the Timaeus still has inappropriate descriptions of the demiurge and his causality, and that we must criticize Plato as he criticized Anaxagoras. (Here, as often, Aristotle does this without explicitly mentioning Plato--twice in Λ6, never in Λ7,9; nonetheless, the Platonist reader, used to condemning inappropriate descriptions of the divine, will be led to reflect on whether the Timaeus too speaks inappropriately. We know that Speusippus and Xenocrates, without criticizing the Timaeus, thought that its descriptions of creation-in-time would be inappopriate if taken literally, and so interpreted them as metaphors. There is no reason to think that Speusippus and Xenocrates were responding to Aristotle's criticisms here, but this shows that Academics could be expected to take this kind of criticism seriously.)<sup>3</sup> But how do we tell whether a proposed description of the divine ἀρχή is inappropriate? Aristotle starts from the conclusion of Λ6 that the ἀρχή is pure ἐνέργεια, and he uses this in Λ7,9 as a criterion to reject as inadequate any descriptions which would imply δύναμις in the ἀρχή. We might say that the first step in this process of purification is to eliminate any temporal beginning of νοῦς's activity, although in Λ6 the order of argument has been the reverse, beginning with the eternity of motion and concluding that the ἀρχή that causes it is ἐνέργεια unmixed with δύναμις.

But how does Aristotle know that the ἀρχή is νοῦς at all, so that he can describe it by refining Anaxagoras' and Plato's descriptions? At a first look, the identification of the ἀρχή with νοῦς seems to have been insinuated into the discussion somewhere in Λ7 1072b13-30, without ever being properly argued for. Perhaps Aristotle simply assumes that his readers will be sympathetic

<sup>2</sup>cross-references to treatments above, Iα4, Iβ1, Iβ2c. the connections between the end of Λ and AB are of course missed by those who think that Λ is an independent work. both Sedley in his article on Λ10 in Frede-Charles, and Burnyeat in his Map of Metaphysics Zeta (p.79 with n2), say that Λ is methodologically unusual in ending, rather than beginning, with the opinions of our predecessors and the difficulties they raise

<sup>3</sup>note to other discussions of tashbīh/tanzīh (introduce the Arabic terminology?)

with the Timaeus, so that only his deviations from the Timaeus need to be argued for, while what he accepts from the Timaeus can be taken for granted. Or perhaps he assumes that his readers will grant that the ἀρχή is the best thing we can conceive, and that this is νοῦς (so Λ9 1074b15-16). In fact, however, beyond whatever Aristotle may expect from his ideal reader, he has an argument that the mover of the heavenly motions is νοῦς; but the presentation of this argument in Λ is extremely elliptical, and needs to be filled out with materials from De Anima III,4-5. As we have already seen, it is typical of the extreme compression of Λ, and of its place as the culmination of Aristotle's theoretical philosophy, that it gives outlines of arguments which need to be filled out either from earlier books of the Metaphysics or from physical or even ethical works. To some extent Aristotle himself might have filled in the arguments in giving lectures corresponding to Λ; to some extent he assumes that the presentation of an argument in outline will awaken in his ideal hearers or readers the memory of the lectures or texts, earlier in the ideal order of learning, where the argument was presented in full. Either way, the modern reader must often turn to other works to understand the full sequence of thought that Λ sketches.

#### Moving as ὀρεκτόν and νοητόν: eliminating inappropriate kinds of causality

Λ7 starts by summing up the conclusions of Λ6, stressing that the mover of the first heaven is an ἐνέργεια unmixed with δύναμις, and therefore that it is eternally unmoved (1072a19-26). We next investigate more deeply, not the nature of this mover in itself, but its causality in moving the heaven. How does object A move object B in such a way that A remains itself unmoved? Aristotle says here simply "the ὀρεκτόν and νοητόν move in this way: for they move without being moved" (1072a26-7), and then he goes on to discuss what kind of ὀρεκτόν and νοητόν the mover of the first heaven would be, and whether the ὀρεκτόν and νοητόν are the same thing. He does not explicitly say whether it is only the ὀρεκτόν and νοητόν that move without being moved (though 1072b3-4, further down, says "it moves as an object of love, and the other things move by being moved"); nor does he say whether this kind of mover is only a final cause and not an efficient cause, which might seem to follow--"the for-the-sake-of-which is not ποιητικόν [efficient/active/productive], whence health [as the for-the-sake-of-which of the doctor's act of healing] is not ποιητικόν except metaphorically" (GC I,7 324b15)--but which also seems to contradict Λ6's description of the ἀρχή as ποιητικόν (for the word, 1071b12) and as acting on what it moves. So, before considering what kind of ὀρεκτόν and νοητόν the mover of the first heaven will be, let me address these issues.

I do not think Aristotle is saying, either that only a final cause moves without being moved, or that the ὀρεκτόν and νοητόν moves only as a final cause. An art (mentioned as a mover Λ6 1071b29-30) is an unmoved mover of its instruments or of the body it acts on (so especially GC I,7 324a34-b1); the soul is an unmoved mover of its body (and the soul is to its body as an art is to its instrument);<sup>4</sup> a sensible quality, such as whiteness, is an unmoved mover of the sensitive power, since it is not altered in acting on the medium and being perceived. The texts from On Generation and Corruption I,7 distinguish clearly between the art of medicine, which is an efficient cause, and health, which is a final cause, although neither of them are moved. And it would be very strange to say that whiteness is only a final cause of our perceiving whiteness. Indeed, this example helps to bring out what is wrong with saying that the ὀρεκτόν and νοητόν moves only as a final cause. Something can be desired only once it has been cognized, by

<sup>4</sup>for texts on this see my "Aristotle's Definition of the Soul and the Programme of the De Anima"--do I have a discussion of this in here somewhere?

sensation or intellection. As Aristotle goes on to say in Λ7, "what is desired by appetite [ἐπιθυμητόν, where ἐπιθυμία is sensory ὄρεξις] is the apparent καλόν, and the primary thing that is desired by wish [βουλητόν, where βούλησις is intellectual ὄρεξις] is the real καλόν; and we desire it because it seems [sc. καλόν], rather than its seeming so because we desire it:<sup>5</sup> for the starting-point [ἀρχή] is νόησις" (1072a27-30). So one and the same thing moves us (or moves the heavens) by being both ὄρεκτόν and νοητόν: it must first cause us to cognize it (by intellection or sensation), then specifically to cognize it as good, and thus to desire it, and then we will act for its sake. And if it were only a final cause of our cognizing it, there would be a vicious circle, since it can be a final cause of our activity only by first implanting in us some cognition of itself.

Aristotle's claim that the immaterial mover of the (first) heaven moves it as ὄρεκτόν and νοητόν can best be understood as the result of a process of refinement of Anaxagoras and of the Timaeus. Plato and Aristotle take Anaxagoras' declaration "πάντα διεκόσμησε νοῦς" as laying down a program of explaining the whole world through νοῦς; but then Plato complains that Anaxagoras "makes no use of νοῦς" in explanation (Phaedo 98b8-c2, echoed Metaphysics A4 985a17-21), not necessarily because he fails to use the word "νοῦς", but because he fails to explain why it is best for things to be as they are ("I would never have thought that he [Anaxagoras], saying that [the heavenly bodies] have been ordered by νοῦς, would offer any other explanation for them than that it is best for them to be as they are" (Phaedo 98a6-b1); to say that something is done by νοῦς but not by choosing the best "would be a very great laxity of speech" (99b1-2)). So when Anaxagoras and the other physicists explain the stability of the earth, then since they do not think that "the power of things' being placed as well as possible as they are now arranged" has any force, they explain the effect with a vortex or a material support instead, "thinking that they will discover an Atlas stronger and more immortal and holding all things together more than this [sc. than the power of the best], and truly they do not think that the good and binding [δέον] binds [συνδέειν] anything or holds it together [συνέχειν]" (99c1-6). Plato says here that Anaxagoras, in citing a vortex rather than the power of the best as a cause, has failed to distinguish a true cause from "that without which the cause would not be a cause" (99b2-4), a mere instrument or necessary condition. Plato takes up this criticism of the physicists in the Timaeus, saying that unintelligent causes, fire and air and so on, are not truly causes [αἴτια] but only auxiliaries [συναίτια], although most physicists wrongly take them to be genuine causes (Timaeus 46c7-d7). And here, by contrast with the Phaedo, Plato offers a alternative program for physics: "the lover of νοῦς and knowledge must first pursue the causes belonging to the nature that has intelligence" (46d7-e1)--where such a cause must be not body but soul, "that being to which alone it is proper to acquire νοῦς" (46d5-6)--and only then may we pursue the (so-called) causes "which are moved by other things, and thus by necessity become movers of others" (46e1-2).

In saying that we should pursue explanations through νοῦς, the Timaeus is agreeing with Anaxagoras, and with the hopes of the Phaedo; but it goes beyond both Anaxagoras and the Phaedo in giving an explanatory role to souls, as the primary things which can participate in νοῦς and are thus able to transmit some degree of rationality to bodies. In the bits I have quoted, Plato seems to be connecting the claim that only souls can (primarily) participate in νοῦς with the apparently definitional truth that only souls are (primarily) self-moving. And we can see roughly

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<sup>5</sup>"seems" here is δοκεῖ, not φαίνεται (I translated "φαινόμενον" as "apparent"): Aristotle intends φαίνεσθαι to mean seeming to sense, δοκεῖν to mean seeming either to sense or to intellect (we might translate "A δοκεῖ B to C" as "C judges A to be B"). presumably not all seeming to intellect is true, but the primary cases of it are

how Plato is thinking of the connection. Causes that are not self-moving can move other things only by transmitting motion, when they "are moved by other things, and thus by necessity become movers of others"; the Timaeus systematically opposes causes that work by necessity [ἀνάγκη] with causes that work by νοῦς, and Plato's point here seems to be that an intelligent cause is a cause that acts for the best, and that if body X moves body Y only because something has bumped X into Y, then X will not (except by accident) be moving Y where it is best for Y to go. We might imagine a chain of intelligent causality, so that V would intelligently move W, which would by a necessary consequence move X, which would by a necessary consequence move Y, and the whole chain of causality would be planned by V for the best, and so would be in a sense intelligent or rational; but the Timaeus seems to assume that a plenum of bodies jostling each other will rapidly degrade an originally rational impulse into random disorder. The world can stay as rationally ordered as it does only if self-moving causes, souls, continue to govern it. Plato thus gives a very different account from Anaxagoras of how νοῦς acts to order the world of bodies. Anaxagoras gives no special role to souls in mediating the causality of νοῦς to bodies. His νοῦς simply stirs up a rapid vortical motion of bodies--Fragment 9 stresses the violence [βίη] of the action--and the vortical motion produces the separation of unlike bodies, which gives order to the original chaos. For Plato, this kind of violent imposition of order will not succeed, and is contrary to the nature of νοῦς. Νοῦς should be able to bring about the effect it desires, not because νοῦς is stronger and can impose its will by violence, but because the effect is the best: it will act by rational persuasion [πειθῶ] of the best, and the fact that the world is rationally persuaded, and does what is best because it is best, rather than because it is forced to, is an important part of the world's perfection. So the demiurge aims to make the world "rational," not just in the sense of "intelligible," but in the sense of "intelligent" ("having reasoned, he discovered that of things visible by nature no work that is ἀνόητον [ambiguously 'unintelligible' or 'unintelligent'] will ever be better, compared as a whole to a whole, than that which has νοῦς [unambiguously 'intelligent']; it is impossible for νοῦς to come to be in anything apart from soul. So on account of this reasoning, in composing the universe he fitted νοῦς within soul and soul within body, in order that he might produce a work as beautiful and good by nature as possible," Timaeus 30b1-6). After creating a soul for the world, and souls for particular heavenly and earthly living things, the demiurge "fits" νοῦς into the souls by establishing the "circuits of νοῦς" (Timaeus 47b7), i.e. the circular motions of the Same and the Different, within the soul (circular motion is "most in accord with νοῦς and φρόνησις", Timaeus 34a1-3; it is "in all ways most akin and similar as far as possible to the circuit of νοῦς", Laws X 898a5-6); he also gives the circuit of the Same dominance over the circuit of the Different, and does his best to give them both dominance over the irrational rectilinear motions that assail the soul from the body, although in sublunar living things this does not always succeed.

Nonetheless, Aristotle does not think that Plato has succeeded in correcting all of the faults which he has found in Anaxagoras. The Timaeus does not consistently execute the program it seems to be proposing. Thus despite the close association between νοῦς and πειθῶ (the demiurge persuades even ἀνάγκη, rather than applying a contrary ἀνάγκη, 47e5-48a5), and despite programmatic statements that seem to imply that the causality of νοῦς on corruptible things should be entirely mediated through rational souls or through sempiternal bodies (the heavenly bodies or the cosmos as a whole), the demiurge is sometimes represented as intervening directly (as in imposing the polyhedral shapes on earth, water, air and fire), and is once explicitly said to use violence [βία] (in the creation of the soul, having prepared three mixtures representing being, sameness and difference, the demiurge "blended them all together into one entity, forcibly fitting

[συναρμόττων βίῳ] the nature of the different, which was resistant to mixing [δύσμεικτον], in with the nature of the same," Timaeus 35a7-8). These descriptions might be thought to contradict the demiurge's nature as νοῦς; they might also be thought to contradict his immateriality (does he have hands to grab things with and put them where he wants? can he move things in this way without having movable parts himself?). We might also object, either to the demiurge's intervening violently at one discrete time (contradicting his unchangeability), or to his doing so always (contradicting the principle what is violent, and therefore contrary to nature, cannot be eternal).

We have already seen Aristotle's objections to the demiurge (or whatever the ἀρχή may be) beginning to act in time after not acting (or after acting differently). His objections to eternal violent action come in a passage which deliberately echoes the Phaedo's critique of the physicists. In De Caelo II,1, having said that the heaven itself is "immortal and divine" and that its motion is "unceasing [ἄπαυστος] for infinite time," Aristotle adds that

the ancients allotted to the gods the heaven and the upper place, as [this place] being alone immortal, and the present argument witnesses that it is incorruptible and ingenerable, and also unaffected [ἀπαθής] by every mortal difficulty, and in addition free from labor [or pain: ἄπνοος] since it needs no violent constraint [βιαία ἀνάγκη] which would hold it and hinder [κωλύειν] it when it is naturally borne in some other way: for everything like this is laborious [or painful], the more so the more eternal it is, and having no share in the best condition. For this reason, too, one should not believe that it is as in the myth of the ancients who said that it needs some Atlas to preserve it. Probably those who composed this account had the same belief as those who came later: for as if [these ancients, sharing the view of some moderns, were speaking] about things that had weight, and as if all the upper bodies were earthy, [these ancients] supported it in mythical fashion on an ensouled necessity [ἀνάγκη ἔμψυχος]. We should not believe either that it is so, or that it has been preserved for so long a time by the vortical motion's being swifter than its own inclination [to its natural motion], as Empedocles says. But neither is it reasonable [εὐλογον] that it should remain eternal through the necessitation of a soul [ὑπὸ ψυχῆς ἀναγκαζούσης]: for the life of such a soul could not be painless [ἄλυστος] and blessed, since the motion, being violent [μετὰ βίᾳς]--if indeed it moves, and moves continuously, a first body which is naturally borne in some other way--must necessarily be without leisure and deprived of all intellectual enjoyment [ἔμφορον ῥαστώνη]; it will not even have, like the souls of mortal animals, relief through the relaxation of the body in sleep. The lot of an Ixion [mythical criminal, punished eternally on a wheel for trying to rape Hera] must hold sway over it, eternal and unabating. (284a11-35)<sup>6</sup>

Aristotle is here criticizing a number of different physical accounts of the heavens as being updated versions of the myth of Atlas, and objectionable for the same basic reason. (Here Atlas holds the heaven up, while in the Phaedo passage [cited above] he holds the earth up, but perhaps

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<sup>6</sup>this passage is highly literary and intricately composed, and difficult to translate accurately. all of De Caelo II,1 avoids hiatus (five instances, three of them after κοί) and uses rhetorical tricks of word-order, elegant variation, etc.; Jaeger thought the whole chapter was an extract from the De Philosophia (Aristotle ET pp.303-306)

more generally "holds all things together" by his strength; both in Plato and in Aristotle, a pre-Socratic vortex is especially compared to Atlas.)<sup>7</sup> In the Phaedo, heaven and earth remain in their places simply because it is best so (no specification of why); for Aristotle, the heaven remains in its place, needing no Atlas to keep it up, because the natural motion of aether is around the center, not toward the center like earth, or away from the center like fire. But this account of the substance of the heavens is novel to Aristotle (though he tries to support it from our most remote ancestors), and all earlier accounts are inadequate. After dismissing the mythical Atlas and pre-Socratic vortex theories, Aristotle turns to reject what is clearly the account of the Timaeus (clear both because the Timaeus was the first περὶ φύσεως account to put a soul in the heavens, and from verbal echoes). This too is compared with the Atlas story: Atlas was a mythical form of ἀνάγκη ἔμψυχος, and the Timaeus too keeps the heavens rotating, and keeps them together, ὕπὸ ψυχῆς ἀναγκαζούσης. What would make the soul's task Atlas-like is that its imposing circular motion on the heavens would be violent, and therefore laborious or painful, if it had to struggle against a body that was naturally disposed to move in a different way.<sup>8</sup> In the Atlas story the heavens were imagined as earthy and thus as tending toward the center (or as tending "downward," however that may be conceived);<sup>9</sup> the Timaeus does not have such a "low" conception of the heavenly bodies, but it says that they are made "mostly of fire" (40a2-3), so that they would naturally tend away from the center. So circular motion would be against their nature just as much as if they were earthy; and now something will be needed to hold the cosmos together, to keep the heavenly bodies from flying off into infinite space.<sup>10</sup> So, where Plato had said that the soul which turns the heaven enjoys an "unceasing [ἄπαυστος] and intelligent [ἔμφρων] life for all time" (Timaeus 36e4-5), Aristotle says here that the motion of the heaven is "unceasing [ἄπαυστος] for infinite time," but that if the soul had to constrain a body which is naturally moved in some other direction, the soul would be eternally engaged in violent effort, with no time off for "intellectual [ἔμφρων] enjoyment": its ceaselessness would not be a blessing but a curse, like the eternal punishments of mythology.<sup>11</sup> Aristotle is not here denying that the heavenly bodies have souls, but only that they have a ψυχὴ ἀναγκάζουσα (De Caelo II,2 285a29 says explicitly that the heaven is ensouled; II,12 292a18-21 says, against those who think of the heavens as "just bodies ... entirely without soul," that they "participate in action and life").<sup>12</sup>

<sup>7</sup>compare Vortex as a quasi-divinity in the Clouds, also, more importantly: note the strange and interesting use of Atlas in MA c3 699a27ff, standing on earth holding the heaven not to keep it from falling but to spin it around him. also note Atlas in Metaphysics Δ23. for Anaxagoras on the heavenly bodies needing a vortex to keep them from falling, see also Anaxagoras A12

<sup>8</sup>cp. Θ8 on the heavenly bodies motion not being laborious (perhaps note somewhere that "untiring" is a standard poetic attribute of the sun, or of whoever drives the sun's vehicle--does this mean it's not the hard work for him that it would be for us, or that it's hard work but he does it anyway?)

<sup>9</sup>a vortex might also be cited either as moving/keeping the heavenly bodies away from the center by a centrifuge-process, or as moving/keeping them "up" like a tornado. these are not the same thing, there are discussions in Ferguson and/or Furley, but Aristotle may not have distinguished them

<sup>10</sup>cp. the Aristotle text (a fragment of the De Philosophia?) on mortality resulting from the four elements, naturally inclined different ways, coexisting within us; and the Timaeus text on the rivets with which the young gods bind together the human body

<sup>11</sup>I think Atlas too is sometimes described as being punished, find references

<sup>12</sup>cp. De Philosophia Fr.21 Ross, where the motion of the heavenly bodies is neither natural nor violent but voluntary, surely implying that they are alive. the De Philosophia seems to be earlier than the De Caelo: Aristotle has already the idea that the heavens are made of a fifth body (or else their motion would be violent), but is not yet willing to say that that body has a natural circular motion comparable to the natural rectilinear motions of the four sublunar elements. the inference from "the heavenly bodies are alive" to "the heavenly bodies have souls" may not be as unproblematic as it looks (it is not an analytic truth that everything that is alive must have a soul--Plato's

When Aristotle speaks here of a ψυχὴ ἀναγκάζουσα, he means ἀνάγκη in the second main sense of Δ5: "what is violent and violence [τὸ βίαιον, βία] [are ἀναγκαῖα]: this is what obstructs and hinders contrary to [one's] impulse and choice: for the violent is ἀναγκαῖον, for which reason it is also painful, as Evenus says 'everything violent is a grievous thing' [= Theognis 472!], and violence is a kind of ἀνάγκη, as Sophocles says 'violence constrains [ἀναγκάζει] me to do these things' [probably Electra 256 misquoted]" (1015a26-31). And if Aristotle can show that a soul moving the heavenly bodies as the world-soul does in the Timaeus would be applying ἀνάγκη in this sense, moving the bodies against their natural tendencies, then Plato, who shares this conception of βία and ἀνάγκη, would have to admit Aristotle's conclusion that the soul's activity would be painful (when someone standing on the earth pushes something earthy into the region occupied by the air, he does so βία καὶ παρὰ φύσιν, and it resists and tries to remain close to the great mass of kindred earth, Timaeus 63c6-d4; something that happens to us is painful if it is παρὰ φύσιν καὶ βίαιον, assuming that the disturbance is great enough and quick enough to be transmitted from the body to the soul, 64c7-65b3). Both Plato and Aristotle would agree that the conclusion that the world-soul's constant activity is painful is repugnant. Presumably Plato would avoid this conclusion by denying Aristotle's premiss that fire naturally tends away from the center: it is only fire down here that moves away from the center, and that only because it is trying to rejoin the great mass of fire in the heavens. But for Aristotle, who defines the "elements" by their natures or tendencies to natural motion (and not, say, by their polyhedral shapes), the only option is to say that, because the heavens do not resist circular motion, they must be made of something other than the sublunar elements--this is the only way to avoid the need of an Atlas to constrain them.

I have said above that Aristotle, in Λ7 and elsewhere, is refining or purifying the pre-Socratics' and especially Plato's descriptions of the ἀρχή and its causality, eliminating any descriptions that would be inappropriate to the nature of the ἀρχή, and that have been applied to the ἀρχή only by wrongly assimilating it to things down here. But in fact the process of purification is taking place on three levels at once: Aristotle is purifying the descriptions of the heavens themselves, of the souls in the heavens, and of the first ἀρχή beyond the heavens. De Caelo I reveals that the heavens are made not of fire or any other sublunar element but of a fifth body naturally inclined to circular motion, and it represents this discovery as purifying divine things from descriptions appropriate only to corruptible things ("reasoning from all these things one might be convinced that there is something different and separated from the bodies here around us, having a nature as much more noble as it is distant from the things here" (DC I,2 269b13-17); since the heavenly body is neither heavy nor light, it is not contrary to any of the sublunar bodies, and because it has no contrary, "the first of bodies is eternal and admits neither growth nor diminution, but is unaging and unaltered and unaffected [ἀπαθές]" (DC I,3 270b1-3, summarizing a12-35); our ancestors must have thought of the heavens as immortal, as is shown by the fact that people describe the gods as living in heaven (b4-9); when they called the substance of the heavens αἰθήρ they meant that it is eternally running [ἀεὶ θεῖ], not that it burns [αἶθει], and Anaxagoras

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deimiurge and animal-itself, and Aristotle's first νοῦς, presumably do not). as we have seen, the Metaphysics denies substantial matter/form composition in the heavenly bodies; so either we must say that the body is living through itself (so that if we are to speak of "soul" the soul will not be distinct from the body), or we must posit a soul which is not the form of a body. since it is at least problematic whether the rational soul is the form of the living body (De Partibus Animalium I,1 apparently denies that it is), and since the heavenly bodies presumably do not have vegetative or sensitive souls, this remains a possibility. but Aristotle never gives much clarification (souls of heavenly bodies seem to be tacitly excluded from the scope of the De Anima, apart from some quick criticisms of Plato in DA I). I will hope to come back to the issue below, but do not promise to clear up the mysteries

speaks unworthily when he identifies αἰθήρ with fire (b20-25)). As we have seen, De Caelo II,1 represents this discovery as purifying our conceptions not only of heavenly bodies but also of heavenly souls: the soul's activity must be free from labor or violence, partly because no activity contrary to nature can endure forever, but also partly because this would contradict the divinity of heavenly souls, which should have "intellectual enjoyment." Furthermore, apart from the special characteristics of heavenly souls, Aristotle represents all souls in a way that avoids assimilating them to bodies, by denying that souls are moved, either in cognition or in moving their bodies, and offering a conception of their ἐνέργεια as something other than κινήσεις:<sup>13</sup> De Anima I systematically criticizes the Timaeus for its too-low conception of the activities of soul, and speaks contemptuously of Timaeus' description of the "circuits of νοῦς in the heavens" (Timaeus 47b7), moving in the planes of the equator and ecliptic and bearing the heavenly bodies along with them, "as if the locomotions of the heaven were the motions of the soul" (DA I,3 407a1-2). Finally, of course, Aristotle agrees with Plato in positing a first ἀρχή beyond heavenly bodies and heavenly souls, and Aristotle refines Plato's descriptions of the ἀρχή (that is, of νοῦς, though we have yet to see Aristotle's argument for this identification) and of its causality, by making it act eternally in the same way, by making it act on other things only through the mediation of the heavens and of rational souls, and by making it act always by περιθώ and not by βία: certainly it still acts, but the only kind of activity that remains and is compatible with its nature as pure ἐνέργεια is the activity of an ὀρεκτόν and νοητόν, acting in the first instance on the rational souls of the heavens.<sup>14</sup>

#### Moving as ὀρεκτόν and νοητόν: what the ἀρχή is and how it causes

We have seen that the ἀρχή moves the heavens as an ὀρεκτόν and νοητόν, and that it is not simply a final cause, but moves by producing νόησις and ὄρεξις in (the souls of) the heavens: that is, it causes the heavens to cognize it, and to cognize it as good, and therefore to desire it, and therefore to move in a particular way.<sup>15</sup> The first effect in the soul is νόησις rather than desire, and, as Aristotle now says, "νοῦς is moved by the νοητόν" (Λ7 1072a30), in the sense that the rational soul, which of itself is only a δύναμις for νόησις, is brought to actual νόησις by the action of the νοητόν on the soul. But what kind of νοητόν is it that acts on the celestial souls, and how does it cause the heavens to rotate? Having said that the ὀρεκτόν and νοητόν are (the only?) unmoved movers, Aristotle adds that "the first of these [i.e. the first ὀρεκτόν and the first νοητόν] are the same" (1072a27). It is presumably not very controversial that the first ὀρεκτόν is

<sup>13</sup>references to discussion, elsewhere in this back or in my OSAP De Anima paper and the sequel to the ἐνέργεια paper. The De Anima accuses the Timaeus of describing the causality of soul in terms appropriate only to bodily causes, as if the soul were coextended with the body and dragged the body along with its motion: "Democritus ... says that the indivisible spheres are moved, since it is their nature never to rest, and that they move the whole body and drag it along with them .... and Timaeus too physicizes [φυσιολογεῖ] that the soul moves the body in this same way, namely that by being moved itself it also moves the body, since it is interwoven with it" (DA I,3 406b20-22, b26-8).

<sup>14</sup>I take it that it acts on the heavens only through their rational souls; perhaps it has an independent action on other rational souls, not mediated by the heavens or the souls of the heavens, but Aristotle says nothing about that here. add note (if not treated someplace more prominent) on purification of descriptions of the "things outside the heavens" in DC I,9, starting from the description of the "supercelestial place" in the Phaedrus. it is not said here that these things are ἀρχαί, or that they move the heavens or are in any other way causes of physical things, but that doesn't matter for my purposes here. DC I,9 279a20-22 on leading the best of lives is verbally quite close to some descriptions in Λ7 (+ see below on DC II,12 apparently taking up DC I,9 and making the god outside a final cause)

<sup>15</sup>with some of the discussion here compare De Filippa in CQ for 1994

a νοητόν: the ὀρεκτόν is either what seems good to the sensory powers (that is, the pleasant) or what really is good and seems so to νοῦς (cf. 1072a27-9; perhaps νοῦς too has things that falsely seem good to it, though Aristotle is silent about them here), and surely the true good is prior to the apparent good. But it is not so clear that the first ὀρεκτόν is the first νοητόν: it might be that the first νοητά (the ἀρχαί) are value-neutral, and that good and bad arise only in subsequent things, as Speusippus thought; or it might be, as Aristotle himself seems to imply in other passages, that even if the ἀρχαί are goods, they cannot be practical goods [πρακτὰ ἀγαθά], and so cannot be ὀρεκτά, and so cannot explain a soul's acting so as to move its body. Here, by contrast, Aristotle wants, if not exactly to prove that the first νοητόν is a good sufficient to explain action, at least to resolve the difficulties against this thesis, and to show how something eternal and intelligible could motivate action; perhaps he cannot exclude the theoretical possibility of some higher ἀρχή above this eternal good, but he will leave us with no reason to believe in such a higher ἀρχή, and no causal chain by which to reach it.

Aristotle says here that one συστοιχία--one column in the Pythagorean table of opposites--contains what is intelligible per se (as opposed to what is intelligible merely as a privation of something positively intelligible), and that this column will be headed by substance, and, at the top, by "simple and κατ' ἐνέργειαν" (i.e. immaterial, 1072a32) substance. He also says that "what is καλόν and choiceworthy on account of itself also belongs to the same column, for the first [in any genus] is always the best or what is analogous [to the best]" (1072a34-b1). All this will probably be uncontroversial among the Academic audience (among the people who believe in συστοιχίαι): even Speusippus apparently "put the one in the συστοιχία of good things" (NE I,6 1096b5-7), so he should agree that the one, or the first in any other genus, is analogous to the best; but Aristotle still needs to show that a simple immaterial substance is really and truly good and not just analogous. And of course Aristotle agrees with Speusippus that Plato's lecture on the good failed to show that the one is good, and, indeed, that the one is not in fact good (see Iα4 above). But where Speusippus says that the ἀρχή is not good but only analogous to the good, Aristotle says instead that the ἀρχή is not one, but rather "simple": "the one and the simple are not the same: the one signifies a measure [of the other things in a genus], whereas the simple [signifies the thing] itself in a certain state" (1072a32-4). Here--and only here--Aristotle is drawing the fruits of Metaphysics Iota. The Platonist and Pythagorean side of B#10 maintains that the one exists καθ' αὐτό, as a single thing existing παρά the many things which are each one; it would thus be an ἀρχή of the sort described in Γ1, a cause, to all beings, of a per se attribute of being, namely unity. Iota investigates these claims (as well as similar claims for a contrary ἀρχή) and concludes that "one" means primarily "the first measure of each genus" (Iota 1 1052b18); "the measure is always homogeneous" (1053a24-5), a different measure for each genus, and therefore there is not a one-itself παρά τὰ γένη as the Platonists claim. Thus when Aristotle in Λ reaches the ἀρχή of all things, the head of the positive συστοιχία, it is not the one, neither a formal nor a material cause of unity to other things--contrary to what the people who talk about συστοιχίαι, the Platonists and Pythagoreans, might expect. "One" signifies a relation to the thing measured, and puts the thing in the same genus as what it measures, whereas "simple" is intrinsic, signifying "[the thing] itself in a certain state." But--again against the people who talk about συστοιχίαι--the state it signifies is privative, the absence of multiplicity or division (so Iota 3 1054a20-29: "one" can signify the indivisible, but in this sense it is privative and "plurality is prior in λόγος to the indivisible").<sup>16</sup> The nature of the ἀρχή is not to be

<sup>16</sup>keeping, with Ross, EJ's τούτων in 1054a24. Bonitz and Jaeger print Ab's οὔτε, and Bonitz conjectures, and Jaeger adopts (as seems obligatory) a transposition of ἐναντία ἂν εἶη from after θάτερον to after λεγόμενα at the end of

simple, but to be simple ἐνέργεια, an ἐνέργεια not mixed with δύναμις or predicated of an underlying subject; and we will say more clearly what the ἀρχή is, and why it is good, by specifying what kind of ἐνέργεια it is.<sup>17</sup>

Before saying anything more positive about the nature of the ἀρχή, Aristotle solves the aporia against a simple immaterial substance being a practical good, by dividing the for-the-sake-of-which into the to-benefit-whom [τὸ ὧ, τινι] and the to-attain-which [τὸ οὐ, τινος], and to say that the latter, but not the former, can exist in unchanging things [ἐν τοῖς ἀκινήτοις] (so 1072b1-4).<sup>18</sup> To see what difficulties this is supposed to resolve, and how it might resolve them, we need to look at a group of related texts. In the first instance, 1072b1-4 is solving an aporia against that-for-the-sake-of-which being ἐν τοῖς ἀκινήτοις: this is one of the arguments given in B#1 (996a22-9), with a variant at K1 1059a34-8 (I discussed both texts at length in Iβ2c above, and argued that the argument represents Speusippus). The argument in B#1 proceeds: what is good καθ' αὐτό is a τέλος, and is a cause as that-for-the-sake-of-which; but this is always the τέλος of some πράξις, and every πράξις is accompanied by motion; so this kind of ἀρχή (the good when it's a cause qua good, i.e. the for-the-sake-of-which) doesn't exist ἐν τοῖς ἀκινήτοις, which in

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the sentence (καί after ἐναντία ἂν εἴη gets deleted). if Bonitz and Jaeger are right, the sense is quite different: unity/indivisibility and plurality/divisibility are not privative and positive, but contraries. however, ἀδιαίρετον, which is the formulation Aristotle prefers here, is an alpha-privative, and what Aristotle goes on to say about it at 1054a26-9 seems to imply that it is indeed a privation, although also a contrary; Iota 4 1055a33-5 says emphatically that privative and positive are contraries, indeed are the primary contraries. Bonitz ad loc. shows himself perfectly aware of this

<sup>17</sup>note also that there is no reason there couldn't be several simple things, whereas Plato would deny that there could be several one-itselfs (ps-Alexander 695,10-14 and Laks FC p.225 n50 say that Aristotle is defending the possibility of a plurality of simple substances; they are right about one thing he is doing, but they miss the larger anti-Platonic concern, which should be obvious once we look back to the texts of Iota that Λ7 is clearly drawing on). NB with this whole paragraph compare my account of Iota on the one in Iγ2a, and perhaps truncate the present paragraph

<sup>18</sup>"that the for-the-sake-of-which exists in unchanging things [ἐν τοῖς ἀκινήτοις] becomes clear through the distinction: for the for-the-sake-of-which is to-benefit-whom [τινι] and to-attain-what [τινός], of which the one exists [in unchanging things] and the other does not" (Λ7 1072b1-3). at b2-3 I read Christ's ἔστι γὰρ τινὶ τὸ οὐ ἔνεκα καὶ τινός, followed by Ross and Jaeger {I am assuming that τινὶ and τινός are being read as indefinite with the accent added for emphasis and distinction from the interrogative. with the indefinite it sounds wrong, as if the οὐ ἔνεκα itself, rather than what is ἔνεκα it, were for the sake of something further; unless we can interpret "what X is for the sake of is to get Y for Z" (is this possible? if so, is it possible even without the καὶ?). with the interrogative, it's clear what it would have to mean, but it would be an unusual stretching of the language}. Ab has ἔστι γὰρ τινὶ τὸ οὐ ἔνεκα τινός (Christ's addition of καὶ is supported by Alexander in Averroes), EJ ἔστι γὰρ τινὶ τὸ οὐ ἔνεκα {but do they have γὰρ τινὶ interrogative or γὰρ τινι indefinite? this may matter, since the defenses of EJ, starting with the pseudo-Alexander, presuppose the indefinite}. someone proposed ἔστι γὰρ διττὸν τὸ οὐ ἔνεκα--who? (Jaeger says Schwegler and Bonitz, but Bonitz in fact prints the reading of EJ, with γὰρ τινι indefinite, without this proposal in his apparatus--maybe it's in his commentary or his Observationes criticae). d notes on Silvia Fazzo's article {Elenchos ref?} defending the reading of EJ (and arguing that the reading of Ab arises from the contamination of two variant readings τινι and τινος)--she, like pseudo-Alexander, takes τινι as indefinite and dative of possession, so "something has a for-the-sake-of-which, and the thing that has the for-the-sake-of-which does not exist among unmoved things, but the for-the-sake-of-which itself does." this is possible as a way of answering the challenge posed in B#1, but does not seem to deal with the deeper problem of whether the god is an ἄρχων ἐπιτακτικῶς as raised in EE VIII,3, and does not make sense of the (apparent) parallels which depend on a distinction of two senses of οὐ ἔνεκα. notes on what can be reconstructed from the Arabic, discuss both Silvia and Cecilia Martini Bonadeo in Aristotele e i suoi esegeti neoplatonici: I disagree with both of them about what Greek text underlies wa li-dhâ shay'un (Silvia καὶ τούτω, Martini καὶ τ): in fact the text of Christ and Jaeger seems likely to be right. Averroes clearly thinks (apparently following Alexander) that the text is distinguishing between two kinds of final causes, but he takes the distinction to be between a non-substance like health and an external substance like gold, both of which are to-attain-which, rather than between to-attain-which and to-benefit-whom

context must mean that unchanging things don't have such causes. The K parallel makes clear that the intended conclusion is that "the science we are seeking"--the knowledge of the ἀρχαί that we are seeking--is not a science of the for-the-sake-of-which, "for this is the good, and this exists in πρακτά and things which are in motion [ἐν τοῖς πρακτοῖς ὑπάρχει καὶ τοῖς οὖσιν ἐν κινήσει]; and this is a first mover--for a τέλος is such--and there is no first mover ἐν τοῖς ἀκινήτοις" (K1 1059a34-8). While the B version argues only that the for-the-sake-of-which cannot be a cause to unchanging things, the K version draws the stronger conclusion that the for-the-sake-of-which cannot itself be an unchanging thing; this is more serious for Aristotle's purposes in Λ, since he does not have to say that the ἀρχαί are causes of unchanging things (he can say that they are causes of physical things and that mathematical things are parasitic on physical things), but he does need to say that the ἀρχαί are themselves unchanging things, and yet can be the for-the-sake-of-which of the rotating heavens. Indeed, the aporia challenges the whole promise, since A, that wisdom, the science of (eternal, unchanging) ἀρχαί, will use the good as a cause qua good, and therefore as a final cause. But what is the difficulty supposed to be, if we do not insist that a cause of motion must be homogeneous with its effect and so cannot be unmoved? The B argument had said that the for-the-sake-of-which is a good which is the τέλος of some πράξις; the K version reformulates by saying that the for-the-sake-of-which is itself a πρακτόν good, and passes, as if the inference were obvious, from ἐν τοῖς πρακτοῖς to [ἐν] τοῖς οὖσιν ἐν κινήσει. The underlying thought is that that for the sake of which I act must depend on my action; what is unchangeably eternal cannot be affected by my action, so acting for its sake would be in vain. Aristotle makes an argument of this kind at Eudemian Ethics I,8 (discussed Iα4 above), in arguing that an idea of the good, even if there were one, could not be the good-itself we are seeking, because the idea would be ἀκίνητον καὶ οὐ πρακτόν (1218b9), whereas the good we are seeking must be the τέλος of πρακτά goods, and thus itself a πρακτόν good: "this kind of good, the for-the-sake-of-which, is πρακτόν, and the [kind of good that exists] among unchangeable things [τὸ ἐν τοῖς ἀκινήτοις] is not" (1218b5-7). But the good "separated and itself by itself" of Λ10 (1075a12-13) is also unmoved, and Λ7 insists that it is the for-the-sake-of-which, if not of human actions then at least of the actions of the spheres; so why doesn't the argument of EE I,8 work against it as well as against an idea of the good?

Although Λ7 never uses the word "πρακτόν," and never spells out why there is a difficulty about an eternally unchanging for-the-sake-of-which, I think Aristotle must have this cluster of considerations in mind, because it comes up elsewhere in texts with close thematic links to Λ7. Recall that Λ5 already had suggested that the causes of all things are "soul and body, or νοῦς and ὄρεξις and body" (1071a2-3), presupposing an analysis of the motions coming from (non-vegetative) soul as coming from νοῦς and ὄρεξις: such an analysis is given in detail in De Anima III,10 and in De Motu Animalium c6. These texts have close echoes with Λ7 on the νοητόν and ὄρεκτόν, and the De Motu Animalium explicitly refers back to a discussion ἐν τοῖς περὶ τῆς πρώτης φιλοσοφίας of how the first mover moves what is first and eternally moved (700b7-9). DA III,10 argues that the only causes in the soul of local motion in the animal are ὄρεξις and νοῦς (imagination and so on can be forced into one of these types, similarly MA c6 700b17-24); furthermore, this is not just any νοῦς, but the νοῦς that reasons for the sake of something, that is, the πρακτικὸς νοῦς (DA III,10 433a13-14). Indeed, these two causes reduce to one, since the ὄρεκτόν (not the ὄρεξις: οὐ ἢ ὄρεξις, 433a15-16) is the ἀρχή of the πρακτικὸς νοῦς.<sup>19</sup> And although Aristotle says that the ὄρεκτόν is an unmoved mover (the ὄρεκτικόν is an

<sup>19</sup>there is wavering in the manuscripts between whether it τὸ ὄρεκτόν or τὸ ὄρεκτικόν that moves, at 433a18, a20, and a21; but it is clearly the ὄρεκτόν at 433a28 {even here, according to Ross, one manuscript has ὄρεκτικόν--but

intermediate, in some sense a moved mover, 433b16-18,<sup>20</sup> but the ultimate mover is the ὀρεκτόν, which κινεῖ οὐ κινούμενον τῷ νοηθῆναι ἢ φαντασθῆναι, 433b10-12, similarly MA c6 700b35-701a1), he also says that the ὀρεκτόν, which is the good or the apparent good, is "not every good, but the πρακτόν good, and the πρακτόν is what is capable of being otherwise" (DA III,10 433a29-30; MA c6 700b25-6 also says that the good that moves us is a πρακτόν good, indeed the τέλος of the πρακτά), with the apparent implication that, although the ὀρεκτόν is not changed in the act of being desired, it cannot be intrinsically unchangeable.

However, De Motu Animalium c6 not only shows us the difficulty but also shows that Aristotle must have thought there was a solution, and the Eudemian Ethics begins to show how he thought the solution would work. The De Motu Animalium contrasts the eternally mover of what is eternally moved with the movers of ordinary animals: both move as the good, but "the eternal καλόν and what is truly and primarily good, not [good, or καλόν] at one time and not at another time, is too divine and too noble [τίμιον] to be [good, or καλόν] in relation to something else [reading πρὸς ἕτερον, with Nussbaum]" (700b32-5), where this is apparently offered as an explanation for why "the former [= the heaven] is moved eternally, while the motion of [ordinary] animals has a limit" (700b31-2). Aristotle is here claiming for the good or καλόν that moves the heaven the attributes of the καλόν-itself from the Symposium, which is "not at one time [καλόν] and at another time not, or καλόν πρὸς one thing and αἰσχρὸν πρὸς another" (211a3-4). One implication is that, because this kind of good is always good--unlike eating, which is good when you are empty but bad when you are overfull--the heavens will never cease to pursue it, whereas an animal will pursue eating only up to some "limit" when it is satiated. More deeply, the claim that this kind of good never ceases to be good is connected with the claim that it is not good merely relationally, in relation to some particular thing. The reason that eating ceases to be good for the animal (and that the animal therefore ceases to pursue it) is not that eating changes its intrinsic character, but that eating is good only for an animal in a particular condition, so that when the animal ceases to be in that condition, eating ceases to be good for it. By contrast, the good that the heaven desires is desired because it is intrinsically good and desirable, apart from any relation it may have to the heaven or to anything else: certainly it is good for the heaven, but it is good for the heaven because it is good in itself, not because the heaven is in a particular condition (say, because it is empty or because it is away from its natural place). Recall that in learning, or specifically in learning first philosophy, the

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the text identifies this with "the good or the apparent good"!}, and this seems to secure it in all these places. the Budé prints τὸ ὀρεκτόν in all three disputed passages; Ross prints ὀρεκτόν the first two times, ὀρεκτικόν the third<sup>20</sup> at 433b18 the correct reading is probably ἡ ὀρεξις κίνησις τις ἐστὶν ἢ ἐνέργεια, or (with the Budé) ἡ ὀρεξις κίνησις τις ἐστὶν ἢ ἐνέργεια, rather than Ross' ἡ ὀρεξις κίνησις τις ἐστὶν, ἢ ἐνέργεια (following Torstrik). on either of the first two readings, Aristotle seems to intend a caveat on the sense in which the ὀρεξις can be called a κίνησις (and so the Budé takes it). {at b17 the Budé's ὀρεγόμενον is certainly right against Ross' κινούμενον}. if at Λ7 1072b3-4 we keep (with Jaeger) the text of EJ and (the first hand in) Ab κινεῖ δὲ ὡς ἐρώμενον, κινουμένῳ δε τᾶλλα κινεῖ, "it moves as an object of love, and moves the other things by means of something that is moved," rather than Ross' emendation κινεῖ δὲ ὡς ἐρώμενον, κινούμενα δε τᾶλλα κινεῖ, "it moves as an object of love, whereas the other things move by being moved," then it seems to me that "κινουμένῳ" must mean not "by means of the heaven" (as Jaeger takes it, followed by Laks, see his discussion at FC p.220; so already Averroes at Genequand p.154, and ps-Alexander 695,39-696,3), but rather "by means of the ὀρεκτικόν [or of the soul's νοῦς]," as in DA III,10. in the immediate context Aristotle has been talking about how the for-the-sake-of-which as the to-attain-which moves, with nothing specific to the case of the heavens; a bit earlier Aristotle has said that νοῦς is moved by the νοητόν (1072a30)--again quite general, and no mention of the heavens has intervened between the two passages--and it is easier to take this νοῦς (of the soul), rather than the body, to be the first thing "moved" by the for-the-sake-of-which. {Silvia Fazzo suggests that the author of the pseudo-Aristotle De Mundo read κινουμένῳ here--d check}

task is "[starting] from what is more knowable to [each person], to make what is knowable-by-nature knowable to him," just as "in ethics [ἐν ταῖς πράξεσι] the task is, [starting] from what is good for each person, to make what is good-in-general good for each person" (Metaphysics Z3 1029b5-8), the implication being that when we begin the process, we are in such a disordered condition that what is good or knowable in itself would be bad or unintelligible for us.<sup>21</sup> The heavens, however, have no such disorder to overcome: they are already such that what is good in itself is good for them, and it is good for them precisely because it is good in itself and because their nature does not put up any obstacle that would prevent what is good in itself from being good for them. So Λ7 says that what the heaven desires is "choiceworthy on account of itself"; it is also called "καλόν", which seems to differ from "ἀγαθόν" in implying that the object is objectively admirable, and not simply suited to filling some need of the agent (food, or the act of eating, would not be called καλόν; "καλόν" is often restricted to what is perceived as valuable by sight or hearing, modes of perception which do not consume the object or fit it into our bodily gaps). And what is καλόν and choiceworthy on account of itself is supposed to be ontologically grounded in what is in the positive συστοιχία, headed by substance and especially by simple and purely actual substance. The implication seems to be that what the heaven desires is good in the category of substance, good because of the substance it is and not simply because of a quality it has, much less because of a relation it has to a particular agent. Eudemian Ethics I,8, the same chapter that says that the for-the-sake-of-which must be πρακτόν and so cannot exist ἐν τοῖς ἀκινήτοις, also says that the good exists in each of the categories, being said in the category of substance of ὁ νοῦς καὶ ὁ θεός (1217b30-31, parallel ὁ θεός καὶ ὁ νοῦς, NE I,6 1096a24-5). Here ὁ νοῦς must be not the human rational soul, which can be qualified by greater or lesser degrees of perfection ("the just" is mentioned as a good in the category of quality, 1217b31, parallel "the virtues" NE I,6 1096a25), but a reason-itself, having its perfection of νόησις by its essence and therefore good by its essence: ὁ νοῦς καὶ ὁ θεός and ὁ θεός καὶ ὁ νοῦς are exegetic, respectively "νοῦς, I mean (not the human mind but) God" and "God, I mean (not the gods of the state but) νοῦς" (cp. ὁ θεός καὶ ὁ νοῦς Politics III,16 1287a28, ὁ νοῦς καὶ ὁ θεός Theophrastus Metaphysics 7b22-23, τὸ ἀγαθὸν καὶ ὁ νοῦς Aristotle Metaphysics Λ10 1075b11). So certainly Eudemian Ethics I,8 recognizes that there is such a being and that it is good in itself; but how can it also be good for us, so that we can act for the sake of it, given the arguments of the same chapter that an eternally unchanging good is not πρακτόν and cannot be a for-the-sake-of-which?

Eudemian Ethics I,8 is in fact deliberately setting up an aporia to be resolved later; the final, long-delayed resolution of the aporia in EE VIII marks the end of the treatise. Here at the end of EE VIII Aristotle invokes the same distinction between two senses of for-the-sake-of-which, to-benefit-whom [τὸ ᾧ, τινί] and to-attain-which [τὸ οὗ, τινός], that he does in Metaphysics Λ7 1072b1-3, again to explain how we can act for the sake of something eternally unchanging: "god is a ruler [ἄρχων] not by commanding [ἐπιτακτικῶς], but he is that for the sake of which

<sup>21</sup>refs to earlier discussion (something in Ηα3?), parallels in Aristotle if not given there: Topics VI, Metaphysics α1 on bats, Ethics texts on goods ἀπλῶς and good-for-someone (Plato says that money is not a good, because if it were it would not harm anyone, whereas some people will use money badly and so be worse off with it than without it; Aristotle replies that what is good ἀπλῶς is what is good for someone in good condition, even if it is bad for someone in a diseased condition, just as honey is sweet ἀπλῶς, even if it is bitter to someone in a diseased condition; note also Aristotle's allegorization of Orestes at the end of NE VII, "change in all things is sweet to a sick man"--scholars often seem to play down Aristotle's assumption that our initial cognitive and appetitive condition is disordered). α1 in saying that we should gradually acclimatize ourselves to daylight, working up from things we have habituated ourselves to see more easily, is of course taking up a Platonic thought

φρόνησις commands [ἐπιτάττει]--we have distinguished elsewhere two senses of 'for the sake of which'--for he is not in need of anything. So whatever choice and possession of natural goods (whether goods of the body, or wealth, or friends, or any other goods) will most produce contemplation of god, that is the best, and this is the noblest standard; but whatever [choice of natural goods] obstructs the service and contemplation [θεραπεύειν καὶ θεωρεῖν] of god, either by deficiency or by excess, that is bad" (EE VIII,3 1249b13-19).<sup>22</sup> Here the immediate point is that since a god is eternally unchanging and cannot be benefitted by our action, we cannot act "for the sake of the god" as "to benefit the god"--standard Platonist polemic against the idea that piety consists in benefitting the gods through sacrifices (Aristotle infers that the god does not command such sacrifices: he seems not to entertain the idea that the god might command us for our own benefit rather than for his own). Nonetheless, Aristotle says, we can and should act "for the sake of the god" as "to attain the god."<sup>23</sup> This seems to run immediately into the aporia of EE I,8: I can do something for the sake of health, not to benefit health but to attain it, because health is contingent on my actions and is therefore a πρακτόν good, but how can I do something in order to attain a god, since the god is neither produced nor affected by my actions?

To see how Aristotle is thinking about this, the first thing to observe is that the to-attain-which does not have to be an accident that can be predicated of the agent, like health: I can desire money or dinner, and I can do something for their sake, not to benefit them but to acquire the money or to eat the dinner. The Stoics would insist on saying that I desire not the body signified by the noun but the incorporeal predicate signified by the infinitive phrase, not the money or the dinner but to acquire the money and to eat the dinner (SVF III,89 and III,91). But Aristotle, unworried by this precision, will say that I can desire the money or the dinner just as much as the health: to desire X is just to desire to be in the appropriate relation to X: this relation can generally be described as having [ἔχειν] X, or as using or exercising X [χρησθῆναι X+dative], where the latter is the more final end, since to have X is just to be able to use it, whether X is health or knowledge or food or money. So to desire the god is to desire to be in the appropriate relation to the god, where that relation--that is, the ἐνέργεια or χρῆσις--is described here as "contemplating" or as "serving and contemplating" the god.<sup>24</sup> Here at the end of the Eudemian Ethics Aristotle is picking up a point he had made three books earlier: φρόνησις "is not authoritative [κυρία] over σοφία, not does it have the better lot, any more than the art of medicine does over health: for [φρόνησις] does not use [σοφία] [sc. as ἀρχιτεκτονική uses the manual arts], rather it sees how to bring it about; so it issues commands [ἐπιτάττει] for the sake of it, not to it. This would be like saying that πολιτική rules [ἄρχειν] over the gods, since it issues commands [ἐπιτάττει] about everything in the city [sc. including religious observances]" (EE V,13=NE VI,13 1145a6-11); this was Aristotle's resolution of the apparent absurdity that "although [φρόνησις] is worse than σοφία, it will be more authoritative [κυριωτέρα] than it: for

<sup>22</sup>see discussions above in Iα2 (from which I repeat this translation), Iβ2c, and briefly Iα4. besides Λ7 1072b1-3 and the present passage of EE VIII,3, Aristotle draws the distinction between the two kinds of οὐ ἔνεκα at Physics II,2 194a35-6 (which in turn cites the De Philosophia for this distinction), and at De Anima II,4 415b2-3 and 415b20-21, where the soul is the final cause as to-benefit-whom of the living thing, but living things also preserve and reproduce themselves "in order that they may participate, so far as they are able, in the eternal and the divine: for all things desire this, and do what they do by nature for the sake of this: the for-the-sake-of-which is twofold, the to-attain-which and the to-benefit-whom" (DA II,4 415a26-b3); "for the sake of this" probably means "for the sake of the eternal and divine," possibly "for the sake of participating in the eternal and divine," but Aristotle has no interest in drawing distinctions here, see discussion in the main text

<sup>23</sup>but note that "attain" doesn't translate any verb here, merely the genitive of aim

<sup>24</sup>cp. Euthydemus: "you have an ancestral Zeus?", where gods are animals and to have an animal is to be able to sacrifice it

what produces rules [ἄρχει] and commands [ἐπιτάττει] about each thing [that it produces]" (EE V,12=NE VI,12 1143b34-5). So, although in a sense φρόνησις and πολιτική "produce" σοφία--they bring about the conditions under which the individual or the society can acquire σοφία and exercise it in contemplation--they are not superior to σοφία and do not command it, but are inferior to it and give commands for the sake of σοφία, not to benefit σοφία but to attain σοφία, that is, so that we may acquire it and exercise it.<sup>25</sup> Likewise, they give commands so that we may "acquire" and "exercise" the gods by coming into the appropriate relations with them--and at least one way of "having" and "exercising" a god is to have the science of the god, and to contemplate the god by exercising that science, so that having and exercising wisdom is also a way of "having" and "exercising" the god. When EE VIII,3 speaks of θεραπεύειν καὶ θεωρεῖν a god, this would mean literally participation and in attendance at a religious ritual. And while of course Aristotle's intention here is at least partly metaphorical, there is also the literal point that the goal of πολιτική is not warfare or the securing of the necessities of life, but the peaceful leisure exemplified in civic religious festivals, including musical and poetic and dramatic performances: philosophical θεωρία is a refinement of civic-religious θεωρία for those who are capable of it.<sup>26</sup> And the goal either of civic-religious or of philosophical θεωρία is not to benefit the gods and so change their attitude toward us, but to change our own condition and so change our relationship to the gods. So the god is πρακτόν not in the sense that he is in himself contingent on my actions, but in that my "having" and "exercising" him is contingent on my actions: if being πρακτόν requires that the god be changeable, this is only in the sense that the god is changed per accidens when he comes to be per accidens in a new relation to me, that is, when I come to be in a new relation to him.<sup>27</sup>

So that the ἀρχή is a good for the sake of which other things act is compatible with the ἀρχή's being "necessary"--that is, with its being necessarily whatever it is, although it does not have of necessity the per accidens predicates that it has through other things' being somehow related to it. And Aristotle devotes a few lines, Λ7 1072b4-13, to this "necessity" of the ἀρχή. In a sense, the point seems quite straightforward. Something is necessary if it is not capable of being otherwise than it is. Whatever moves, or can move, is capable of being otherwise than it is. Aristotle assumes the converse, that whatever is capable of being otherwise than it is is capable of moving; presumably the thought is that if the thing has a capacity for being otherwise than it is,

<sup>25</sup>reference to earlier discussion. also note the earlier aporia in EE V/NE VI, why is σοφία so valuable, since "it will not consider any of the things out of which happiness [arises], since it is not about any coming-to-be" (EE V,12=NE VI,12 1143b19-20), with the answer that "σοφία does produce happiness, not as the art of medicine produces health, but as health produces health" (1144a3-5). note that in this text and the other text from EE V/NE VI, and also in the text from EE VIII,3 (just before the bit I quoted), σοφία is compared to health and φρόνησις to the art of medicine (in the EE VIII text it's not entirely clear whether the health-analogue is σοφία or the god, but ultimately it comes to the same thing, since in things without matter the knowledge is identical with its object)

<sup>26</sup>references? Bodéüs, Kraut?

<sup>27</sup>perhaps note in this connection that Λ7 deliberately alludes to the Symposium: as noted above, in borrowing from its description of the καλόν-itself (and in calling it καλόν rather than simply ἀγαθόν), also in saying that the object moves ὡς ἐρώμενον (rather than simply and prosaically ὡς ὀρεκτόν). the Symposium may be useful in giving Aristotle a model for an eternal unchanging object for the sake of which we perform all our activities (perhaps not all, because of various human limitations, but these won't apply to the heavens). there is likewise an allusion to the Symposium in DA II,4, where reproduction is for the sake of (participation in) "the eternal and divine"; which is explicitly said to be the for-the-sake-of-which as to-attain-which. note that in the Symposium, as in EE VIII,3, the religious metaphor behind θεωρία is quite live: the vision of the καλόν is compared to the revealing of the sacred objects in an initiation ceremony

then it is possible for this capacity to be actualized, and if it is actualized, the thing will move.<sup>28</sup> Since the first mover is not itself moved and cannot be moved (for so Aristotle thinks he has shown), it cannot be otherwise than it is, and it is therefore necessary--"it is a necessary being [ἐξ ἀνάγκης ἐστὶν ὄν]," as Aristotle says in a phrase destined for a glorious future (1072b10). However, there are deeper issues involved. The physicists, in seeking to give the causes of things, are also trying to explain why those things are necessary, or by what necessities they have come about. Thus the ἀρχαί should themselves be necessary, in order to transmit necessity to other things; if they are not necessary, then there is something still to be explained. Aristotle takes over much of this language of necessity in the context of his syllogistic: "a syllogism is a λόγος in which, some things having been posited, something other than the things posited follows of necessity on these things' being" (Prior Analytics I,1 24b18-20); "since it is impossible for that of which there is science simpliciter to be otherwise, what is known by demonstrative science would be necessary ... so demonstration is a syllogism from necessary [premisses]" (Posterior Analytics I,4 73a21-4), since a syllogism with non-necessary premisses will not yield a necessary conclusion. So the ἀρχαί of demonstration and of all scientific knowledge (the propositions, or the things they describe) must be necessary; so certainly the first ἀρχαί of all things, as described in Λ, must be necessary beings, and sources of necessity to the things that proceed from them, namely the heavenly motions. But, as we saw from De Caelo II,1, Aristotle sharply rejects the idea that the heavenly motions persist "through a necessitating soul," where necessitation implies a constraint contrary to a thing's natural inclination, of the kind that the physicists were all-too-fond of. To solve the aporia, Aristotle needs to distinguish different senses of necessity. This is what he does in Metaphysics Δ5: and while some distinctions in senses of necessity are also useful in the physical works (e.g. GC II,11, De Partibus Animalium I,1, De Generatione Animalium V,1), the particular way that Aristotle draws the distinctions in Δ5 is clearly designed for use in Λ or something much like it, and Λ7 in turn clearly looks back to Δ5.

Δ5 begins from the most ordinary-language sense of necessities as "things without which it is not possible to live" (1015a20-21), which can be generalized to "things without which it is not possible for [some] good to be or come-to-be" (a22-3); a second sense of necessity is the one we

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<sup>28</sup>Aristotle seems to take this for granted, but it is contestable; describe Scotus' challenge. Scotus thinks that if S is contingently F, then S is capable of being not-F in the very moment in which it is F; of course, S is not capable of being (F and not-F), but the moment in which S is capable of being not-F is the very same moment in which S is actually F. this is quite independent of whether S is capable of being successively F and then not-F. in fact, the latter may be entirely impossible. in particular (to take the example that probably got Scotus thinking along this path), that God wills X (e.g., to create the world) is contingent; God actually wills X, but is capable of not willing X; but since it is a necessary truth that God's will does not change, God is not capable of successively willing X and not willing X; so the moment in which God is capable of not willing X must be the same as the moment at which God is actually willing X. Scotus thus begins the decoupling of modality from time which will be radicalized by later 14th-century philosophers such as Bradwardine. Scotus and Bradwardine continue to link possibility with capacity-- something is possible only if there are actual beings with powers sufficient to bring it about. thus Scotus continues to maintain the traditional doctrine of the necessity of the past; Bradwardine, however, thinks that God has the power to bring it about that Socrates did not drink the hemlock (although "Socrates drank the hemlock and God will bring it about that Socrates did not drink the hemlock" is not possible). others who give up the necessity of the past (Buckingham, if I remember correctly) give up on the connection with capacity, and just say that whatever does not imply a contradiction is possible. in a sense the seeds of Scotus' innovation are in Avicenna, since Avicenna thinks that (e.g.) the first intelligence is in itself only contingently existent, even though the first intelligence has no matter and therefore has no capacity for generation or corruption. however, the first intelligence is necessarily existent, not through itself but through God; and God's act of causing it follows necessarily from God's nature; for Scotus, by contrast, God's act of causing something other than himself is always free and contingent

discussed above, "what is violent and violence [τὸ βίαιον, βία]: this is what obstructs and hinders contrary to [one's] impulse and choice: for the violent is necessary, for which reason it is also painful" (a26-8, fuller text above). But reflection on these two senses leads to a third and deeper sense of necessity, such that everything that is necessary in either of the first two senses is also necessary in the third sense, "what is not capable of being otherwise [τὸ μὴ ἐνδεχόμενον ἄλλως ἔχειν]" (1015a33-b6); so, picking up on the point from the *Posterior Analytics*, "demonstration is of necessary things, because it is not capable of being otherwise, if it has been demonstrated simpliciter" (b6-8). And reflection on why demonstrated truths are necessary leads us to isolate the first and highest kind of necessity: "the causes of this are the first things, if the things out of which the syllogism is [=the premisses] are not capable of being otherwise. So some things have some other cause for their being necessary, but some things have none, but rather it is on account of these that other things are of necessity. So what is first[ly] and primarily necessary is the simple [sc. because the first things must be simple, since if they were complex they would have something prior to them]: for this is not capable of being in many ways, so it is not capable of being in different ways [sc. at different times]; for if it were it would be in many ways. So if some things are eternal and unmoved, nothing in them will be violent or contrary to nature" (b8-15).<sup>29</sup> Aristotle does not seem here to be arguing that eternal unmoved things have nothing contrary to nature; his point, rather, is that once we discover another and higher sense of necessity, we can accept the conclusion that the first things are necessary, without the objectionable consequence that something contrary to nature could endure forever.<sup>30</sup> (The first things are also not necessary in the sense of being necessary for the sake of some good, since such a good would be a cause prior to them, and they would not be first.) Λ7 1072a30-34 has argued that the ἀρχή that moves the heaven is simple; now, having said that it is a necessary being (1072b10), i.e. that it is necessarily what it is, Aristotle draws on Δ5 to explain the kind of necessity that this simple thing has: "by that necessity, it is well [καλῶς], and an ἀρχή in this way: for the necessary is in so many ways: what is violent because contrary to inclination, that without which the good [τὸ εὖ] is not, and what is not capable of being otherwise, but [only] in a single way [ἀπλῶς]" (1072b10-13). Again, this does not seem to be an argument that the ἀρχή is καλῶς: what can only be in one way, e.g. a mathematical axiom, will surely not be bad, since there is no better way it could have been, but why must it be positively good? Rather, Aristotle has already argued (1072a26-b4) that the ἀρχή is καλόν; that seems to conflict with its being necessary; but once we understand the higher sense of necessity, we will have no difficulty with the claim that what is in the best state, and has no potentiality for being in any state but the best,

<sup>29</sup>in 1015b15 reading οὐδὲν ἐν with Jaeger ("nihil in" Bessarion according to Bonitz, and two manuscripts of Alexander, including A<sup>b</sup> ["L" in Hayduck's apparatus], seem to support this); οὐδ' ἐν E; οὐδὲν A<sup>b</sup> Ross (οὐθὲν Bonitz). Jaeger's apparatus implies that J agrees with E, while Ross' implies by silence that it agrees with A<sup>b</sup>, and Vuillemin-Diem by silence agrees with Ross, which is probably right since this is what William presupposes. d check J (and also check M), since A<sup>b</sup>'s reading, which might possibly be right, is much more likely if J agrees with it. the sense is of course pretty much the same on any view

<sup>30</sup>but Ross, following Alexander 362,4-7, suggests an argument "since they can only be in one condition, they cannot be in a condition that is forced in them or contrary to their nature"; this might be right, d think (but if this were the conclusion of an argument, wouldn't he say "simple things can't have anything contrary to nature" rather than "eternal unmoved things can't have anything contrary to nature"?). on the other hand, Alexander also says "he adds this lest, when we predicate 'necessary' of [the first causes], someone should take us as predicating it in the sense of 'violent and contrary to nature'" (362,8-10). it's also worth thinking about whether Ab's γάρ for EJ Bonitz Ross Jaeger ἄρα in 1015b14 is defensible: it would be an argument that, since the other senses of "necessary" cannot belong to the first things, and since they must be necessary in order to cause necessity to other things, they must be necessary in a higher sense

is the first necessary thing and the source of necessity to the rest of nature. It is "an ἀρχή in this way," namely, by being best, and it is the source of necessity to the motions of the heavens because the heavens must move in circles to attain the good which it is--not by necessitating them against their nature. And by the mediation of the heavens it is also a source to sublunar things of such necessity as they have: "on such an ἀρχή depend the heaven and nature" (1072b13-14).

### Why circular motion?

But why should the heavens' thinking and desiring their ἀρχαί necessitate that they move in circles? This is an obvious and serious aporia against Aristotle; it has been raised at least since Theophrastus' Metaphysics, possibly written within Aristotle's lifetime. Theophrastus has said that the ἀρχή should be causally connected with the sensibles, and therefore that it should be a cause of motion (since motion is the characteristic attribute of sensible things), but that it must cause motion without itself being moved (Metaphysics 4b18-5a1); so "it remains [that it causes motion] by some better and prior power: and the nature of the ὀρεκτόν is such, from which the continuous and unceasing circular [motion arises]" (5a1-5). All Aristotelian so far, and there is no reason to think that Theophrastus dissents from these conclusions. Nonetheless, "what comes after this needs more discussion about the desire,<sup>31</sup> what kind [of desire it is] and [desire] for what things," in part because of the plurality of celestial motions (if there is one mover, why are there many motions? if many movers, why are the motions all harmoniously subordinated to the daily motion?), but also because "[the task] is uncompletable and what it is for the sake of is unclear [τὸ ἀνήνυτον καὶ οὗ χάριν ἀφανές]" (5a14-21)<sup>32</sup>--what exactly do the spheres get by their motion, since it never gets them to anyplace they might want to go? Presumably the circular motion itself, rather than some final position that the circular motion would bring them to, is a good that the heavens receive from their ἀρχή or ἀρχαί; but, since "what is first and most divine wants all things best" (6a1-2), it seems that "if the first is the cause of the circular [motion], it would not be [the cause] of the best [motion]: for the [motion] of soul is better, and first and foremost that of thought [διάνοια], from which also desire [which is also a motion, arises]" (5b7-10). As Theophrastus has just said, since the heavens desire (and desire what is rationally best), they must have souls if we are not speaking purely metaphorically (5a28-b2), so we could say that the heavens do get the psychic "motions" of thought and desire from their ἀρχή: but then what is the benefit of their also having the circular motion in place? Presumably there is some connection between the heavens' having the psychic "motions" of thought and desire and their having circular motion; but what exactly is the connection?

<sup>31</sup>following the example of Laks-Most, I will write "desire" for both ἔφθεις and ὀρεξις in Theophrastus; see their p.34 n33 for some suggestions as to why Theophrastus switches between these terms. ἔφθεις seems to be Theophrastus' preferred term, but he uses ὀρεξις, Aristotle's preferred term, in contexts where he is closely following Aristotle. but both authors use both terms, with no obvious difference of meaning

<sup>32</sup>there is a serious textual issue with τὸ ἀνήνυτον: so all primary manuscripts, but the Arabic presupposes ἀκίνητον, supported by some late sources; either reading makes the καὶ difficult (it looks like οὗ χάριν should be glossing the word before καὶ, both governed by the same article, but that can't be right on either of these readings). Zeller proposes ἄριστον, which would solve the problem, but ἀνήνυτον is very much lectio difficilior. it would not bother me if Zeller were right, and perhaps he is. on the other hand ἀνήνυτον adds an interesting point, namely that what seems to be the eternal frustration of the motions adds to the wonder "what is this for?". ἀνήνυτον can just mean "unending," but it usually seems to have a connotation of "doomed to frustration" or "paying off a debt that can never be paid in full"--it would not normally be used of eternally doing something that is intrinsically worth doing. if the transmitted text is correct, this is unusually telegraphic even for Theophrastus

Before we try to answer these questions, we should reflect on what sort of answer we should expect to find. We are looking for an Aristotelian answer to a question or difficulty raised against some things that Aristotle says. But it seems clear that there was not a fully formulated Aristotelian answer, or Theophrastus would not have raised the question in the first place. (Or, at least, there wasn't a fully formulated Aristotelian answer at the time when Theophrastus raised it; since Aristotle may have been alive then, he may have answered Theophrastus, orally or in writing, but we have nothing that looks like a record of an explicit response to these questions and difficulties.) Still, there are various Aristotelian resources that could have been mustered in response, and perhaps they were, by Aristotle or by some of his students. Theophrastus himself, proceeding from Aristotelian starting-points, continues to accept the Aristotelian doctrine that one or more unmoved ἀρχαί move the heavens as objects of thought and desire. Perhaps he has simply resigned himself to it being mysterious how this causation would work: Theophrastus notes that Academic metaphysicians have great difficulty, once they have ascended to their ἀρχαί, in causally deriving other things from the ἀρχαί, but then, instead of making this an objection against the Academics, he seems to suggest that this is all we can expect: "perhaps this is reasonable: for in this case we are seeking for the ἀρχαί, in the other [sciences] from the ἀρχαί" (6b20-22). At the same time, Theophrastus does give some positive hints for how we can understand the causality of the ἀρχαί. And hints, not a fully worked out theory, are all we can expect to find. Aristotle does not have a single, consistent, fully worked out theory of the heavens and their movement. The De Philosophia says that the heavenly bodies are moved neither naturally nor violently but voluntarily (Fr. 21 Ross, Cicero De Natura Deorum II,xvi,44); the De Caelo says that they are moved naturally, although admitting that they have souls, so that their movement is presumably voluntary as well as natural; the De Caelo also admits incorporeal things outside the heavens, but does not describe them as moving the heavens, except at II,6 288a27-b7, where it does.<sup>33</sup> Even Metaphysics Λ, Physics VIII, and the De Motu Animalium, which are all clearly committed to a separate mover of the heavens, are not simply expositions of a single theory. Rather, these five texts develop a group of related Aristotelian themes, more tentatively or more dogmatically endorsed, more sketchily or more fully developed, all in some way starting from Anaxagoras and the Timaeus and purging them of inappropriately "low" conceptions of the heavens and their movers, but not all obviously consistent. Not every difference between the texts need be an inconsistency, and developmentalists like von Arnim probably went too far in detecting incompatible strata within the texts. But it is also wrong to look for a single theory underlying all the texts, as Alexander and Simplicius did; even if we can construct a harmonizing theory that is compatible with all the texts (but which will have to go far beyond what any one text says), that is a different task from understanding what Aristotle is doing in Λ, even in an ideally filled out Λ. Here I will simply explore some ways Aristotle could have gone in a slightly more filled out Λ, if he had developed some themes of his thought a bit

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<sup>33</sup>there is also mention of something moving the heavens at DC II,6 288b22-30; also DC II,12 292b21-5 speaks of the heavenly bodies succeeding, and sublunar things failing, τυχεῖν τῆς θειοτάτης ἀρχῆς by their motions; this suggests an ἀρχή causing as a final cause to-attain-which. the two passages from DC II,6 are often treated as "later additions" (so von Arnim pp.13-21; so doubtless Guthrie, but check); I can't remember anyone commenting specifically on the II,12 passage (von Arnim seems not to mention it). there is also the problem of DC I,9 279b1, where all extant manuscripts have κινεῖται, but Simplicius reports that some manuscripts have κινεῖ: "fortasse recte" says Allan's OCT {Moraux just follows the manuscripts, though noting Simplicius in the apparatus}, and indeed it must be right if the subject is the things outside the heaven; and if the subject has switched from the things outside the heaven to the heaven itself, it is not easy to say where it switched. if κινεῖ is right, then here too the incorporeals outside the heaven are moving the heaven

further in response to Theophrastus' challenge--"some ways" he could have gone, because there is not just one clearly marked way, but a number of responses he could have made, not all obviously compatible.

In trying to see why the heaven's desire for its ἀρχή, and/or its thought of its ἀρχή, should require circular motion, a first question is: what does it desire? To desire some object is to desire to be in some appropriate relation to that object; but when the heaven desires its ἀρχή, what relation is it desiring to be in to that ἀρχή? One obvious answer is that it desires to contemplate the ἀρχή, as human beings are supposed to desire to contemplate the god in EE VIII,3: Aristotle would certainly accept this answer, but this answer by itself does nothing to explain why the heaven will move in circles. A second possible answer is that the heaven desires to participate in its ἀρχή. Aristotle is of course suspicious of talk of participation ("participation' is nothing," Metaphysics A9 992a28-9), but he does use such language himself (things reproduce their kind "in order to participate in the eternal and divine insofar as they can," since they all desire it and act for its sake, DA II,4 415a26-b3), and in the present case we can give it a clear sense, because the ἀρχή is νοῦς: for the heaven to participate in this νοῦς is for it to be caused by this νοῦς to νοεῖν what this νοῦς νοεῖ, so that this νοῦς, not inhering in it but acting upon it, extrinsically denominates it as νοῶν. Aristotle would probably accept this second answer as well (as discussion in IIIγ2 will bring out), but it does not seem to add much to the first answer: since what this νοῦς νοεῖ is itself, for the heaven to participate in this νοῦς will be just the same act as for it to contemplate this νοῦς. A third possible answer, suggested by Theophrastus (Metaphysics 5a25-8 and 7b23-8a7, both passages problematic) and codified as Aristotelian doctrine by Alexander (Quaestiones II,18-19, pp.62-63 Bruns),<sup>34</sup> is that the heaven desires to imitate its ἀρχή, as, for Plato, we must assimilate ourselves to a god by piety and justice and wisdom (Theaetetus 176b1-2), and as, for Aristotle, sublunar things imitate eternal things by always exercising their natural motions or by undergoing cyclical changes that imitate the cycles of the heavens (Metaphysics Θ8 1050b28-30, GC II,10 337a1-7, Meteorology I,9 346b35-6). Once again, Aristotle would probably accept this answer: it would be hard to deny that when the heaven participates in its νοῦς and so contemplates this νοῦς, it is also imitating this νοῦς, since it is contemplating the same object that the νοῦς contemplates, although in a less perfect way. But again, it is not clear what this answer adds beyond saying that the heaven desires to contemplate and to participate in its ἀρχή, and it is not clear how it explains the fact that the heavens move in circles.

However we answer the question about what the heaven desires, we must also ask whether it gets what it desires. Is its desire satisfied at some times and not at others? That seems clearly ruled out, since the motion of the heaven is eternally constant, and eternally caused by its constant object of desire: as we saw from De Motu Animalium c6, it is because the heaven pursues "the eternal καλόν and what is truly and primarily good, not [good, or καλόν] at one time and not at another time" that the heaven "is moved eternally, while the motion of [ordinary] animals has a limit" (700b31-4). So does the heaven move because of an eternally unsatisfied desire? If so, why does it pursue what it will never attain (Theophrastus' question about the "uncompleteness" of its task, Metaphysics 5a17, cited above)--is it deceived into thinking that it will reach its goal, like a donkey pursuing a carrot suspended in front of its nose? That seems

<sup>34</sup>also some passages preserved in Arabic: the bit quoted by Averroes on A, p.154 Genequand, which cite; also (according to Genequand, I haven't checked yet) On the Principles of the All 256,12 Badawi (you should give references both to the Arabic and to Genequand's English or Badawi's French translation, perhaps also the Latin of the Metaphysics commentary). should I cite some of the Alexander in full, discuss it more prominently?

absurd, but it is worth considering that the pseudo-Alexander does think that the heaven's desire is unsatisfied, or at least not wholly satisfied: "it is moved until it grasps the good, and when it has grasped it it stops; but if the first cause, which is also the first good, is infinite, then what desires it will never grasp the totality of its goodness, as happens with particular goods: for this reason it will eternally cause motion, as an ungrasped object of love" (ps.-Alexander 695,35-9). If, on the other hand, the desire is eternally satisfied, then why does the heaven continue to move, and not, like the sublunar elements, rest once it has reached its goal?--as Theophrastus puts it, "it is puzzling how, if they have a natural desire, they pursue not rest but motion" (Metaphysics 5a23-5).

There are, I think, three plausible strategies for solving these problems and explaining why the heaven's desire for its ἀρχή, and/or its thought of its ἀρχή, should require circular motion. (1) Perhaps the act of contemplating the ἀρχή, and/or the act of desiring the ἀρχή, naturally produces circular motion. Something like this seems to be the view of the Timaeus: the world-soul eternally thinks immaterial intelligible objects, and so remains eternally in the same cognitive state; this constant cognitive state either just is, or naturally produces, a constant infinitesimal motion or impulse to motion in the soul; this constant impulse to motion produces an eternally constant motion in the soul, which can only be a circular motion, the so-called "motion of the same." However, while Aristotle may draw on this description in modified forms, it is unlikely for two reasons that he would accept it as it stands. First, as we have seen, he criticizes the Timaeus for representing the activity of νόησις in spatial terms, "as if the locomotions of the heaven were the motions of the soul" (DA I,3 407a1-2). Second, on this account the circular motions of the heavens, or of their souls, would not be explained teleologically, since they would not be for the sake of something but only a byproduct of an activity that is for the sake of something. Aristotle criticizes the Timaeus on just this point: "it is not even said that it is better thus: but the god should have made the soul to be carried around in a circle on this account, that it is better for it to be moved than to be at rest, and better to be moved in this way than in some other way" (DA I,3 407b9-11).

(2) To avoid this last criticism, an alternative is to say, not that circular motion results from contemplation, but that it is presupposed by contemplation. Thus desire for contemplation would lead to circular motion because circular motion is a necessary condition for contemplation, and so circular motion would be chosen for the sake of contemplation, or for the sake of the object of contemplation, as an end to-attain-which. This approach has the advantage that it keeps the heavens' motivations for their motions strictly analogous to an (ideally rational) human being's motivation for his actions according to EE VIII,3: act in such a way, choose and avoid such external goods, as will most produce contemplation of god. Aristotle seems to imply that there should be some such analogy between the motions of the heavens and human actions when he describes the motions of the heavens as their πράξεις, and as their means to attaining their good, in De Caelo II,12. "It is plausible that what is best of all [τῶ ἄριστα ἔχοντι, dative] should have its good [τὸ εὖ] without πράξις [because it is itself the for-the-sake-of-which, as Aristotle explains further down, 292b4-7], that what is closest to it [should attain its good] by a few [πράξεις] or by a single [πράξις],<sup>35</sup> and what is more remote by many" (292a22-4), while things yet further from the best cannot attain the good at all, but only "something else," some substitute

<sup>35</sup>at 292a23-4 δι' ὀλίγης καὶ μιᾶς I would either read ὀλίγατς or take ὀλίγης in this sense (attracted into the number of the surrounding adjectives); note the plural δι' ὀλίγων in the parallel at 292b11. it would be strange to describe the daily motion of the outermost heaven (which, as Aristotle stresses, is the fastest of all motions, and carries the greatest number of bodies) as ὀλίγη.

for the real good (292a27-8, cp. 292b10-17); thus "the first heaven immediately attains [the most divine ἀρχή, b22] by a single movement, and the things between the first [heaven] and the last [i.e. sublunar] things do reach it, but reach it through many movements" (292b22-5), comparable to the many things human beings must do, ordered as means to ends, in order to attain their τέλος; while "the earth does not move at all, and the things near it with few movements, for they do not reach the goal [τὸ ἔσχατον], but [reach only] as far as they are able to attain the most divine ἀρχή" (292b20-22), comparable to plants and the simpler animals, without the complexity of actions that humans have. Presumably what has its good without πρᾶξις, because it is itself the for-the-sake-of-which, is a divine ἀρχή outside the heaven (these things are τὴν ἀρίστην ἔχοντα ζῶην, DC I,9 271a21, cp. τῷ ἀρίστα ἔχοντι here), and presumably this will also be the "most divine ἀρχή" that the other things are pursuing, and attaining either it or some substitute for it. Nothing in De Caelo II,12 says that the good that the heavens attain is contemplation, or that they attain the "most divine ἀρχή" by contemplating it, but we could try to fill in what Aristotle is saying in this way, using what he says about the goal of human life in EE VIII,3.<sup>36</sup> However, it is not clear that the description in EE VIII,3 will carry over well to the celestial case. In the human case, we can see why we would need various πράξεις to maximize the quantity and quality of our contemplation of god: we need to secure the necessities of life in order to secure leisure for contemplation, and to bring it about that we "are least aware of the irrational parts of the soul" (EE VIII,3 1249b22-3) we will have to satisfy some passions and discipline the others--even if we are ascetics we will find it hard to contemplate well if we are starving or have no physical security, and without the necessities of life we will not survive long enough to do much contemplating (and if Republic VII is any guide, it may take many years of study before we can contemplate the most divine ἀρχή). But the heavens do not need to eat or to defend themselves, they are guaranteed immortality, and they have no sensory appetites or imagination that need to be disciplined: so why would their circular motions be preconditions of their contemplating the ἀρχή? Could they not contemplate just as well if they remained at rest? Perhaps an answer can be extracted from De Caelo II,1: a heavenly soul would have no leisure for contemplation if it were constantly turning a heavenly body that was naturally inclined to move towards or away from the center instead of around it, and perhaps likewise the soul would have no leisure for contemplation if it were holding still a heavenly body naturally inclined to rotate. If so, the soul would have to turn the body around in order to contemplate. But on this story it seems that the body rather than the soul would be the cause responsible for the rotation. Perhaps the nature of the body only inclines it to rotate, and the soul would be responsible for determining the axis and speed of rotation--but then why would this particular axis and speed be necessary for contemplation, and why would Saturn have to move with four different particular rotations in order to attain its end, as De Caelo II,12 implies that it does?<sup>37</sup>

<sup>36</sup>however, we could equally well fill in DC II,12 by saying that the goal is to imitate the ἀρχή, rather than to contemplate it: the text is neutral here

<sup>37</sup>there is a further difficulty in extending the EE VIII,3 account of human action to the celestial case. EE VIII,3, read together with EE V,12-13 = NE VI,12-13, implies that φρόνησις commands for the sake of god and for the sake of σοφία (where to act for the sake of the god just is to act for the sake of contemplating him); the god, and apparently σοφία, cannot command anything, because they are not in need of anything, whereas φρόνησις, being inferior, can command in order to bring about σοφία or contemplation. but in the case of the heavens, is there a distinction between φρόνησις and σοφία? what would their φρόνησις be about? maybe their φρόνησις dictates the rotations that they must perform in order to continue contemplating the object of σοφία? this does not sound too convincing--especially the outermost heaven would not seem to have more than one virtue and one object of knowledge. perhaps rather the soul (or potential νοῦς) of the heaven, which does need something, commands actions for the sake of attaining the actual νοῦς? but a potential νοῦς cannot actually command without actually exercising

(3) Since it seems difficult to explain why circular motion (and circular motion around a particular pole at a particular speed) should be either a necessary means to contemplation or a necessary result of contemplation, perhaps circular motion is just an intrinsically desirable activity for the heaven. But even if we might be able to tell a story to explain why such motion would be intrinsically desirable, we also need to explain how this intrinsically desirable activity would arise, not just from desire for that activity, but from desire for the ἀρχή. A possible answer is that desiring the ἀρχή leads you to imitate the ἀρχή. Perhaps, when I desire the ἀρχή, imitation simply is the relation I desire to be in to the ἀρχή. Alternatively, perhaps imitation spontaneously results from some other relation that I desire to be in to the ἀρχή: e.g. perhaps when I contemplate it enough, I come to resemble it (this leads us back to something close to (1) above, with the difficulties we have seen).<sup>38</sup> Or, again, perhaps imitation is the precondition of some other relation that I desire to be in to the ἀρχή: e.g. perhaps I cannot contemplate νοῦς without distraction or distortion unless I make myself resemble νοῦς by suppressing the irrational powers of appetite and imagination (this would lead to something close to (2) above, again with the difficulties we have seen). In any case, we have seen that Aristotle can hardly deny that the heavens imitate their ἀρχαί in contemplating them. But in order to explain why the heavens move in circles, we would have to say that the heavens also imitate their ἀρχαί in their circular motion, and not just in their contemplating. There is no clear Aristotelian text for this idea, but comments in Theophrastus suggest that Aristotle was exploring in this direction, and indeed that Theophrastus himself (like Alexander later) may think this is the right way to go; the texts are, however, cryptic and controversial.<sup>39</sup>

Theophrastus' comments are posed as aporiai for a broadly Aristotelian account of the ἀρχαί (or of a single ἀρχή) and of their roles as causes to the heavens. We have already cited Theophrastus' aporia about the unceasing motion of the heavens: "it is puzzling how, if they have a natural desire, they pursue not rest but motion" (5a23-5). He continues: "so why do they posit this [= desire] alongside imitation, alike those who posit the one and those who posit the numbers? For they also say that the numbers [desire] the one" (5a25-8). There are several controversial issues of interpretation here, including how the two brackets are to be filled in and who the people are who posit the one or the numbers. But, on the latter question, Theophrastus must be referring to the issue he has raised just a few lines earlier (5a17-21), whether the heavens desire one or many ἀρχαί; "those who posit the numbers" must be those who posit many incorporeal ἀρχαί for the many heavens, with an assimilation to Academic theories of numbers (the many numbers being the obvious example of a plurality of incorporeals, as in A8 1073a18-22, discussed IIIβ2b above). "For they also say that the numbers ... the one" could conceivably

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some disposition. so perhaps the soul acts, in virtue of its participation in the actual νοῦς, to command, not for the benefit of the actual νοῦς, but for the benefit of the soul, so that it can continue to participate in the actual νοῦς. but at best this sounds quite different from EE VIII,3 and V,12-13

<sup>38</sup>maybe cite Gabriel Richardson Lear on how a desire explains an imitative act, not necessarily a "means" (or consolation prize) to the τέλος but the fact that the agent pursues it is to be explained by the fact that is an imitation of that agent's τέλος; compare the cat batting a rolled-up ball of paper, in what sense this is "for the sake of" catching prey; or the lover constantly mentioning the beloved; perhaps cite Plotinus III,8

<sup>39</sup>compare Berti in FC pp.201-2. I think Berti is wrong to say that Theophrastus attributes the idea of imitation only to Platonists (Berti actually concludes from this that "Theophrastus seems not to have found in Aristotle any such imitation." p.202). {I dimly recall Berti saying somewhere else that Theophrastus rejects the idea that the heavens imitate their ἀρχαί, and that Theophrastus criticizes this idea precisely by saying that it would come to the same thing as what the Platonists said. can I find the reference for this? maybe Berti's Princeton paper of 1999?}. Berti is also wrong to say that Theophrastus suggests that Aristotle may have been speaking only metaphorically when in saying that the heavens desire

mean "for they also say that the numbers [imitate] the one" (so Ross-Fobes and Laks-Most);<sup>40</sup> but since Theophrastus immediately goes on to say "since desire, especially for the best, requires soul unless one is speaking metaphorically and by resemblance, the things moved would be ensouled" (5a28-b2), it is clear that he is echoing Aristotle's criticism of Plato: "it is hazardous to show that the one is the good-itself, on the ground that numbers desire [it]: for it is not said clearly how they desire, rather they assert this too absolutely; and how could someone suppose that there is appetite in things which do not have life?" (EE I,8 1218a24-8). And if Theophrastus is saying here that the Academics also make the hazardous claim that the numbers desire the One, in addition to the safer claim that the numbers imitate the One, then in the previous sentence he is saying that the people who talk about the heavens also make the hazardous claim that the heavens desire their ἀρχαί, in addition to the safer claim that the heavens imitate their ἀρχαί: the reason this is hazardous is that, in every other natural desire, the agent is pursuing not unceasing motion but satisfaction and rest.<sup>41</sup> Theophrastus implies that Aristotle "posits [desire] alongside imitation," and thus that Aristotle did say that the heavens imitated their ἀρχαί--presumably in moving, not just in contemplating--as well as that they desired them. And this is also presupposed in the later passage: "the other thing that is said is also strange, that the things that desire [= the heavens] do not imitate what is at rest [= the ἀρχή or ἀρχαί, see 7b9-15]: for why does the [rest] of the other things not follow for them too?" (7b23-8a2).<sup>42</sup> The point is not that Aristotle did not say that the heavens imitate their ἀρχαί, but rather that Aristotle did say that the heavens imitate their ἀρχαί--so if the ἀρχαί are at rest as Aristotle claims, why don't the heavens imitate their ἀρχαί by resting too?

Theophrastus immediately suggests an answer to this question, which seems to show that he himself is sympathetic with the project of explaining the motion of the heavens as due to the imitation of their ἀρχαί, even if he is not optimistic about being able to fill in many details. Why won't the heavens, and then sublunar things in turn, be at rest like the ἀρχαί? "But perhaps we should not consider [the totality of beings] in the same way, treating it as if it were without parts, but [we should rather consider] in what way it would be as much as possible harmonious and corresponding with itself, as if the whole world [οὐρανός], which they say to be most perfect/complete [τελεώτατον], were a city or an animal or some other thing with parts" (8a3-7). So, while the best state for the best thing is a non-moving state, it does not follow that it would be best for all the other parts of the world, imitating that best thing according to their capacities, to be equally non-moving: some parts will imitate the non-moving ἀρχή by moving in their different ways, and Theophrastus echoes the claim of the Timaeus (41b7-c2 etc.) that the world is more τέλειος for having both superior and inferior parts. Indeed, this is a major theme of Theophrastus' Metaphysics. It also gives an answer to Theophrastus' earlier question why the heavens do not receive anything from the ἀρχή better than circular motion (since e.g. the psychic

<sup>40</sup>van Raalte emends: καὶ γὰρ αὐτοὶ <οἱ> τοὺς ἀριθμοὺς φασιν τὸ ἕν, "for the adherents of the numbers themselves too postulate the One." I find van Raalte's discussion of this whole passage quite strange

<sup>41</sup>cp. the discussion in Laks-Most pp.36-7 n42, some of which I agree with. but I am mystified by their suggestion that "Théophraste critique indirectement Aristote, en lui reprochant de ne pas fonder le désir, comme les platoniciens ont au moins le mérite de le faire, sur une théorie de l'imitation"; Theophrastus implies that Aristotle does attribute both imitation and desire here, and that he gets into difficulty because the desire is never satisfied and brought to rest. (I also think they are wrong to see a reference to Speusippus in this passage)

<sup>42</sup>again, compare Laks-Most, p.56 n36, for a discussion of some of the difficulties; the text is corrupt, and they follow Ross' emendations, I think rightly (cp. van Raalte, who accepts some of Ross' suggestions but not others). I think Laks-Most are certainly wrong to supply "[imitation]" rather than "[rest]" in the last clause; I agree with Ross-Fobes on this point

"motion" of διάνοια would be better: 5b7-10 and b26-8, cited above), if "what is first and most divine wants all things best" (6a1-2). The answer is that not all things can be best: "perhaps this is something excessive and not to be sought: for the person who says this expects all things to be alike and among the best, having little or no difference" (6a2-5). The heavenly bodies receive, not the best motion (which, presumably, is what the heavenly souls receive), but the best motion that they are capable of (implied 5b28-6a1), and so in their turn the sublunar bodies receive whatever they are capable of (implied 5b10-18, and compare De Caelo II,12, discussed above). We might still think that, whatever motions the different bodies may be capable of receiving, they should all be capable of resting, and that resting would be the best way to imitate the ἀρχαί, which are eternally at rest. But in fact Theophrastus has reservations about describing the ἀρχαί as resting: "about the ἀρχαί ... one might reasonably raise an aporia on the subject of their rest. For if it is [predicated, in preference to motion] as something better, one would attach it to the ἀρχαί, but if it is [predicated] as an inactivity and privation of motion, one will not attach it [to the ἀρχαί], but, if [something other than motion is to be predicated of the ἀρχαί], one should substitute ἐνέργεια [for motion] as being prior and more honorable, and [restrict] motion to sensible things" (7b9-15).<sup>43</sup> The ordinary way of speaking and thinking assumes that all ἐνέργεια is κίνησις, and therefore that the ἀρχαί, which must act on other things, must be in motion. Aristotle objects that κίνησις depends on the conditions of sensible things, and so does not occur in the ἀρχαί. Theophrastus is willing to go along with this (see Frs. 152 and 307D FSHG), but he is insistent that we describe the ἀρχαί, not in purely negative terms, but by showing their superiority to ordinary things (see Metaphysics 4b11-16, 5a5-13): so rather than speaking of rest, which suggests a privation of motion and thus something inferior to motion, we should in describing the ἀρχαί replace "motion" by "ἐνέργεια", a positive concept which eliminates the implication of imperfection in the concept of motion (motion is ἀτελής ἐνέργεια, Fr. 153A); a privation of motion can occur only in things that are capable of motion, and so cannot occur in the ἀρχαί.<sup>44</sup> And this means that imitating the ἀρχαί is not imitating rest, imitating a privation of motion; rather, it is imitating a perfect ἐνέργεια. And since bodies are not capable of perfect ἐνέργεια, they will imitate this perfect ἐνέργεια by an imperfect ἐνέργεια, that is, by motion. Bodies are movable things, and their only options are to move or to be at rest: motion is an imperfect ἐνέργεια, but rest is the privation of an ἐνέργεια, and so motion is better, and a better imitation of the perfect ἐνέργεια of the ἀρχαί.

<sup>43</sup>have I cited this before? if so, d harmonize translations. against Laks-Most p.55 n30, ἐνέργεια is unambiguously being substituted for motion, not for rest. they also go wrong in suggesting that Aristotle or Theophrastus ever think of κίνησις as anything other than a kind of ἐνέργεια, and even further wrong in suggesting that the present passage would banish ἐνέργεια from the sensible world. κίνησις, of which there is plenty in the sensible world, is certainly an ἐνέργεια. Theophrastus' point is simply that κίνησις is restricted to the sensible world, and therefore that ἐνέργεια of non-sensible things should not be called κινήσεις, but only ἐνέργεια. they are certainly not inactivities [ἀργαί], and they are also not rests if rest means a privation of motion, since there can be a privation of motion only in something receptive of motion, and non-sensible things are not receptive of motion

<sup>44</sup>Theophrastus makes Metaphysics 7b9-15 look like a criticism of Aristotle (and 7b15-23 even more so); which is curious, since Aristotle's standard view, like Theophrastus', is that rest is a privation of motion and so should not be attributed to unchangeable things. on the other hand, in Physics VIII,3 (picked up later in Physics VIII and in Metaphysics Γ) Aristotle asks whether all things are at rest, all in motion, or some at rest and some in motion (some always at rest and some always in motion, or the same things switching back and forth), as if rest and motion were contradictory opposites. perhaps Theophrastus is criticizing Aristotle for this careless way of speaking; it is even conceivable that Aristotle's more careful statements are a response to Theophrastus. but it is more likely that Theophrastus is simply, for didactic purposes, starting with a crude statement of the Aristotelian position, raising an aporia against it, and resolving the aporia with a more sophisticated statement of the Aristotelian position. Theophrastus raises lots of aporiai against Aristotle, but it is rare that he actually disagrees with him

None of this says explicitly why circular motion should be the best imitation of the non-moving ἐνέργεια of the ἀρχαί. But it is easy enough to fill this in. Theophrastus has said that the "motion" of intellection is better than circular motion, but surely the reason why the Timaeus had described the motion of intellection as a circular motion was that the circular motion of a thing about its axis was the best kind of ἐνέργεια that Plato knew how to describe. And indeed, as an eternally constant ἐνέργεια, and as the interchange of indiscernible parts of a uniform plenum, it comes very close to being a pure ἐνέργεια without change of state.<sup>45</sup> And Laws X, strikingly, says that circular motion is an image [εἰκόν] of νοῦς or of "the motion of νοῦς", precisely because of this constancy and all-but-changelessness (897d3-898b3). So it seems natural that the best way for a body to imitate the ἐνέργεια of the ἀρχή--since the ἀρχή is νοῦς--would be by eternal circular motion around its axis, for such bodies as are capable of it.

However, this does not explain why the best way for a particular heavenly sphere to imitate its ἀρχή would be to rotate around these particular poles at this particular speed; or (if the agent is a star rather than a sphere) why it is best for Saturn to move with this combination of four uniform circular motions. De Caelo II,12 (discussed above) does imply that Saturn must do these complicated things in order to achieve the τέλος, where apparently all the heavenly bodies share a single τέλος, the "most divine ἀρχή": if Saturn (or its sphere) also desires lower ἀρχαί, it desires them as means to the highest end. Perhaps Aristotle would accept this amplification in Metaphysics A too. But it remains unclear why Saturn would have to move with these particular speeds and directions in order to achieve its τέλος, if this means imitating (or contemplating or participating in) the first ἀρχή. De Caelo II,2 says that the direction of rotation of the outermost sphere is simply the natural direction, rightward, around poles which are naturally above and below (the heaven is an animal and so has natural directions of up and down, left and right, front and back, as the body of an animal does), and needs no further explanation: this direction is not determined with respect to some absolute framework, rather all other directions are determined relative to it. And since "the motion of the heavens"--clearly the daily motion--is the fastest and the measure of all motions (Metaphysics Iota 1 1053a8-12), we can likewise say that this is simply the natural speed, and that all other speeds are determined relative to it, not it with respect to some absolute framework. But neither the speeds nor the directions of the other heavenly motions can be "natural" in this way. Presumably the inferior movers have intrinsic characteristics which determine the poles and speeds of the motions they produce. But are these characteristics themselves a matter of chance, or are they determined (as we might think from DC II,12) as the necessary means to the highest τέλος? If so, again, why would they be necessary? De Caelo II,3 says that it is necessary that there be more than one circular motion in the heavens in order to bring about the motion and reciprocal transformation and intermixture of the sublunar elements, and On Generation and Corruption II,10 says that "the god," since not all things could receive eternal being, brought about the eternal continuity of generation as a second-best (336b27-34, a passage certainly on Theophrastus' mind in his Metaphysics), by means of the daily and ecliptic motions of the sun. Perhaps this explains why the sun has two motions (we will pass over the fact that Eudoxus thought it had three motions and Callippus five), and perhaps even the precise obliquity of the ecliptic and the precise ratio of the year to the day are optimal for securing the perpetuity of sublunar species. Conceivably even the period and retrogradations of Saturn make their own small contribution to this goal. But since the aims of the heavenly bodies seem to relate entirely to the ἀρχαί above them, not to the sublunar realm

<sup>45</sup>have I made this point somewhere above, or only in the OSAP De Anima paper? give cross-refs. d quote from Laws X, which is very nice, esp. 898a8-b3. d cite (here or somewhere) Lee's "Reason and Rotation," perhaps discuss

below them, and since these ἀρχαί themselves do not seem to take sublunar things as their object of thought or of desire, how can the preservation of sublunar species enter into the final-causal explanation of the motions of the heavens? I do not see a way for Aristotle to work all this out, consistently with his different commitments. But we have seen some directions in which he might try to go in explaining the motions of the heavens; and we may console ourselves, with Theophrastus (Metaphysics 6b17-22, cited above), by saying that in this science our goal is to get to the ἀρχαί, and that we should not be surprised if we find it difficult to get back down from them to a causal explanation of all that comes after them.<sup>46</sup>

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<sup>46</sup>decide where you want to deal with Broadie's attack on the usual interpretation of the final causality of the ἀρχή on the heavens (that is, with her paper originally given at Princeton in 1990 {I think a version was also given to SAGP} and published in French translation in Revue philosophique 183 (1993), pp.375-411; she tells me as of summer 2001 that she no longer believes what she said then). I think her positive view (esp. that the νοῦς that is desired is not a separate substance but simply the sphere's act of νοεῖν) is pretty clearly untenable, but she raises a good challenge against the usual interpretations (or anyway against the more Avicennian as opposed to Averroist variety--it might help to give some discussion of this difference, esp. on whether the spheres have souls distinct from their separate movers) which it would be helpful to deal with. since Broadie's criticism depends heavily on the ἀρχή's being νοῦς, perhaps it is better deferred until IIIγ2 where I discuss the ἀρχή as νοῦς, and in what sense it is νοῦς (as νοῦς ποιητικός, the reason which souls participate in in order to νοεῖν). esp. her points about "duplication" are well taken; I think my way of interpreting νοῦς gives at least something of an answer, and also allows me to accept some of her positive suggestion while avoiding what seem to be the untenable consequences. also, somewhere, you need a discussion of Berti's interpretation (in his chapter in FC, in his Princeton paper from 1999, where else?), which has some points in common with Broadie's in opposition to the usual views (Berti says FC p.187 n12 that he agrees "almost completely" with Broadie), although Broadie's seems more sophisticated. Berti argues that the ἀρχή is an efficient cause to the sphere, and I agree; but he also claims that it is not a final cause, which involves some rough handling of the evidence. but it would be useful to state exactly where the evidence is, noting places where Berti has contested the usual reading of the evidence. Berti's idea (FC p.203) that the ἀρχή is a final cause to itself seems hopeless--there is no causa sui anywhere in Aristotle. Λ10 stresses that, in the case we are concerned with, the efficient and final causes are the same. and of course, since A, Aristotle has been aiming at wisdom as a knowledge of the final cause; if the good were simply an efficient cause, it would be inadequate, for the reasons given in A7 and restated in Λ10. perhaps all Berti really wants (though it is not what he says) is that, although the ἀρχή is the final cause of the motion of the heavens, the efficient cause is not the heaven thinking but the ἀρχή thinking (this is not supported by Λ10, despite what Berti says). however, one and the same act of νόησις is both an act of the heaven and of the ἀρχή, since the ἀρχή is νοῦς and the heaven νοεῖ by participating in that νοῦς, just as one and the same act is an act both of the doctor and of the art of medicine. but the ἀρχή cannot be thinking about the heaven--it is thinking only about itself, and so the problem remains of how the heaven, by participating in this νοῦς and desiring it (desiring to keep participating in it, or whatever) produces the motion. note also the connection of the present debate with debates about practical and contemplative lives in the ethical works. Berti's only stated reservation about Broadie's paper is about her "exclusion of the contemplative character of the divine thought, which obliges her to devalue NE X" (FC p.187 n12--Berti himself wants it to be a simple thought that is both contemplative and practical at once); more likely she started by wanting to devalue NE X--or rather, to challenge the obvious interpretation of it--and was thereby led to consider an unorthodox reading of Λ (for Broadie on NE X on contemplation and happiness see her Ethics with Aristotle p.370ff, quite an involved discussion)