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Alexander of Aphrodisias and the Active Intellect as Final Cause

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Abstract: In his own *De anima*, Alexander of Aphrodisias famously identifies the “active” (*poietikon*) intellect with the prime mover in *Metaphysics* Λ. However, Alexander’s claim raises an issue: why would this divine intellect come in the middle of a study of soul in general and of human intellection in particular? As Paul Moraux asks in his pioneering work on Alexander’s conception of the intellect, is the active intellect a “useless addition”? In this paper, I try to answer this question by challenging a solution according to which the active intellect would intervene directly with the material intellect to trigger its ordinary working. I argue that the active intellect acts as a final cause, both for human intellect and for its ordinary objects of thought. The active intellect is twice “cause of the intellection”, i.e. cause of the actualization of human thought: once (i) when it offers thought occasions for thinking through objects, and again (ii) when it actualizes mediately the human intellect itself in its development. This reading agrees with Alexander’s usual position about the prime mover’s causality. It accounts for the multiplicity of expressions with which Alexander describes the causality of the active intellect in his *De anima*. It also explains why the development of human intellect has been described without direct reference to active intellect, since substances do not aim directly at the First cause, but their aiming at it is mediated by their desire for their own good.

Keywords: Aristotle, Alexander of Aphrodisias, intellect, final cause, teleology

1 Moraux’s Challenges

Alexander of Aphrodisias is known for his identification of the “active” (ποιητικόν) intellect in *De anima* III 5 with the prime mover in *Metaphysics* Λ. In his own *De anima*, Alexander claims:

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Furthermore, if such an intellect is the First cause, which is the cause and principle of being for all the rest, it will also be active in the sense that it itself is the cause of being for all the things that are thought. (*DA* 89.9–11)¹

Some scrupulous readers have raised doubts about this identification of the active intellect with the prime mover.² However, in the rest of the corpus, the phrases “πρῶτον αἴτιον” or “πρώτη αἰτία” undeniably refer to the prime mover.³ In the passage above, the position is admittedly expressed in a conditional clause followed by a main clause with the verb in the optative mode. But in this case, the optative mode does not formulate a gratuitous hypothesis disregarding reality. Rather, as it is frequently the case in Alexander’s argumentation, this construction is merely a euphemistic phrasing. The sentence immediately following (καὶ ἔστιν ὁ τοιοῦτος νοῦς χωριστός . . . 89.11) goes back to the indicative mode and leaves no place to doubt: the active intellect is the First cause and it does indeed exist.

Alexander’s interpretation has a strong general argument to support it: Aristotle ascribes to the intellects of *DA* III 5 and *Metaphysics* Λ the same properties, so that it would be inconceivable for two very similar entities to coexist in the philosopher who invented (the so-called) Ockham’s razor.⁴ The problem raised by Alexander’s claim is the following: why would this divine intellect come in the middle of a physical study of soul in general and of human intellection in particular? This objection was already raised by Ammonius: he is reported to have denounced Alexander for saying that “the third thing signified by ‘intellect’ is the actual intellect from outside (τὸν θύραθεν κατ’ ἐνέργειαν νοῦν), which is, in a word, God”, because Aristotle “has not entered upon a theological treatise, and besides, the discussion now is about that intellect which is part of the soul.”⁵ In other words: what is the purpose of the active intellect for Alexander? As Paul Moraux asks in his pioneering work on Alexander’s conception of the intellect, is it not merely a “useless addition”?⁶ In the following, I will call this difficulty ‘Challenge A’. In fact, this question already arises for the readers of Aristotle’s text. Victor Caston has given it a striking formulation when he asked whether our comprehension of *DA* III 4–8 would be deeply changed if we had lost chapter III 5. (Caston’s answer is no.)⁷ While we would

1 ἔτι, εἰ ὁ τοιοῦτος νοῦς τὸ πρῶτον αἴτιον, ὁ αἰτία καὶ ἀρχὴ τοῦ εἶναι πᾶσι τοῖς ἄλλοις, εἴη ἂν καὶ ταύτη ποιητικός, ἢ αὐτὸς αἴτιος τοῦ εἶναι πᾶσι τοῖς νοουμένοις.

2 Papadis (1991).

3 For example, *Quaestio* I 1, II 19; *De Principiis* §3; *In Met.* 12.10–11; 15.3–5; 18.5–11. The phrase is also already found in the *De mundo*, at 398b36 and 399a26.

4 See the list provided by Caston (1999) 211–2.

5 *In DA* 518.34–519.2, transl. Charlton.

6 Moraux (1942) 87.

7 Caston (1999) 216. For a contrasting conclusion, see Menn (2020).

expect from Alexander a resolution of the difficulties of Aristotle's text, his own *De anima* seems to reproduce the uncertainties of its source.

In Alexander, the main reason for this problem is that before the active intellect is introduced at 88.17, the account of the development of human intellection can seem satisfying and sufficient. As a brief reminder, in the pages leading to 88.17, Alexander distinguished different degrees of intellect. The intellect which is in pure potentiality is innate and present in (almost) all human beings.⁸ This "material intellect" is nothing but our "aptitude to receive the forms" (84.24–25). It is then comparable to matter and is, for human beings, the simple possibility of rationality. It is not even akin to a blank writing tablet, but more so like the blankness itself of the tablet.⁹ To a certain extent, this pure capacity of thought actualizes itself naturally through induction in most human beings. Thence appears what Alexander calls the "common intellect" (82.14–15) – an expression already used by Epictetus in a similar context.¹⁰ The next stage, differently, requires a specific effort. This degree of intellect is one which "is acquired in addition" (81.14–15 and 19); it is the intellect "ὡς ἕξις", 'as a disposition' or, for lack of a better term, the dispositional intellect. This intellect is both a resource of universal concepts and the capacity to think for oneself, since it can actualize itself on its own.¹¹

This narrative of the development of the human intellect is evidently based on the Aristotelian doctrine of the three degrees of potentiality and actuality – which is sometimes called the "Triple scheme".¹² Aristotle's text itself leads Alexander there.¹³ But Alexander recasts this narrative using expressions emblematic of his own doctrine, notably the concept of "perfection" (τελειότης), which allows him to depict the development of intellect as an achievement of humanity in human beings.¹⁴ This

⁸ *DA* 81.26–27; 82.12, no doubt referring to the modality proper to accounts in natural philosophy (ὡς ἐπὶ τὸ πολὺ).

⁹ *DA* 84.24–85.1.

¹⁰ *Diss.* III 6.8.

¹¹ On this question, see also Tuominen (2010). My short summary is in agreement with most of her conclusions. It seems to me these conclusions could be expanded using *Quaestiones* III 2 and III 3 and Alexander's commentary on *Physics* VII 3 (cf. schol. 468, 474, 477–478 Rashed). See also, on this point, the indications given by Cerami (2017) 260 and 261–74.

¹² Burnyeat (2008) 19.

¹³ See notably *DA* III 4.429b5–9. In Shields's translation: "Whenever it becomes each thing in the manner in which one who knows in actuality is said to do so (this occurs whenever one is able to move to actuality through oneself), even then it is somehow in potentiality, not, however, in the same way as before learning or discovering. And then it is able to reason through itself."

¹⁴ On the central notion of τελειότης, cf. Rashed (2011) 147–8; Caston (2012) 83 n. 64; Guyomarc'h (2015) 268–9; Cerami (2017). In the entire section of his *DA* on the rational soul, Alexander uses ἐντελέχεια only once, at 81.26.

intellectual progress corresponds to the maturation of a human being who acquires knowledge throughout his life, both through induction (85.20–25) and through learning (81.25). This theory seems to give a rather intuitive view of the mechanisms of human thought (and one which is in some agreement with contemporaneous theories).¹⁵ Why then introduce active intellect?

To answer this question, scholars have investigated the following path: holding that Alexander's depiction of the development of human intellect was not as satisfying as it seemed. Alexander's theory would contain a difficulty, i.e. how can the material intellect *start* to think? If the forms are intelligible in potentiality in the sensible things¹⁶ and if the material intellect is a pure power of thought, then the thought process will never have been able to start on its own.¹⁷ It lacks a trigger. This problem – let us call it 'Challenge B' – will remind one of *Meno's* Paradox. But it is not only an issue for modern readers; it was already a problem for ancient Peripatetics, as the short treatise *De intellectu* in the *Mantissa* shows. Due to the specific problems of this text (e.g. its authorship), which would deserve a separate discussion, I will not say much about it in this paper. But it is worth noting that *De intellectu* raises the issue of "double potentiality"¹⁸ in the same way. The issue is discussed in a section reporting on a tradition which seeks precisely to explain why it is necessary to introduce the intellect "from outside", that is active intellect.¹⁹ In Alexander's *De anima*, the problem is exacerbated by formulas which seem to make material intellect the subject of cognitive operations, such as abstracting forms from matter.²⁰ The dispositional intellect is said to arise in material intellect from a grasping of the universal (ἐκ τε τῆς τοῦ καθόλου περιλήψεως, 85.12), which grasping seems to be performed only by material intellect itself, since it is what produces the dispositional intellect.²¹ This has been described by Paul Moraux as a "blatant contradiction in Alexander's system".²²

To avoid the inconsistency, the main solution has been to follow the *De intellectu*, i.e. to refer to the active intellect, on the grounds that only an entity in actuality can

15 See notably the well-known passage in Aetius, 4.11, 1–2 (*SVF* 2.83). The terminology of μετάβασις occurs twice when Alexander describes induction, at 83.9 and at 85.21.

16 See for instance *DA* 87.29.

17 Moraux (1942) 75 poses the problem. For attempts at a solution, see Bazán (1973); Schroeder (1982); Accattino and Donini (1996) 277–8; White (2004) 734–5; Sorabji (2004) 104.

18 I borrow this convenient expression from Tuominen (2010) 173.

19 Cf. *De intellectu* (*Mantissa* §2), 110.15–18. This passage has been hotly debated. See *inter alia*, Opsomer and Sharples (2000); Schroeder and Todd (2008).

20 Moraux (1942) 70–1 and 73–5; Bazán (1973) 469–70.

21 See also 85.20–25.

22 Moraux (1942) 75. See also Tuominen (2006) notably 64–6 and (2010) 173.

trigger actualization of the power of thinking.²³ The human material intellect should first refer to the divine intellect before it can have an episode of regular thought, as much as our perceptive capacity is actualized by some perceptible object in actuality. But since the material intellect is purely potential and passive, one should then admit that it is the active intellect itself which intervenes directly with the material intellect to trigger its ordinary working.²⁴ Proponents of this reading have thus sought to solve Challenges A and B at the same time.

This interpretation can be supported by three texts: (i) the *De intellectu*;²⁵ (ii) Alexander's reference in his *De anima* to the famous "intellect coming from outside" in *On the Generation of Animals*;²⁶ (iii) a passage from the *De anima* where Alexander clearly states that the active intellect is responsible for the acquisition of a disposition by the material intellect.²⁷

As I said above, I will leave the *De intellectu* aside not only because of the specific problems it raises,²⁸ but also because its relationship with Alexander's *De anima* is unclear. It is methodologically safer to interpret the two texts separately rather than to use one to interpret the other. Of the two *De anima* passages, passage (iii) seems to offer the best argument in favor of the 'interventionist' interpretation; I will get back to this central text in a moment.

But let us say upfront that the idea of a direct intervention of active intellect, to 'enlighten' the human soul and trigger episodes of thought, seems implausible.

²³ See Bazán (1973); Sorabji (2004) 104. The other solution has been put forward by Schroeder (1982) who argued (i) that the potential intellect is not purely potential, but is rather potential like first actuality or "first entelechy" (117–21); (ii) that the potential intellect is not utterly passive but only unaffected and that it is a faculty of judgement (121–3). Tuominen (2010) addresses objection (ii) made by Schroeder against Moraux's interpretation (176). But it is Schroeder's first point which seems more convincing to me. However, even though material intellect is a power of the rational soul, Alexander undeniably thinks of it as a first potentiality and that is precisely the reason why it is called "material" by analogy (see 84.24–26: the word ἐπιτηδειότης is commonly associated with matter in Alexander's corpus). In the "Triple scheme", material intellect then lies at the first stage, while dispositional intellect lies at the second one – as Philoponus already pointed out: see *In DA* 519.26. But this point requires a discussion more careful than one can do in a footnote.

²⁴ Bazán (1973) 477–84.

²⁵ See *Mantissa* §2, 108.19–22 as well as the insightful reading proposed in Roreitner (forthcoming).

²⁶ *DA* 90.20f., referring to *GA* II 3.736b8–29 and *Resp.* 472a22–23.

²⁷ *DA* 88.23–24: καὶ ἐπεὶ ἔστιν ὕλικός τις νοῦς, εἶναι τινα δεῖ καὶ ποιητικὸν νοῦν, ὃς αἴτιος τῆς ἕξεως τῆς τοῦ ὕλικοῦ νοῦ γίνεται ("And since there is some material intellect, there must also be some active intellect, which comes to be the cause (*aitios*) of the disposition of the material intellect"). I am not convinced by Tuominen's remark (2006, 67 and 2010, 179) according to which the word *aitios* would not refer to the fact that the active intellect would be a "cause", but rather only to the fact that it would be "the reason for the disposition of the potential intellect". For occurrences of αἴτιος clearly referring to a cause, see for instance *DA* 48.22, *De mix.* 226.23 or *In Met.* 73.21, etc.

²⁸ See the enlightening discussion in Roreitner (forthcoming).

Firstly, from 81.16 to 88.17, Alexander describes the development of human intellect without relying explicitly on the active intellect.²⁹ Secondly, as it has already been pointed out,³⁰ the interventionist reading implies that material intellect should first be activated by active intellect, and thus that it should think the active intellect *before* any ordinary episode of thought. However, when describing the development of human thought, Alexander proceeds by gradually reducing its extension. What I have called degrees of intellect are indeed degrees of potentiality and actuality. But they also correspond to different degrees of intellectual development which are less and less common among human beings. Material intellect is possessed by almost every man except for those who are naturally incapacitated.³¹ Dispositional intellect, on the other hand, is said to be found only among educated persons (82.11). Lastly, passage (ii) about the intellect “from outside” insists on the exceptional character of divine intellection.³²

One way to counter this objection is to argue that the divine intellect comes by itself to activate the human intellect. But it would necessarily presuppose that the divine intellect thinks some other thing than itself. The First cause is nothing else than an intelligible form in itself and an intellect always in actuality.³³ If then it should, as a productive cause, intervene directly with human intellect, it could then only have an effect by *thinking* the human soul. Some texts in the corpus could suggest that the prime mover’s thinking is not limited to itself and that it has knowledge of other beings.³⁴ But one can voice some objections against this. Firstly, one must consider the repeated denial (notably against the Stoics) that the prime mover would direct its attention at what is inferior to it.³⁵ Secondly, the strategy would then be to introduce the action of providence. But (i) providence is not the result of a direct ‘action’ of the prime mover toward the world; (ii) it does not extend

²⁹ Tuominen (2006) 67 and (2010) 179.

³⁰ E.g. Sharples (1987) 1213; Accattino (2014) 283.

³¹ *DA* 81.26–27: “τοῖς μὴ πεπηρωμένοις” (and 82.12), the same expression already occurs in Aristotle’s *Nicomachean Ethics*, 1099b19.

³² *DA* 91.5–6. This passage should be interpreted along with the end of the *De prov.* 99–101 (in the following, I refer to Alexander’s *On Providence* according to Ruland’s pagination, without specifying it each time).

³³ *DA* 88.1; 89.4–5 and 18.

³⁴ Sharples (2002) 8 cites three of them, including two transmitted only in Arabic: *De princ.* §120; *De prov.* 65.13f.; *Quaestio* II 21. Of those three, only the *De providentia* passage is truly problematic. The *De principiis* passage must be reinserted in its context – where the traditional view about thinking of thinking is clearly stated (§114f.). Sharples’ interpretation of *Quaestio* II 21 is based on a simple supposition (taken from the hypothesis laid out at 67.10–22) concerning what the rest of the text should be (Sharples 1994, 121 n. 119).

³⁵ See for instance *De mix.* 226.24–30; *De princ.* §114; *De prov.* 25, etc. On the subject and action of providence, I take the liberty of referring the reader to Guyomarc’h (2017) 152–3 and 161–4.

to individuals, but only to species. There can then be no providential action on particular human intellects. Finally, the most constant claim in the corpus indeed restricts the First cause's intellection to itself.³⁶ If therefore the First cause's thinking cannot be directed at the intellects of particular human beings, then the thesis of a direct intervention by the active intellect to actualize the material intellect earnestly loses much of its appeal.

To tackle Moraux's Challenge A, one must then scrutinize more acutely the way in which the *De anima* accounts for the causality of the active intellect. The solution I would like to offer is simple: the active intellect is a final cause. This solution has been suggested in passing,³⁷ but it has not been thoroughly explored. This reading – which agrees with Alexander's ordinary position about the prime mover's causality – has three other advantages, it seems to me: it accounts for the multiplicity of expressions with which Alexander describes the causality of the active intellect in his *DA*; it stays clear of the idea of a direct intervention of active intellect with human intellect; it explains why the development of human intellect has been described without direct reference to active intellect (more on this point in Section 4).

2 The Active Intellect as Pure Form

Even if Alexander's *De anima* is not a commentary, it frequently reproduces the rhythm of its source. When the active intellect is introduced at 88.17, Alexander follows Aristotle's text closely in a paraphrase:

T1 Since in all the things that come to be and are constituted by nature, which contain some matter, there is, on one hand, something which is matter in the³⁸ considered genus (i.e. that which is potentially all the things in that genus) and, on the other hand, something which produces³⁹ the coming to be in the matter of the things of which matter is receptive (as it is evidently also the case in the things which come to be by art, because art is what causes the coming-to-be of the form in the matter), it seems necessary that these differences apply also to

36 *De princ.* §107 and 112–116. (Against Sharples 2002, 8 n. 31, §114 does not really claim that the prime mover thinks some thing other than itself: following §114, the hypothesis that he could do so is contradicted by the impossibility that he may think something less noble than itself.) See also *De intellectu* 109.23–25; *Quaestio* I 25, 39.11–20.

37 For instance, concerning Aristotle, Caston (1999). Concerning Alexander, Tuominen (2006) 67. Perhaps also see Thillet (1981) 23 – but the passage is unclear.

38 Literally: *this* (ἐκεῖνω). Bruns (followed by Fotinis) mentions in his apparatus the “ἐκάστω” from *DA* III 5.430a11 (See Bruns 1887, *ad loc.*). But the use of a demonstrative to say “such thing, taken as an example” is frequent in Alexander.

39 Here the adjective with -ικός* (“ποιητικόν”) does not mean capacity or possibility. For the clause must have a scope wide enough to also apply to the active intellect which would never hold a trace of potentiality.

the intellect. And since there is some material intellect, there must also be some active intellect, which comes to be the cause of the disposition of the material intellect. (88.17–24)⁴⁰

This passage follows the structure of *DA* III 5.430a10–15. It stops just before the mention of light. As is often the case in his paraphrases, Alexander follows the grammatical structure of his textual source, and inserts notes or parenthetical explanatory remarks. The differences between this text and Aristotle's have already been abundantly highlighted.⁴¹ Following the current editions of Aristotle's text, the distinction between agent and patient in nature comes after an "as" (ὥσπερ): "Ἐπεὶ δ' ὥσπερ ἐν ἀπάσῃ τῇ φύσει...". This suggests an analogy between what takes place in nature and what takes place in the soul. It has been sometimes believed that the presence of this "as" opened way to a identification of the active with the prime mover, with the idea that, if the case of soul is only analogous to the case of nature in general, it is because the active intellect is itself not "natural".⁴² Alexander's example – which 'divinizes' the active intellect, but omits the ὥσπερ as coordinator of the analogy – shows that this reasoning is not necessary. His paraphrase in fact supposes a transposition of what manifestly takes place in nature to what takes place between the sublunary and supralunary regions. This transposition is all the more facilitated by another difference with Aristotle's text. While Aristotle draws a conclusion about what takes place in the soul or what is true in the case of soul ("ἐν τῇ ψυχῇ"), Alexander draws a conclusion about what applies to the *intellect*. This latter distortion does clearly speak in favor of an identification of the active intellect with the First cause, since it frees the agent/patient distinction from the constraints of the soul.

Before proceeding further, we must bear in mind that Alexander knows the division of the Aristotelian treatises in books, but not their division in chapters. He thus reads continuously what we call chapters III 4 and III 5. In his own *De anima*, passage T1 is introduced, as in Aristotle, with a simple "δέ". T1 must then be read in a sequence with the previous lines, which are based on the end of *DA* III 4. At the end of chapter 4, Aristotle has raised two aporias, one on the impossibility of intellect, the other on the

40 Ἐπεὶ δὲ ἐν πᾶσιν τοῖς γινομένοις τε καὶ συνεστώσιν κατὰ φύσιν, ἐν οἷς ὕλη τις ἐστίν, τὸ μὲν τι ὕλη ἐστὶν ἐν ἐκείνῳ τῷ λαμβανομένῳ γένει (τοῦτο δὲ ἐστίν, ὃ πάντα δυνάμει ἐστὶ τὰ ἐν ἐκείνῳ τῷ γένει), τὸ δὲ τι ποιητικὸν τοῦ ἐν τῇ ὕλῃ γίνεσθαι ταῦτα ὧν ἐστὶ δεκτικὴ (ὥσπερ καὶ ἐπὶ τῶν κατὰ τέχνην γινομένων ἔχον ὀρώμεν· ἢ γὰρ τέχνη τοῦ τὸ εἶδος ἐν τῇ ὕλῃ γίνεσθαι τὴν αἰτίαν ἔχει), ἀναγκαῖον δοκεῖ καὶ ἐπὶ τοῦ νοῦ ταύτας εἶναι τὰς διαφοράς. Καὶ ἐπεὶ ἐστὶν ὑλικὸς τις νοῦς, εἶναι τινα δεῖ καὶ ποιητικὸν νοῦν, ὃς αἴτιος τῆς ἕξεως τῆς τοῦ ὑλικοῦ νοῦ γίνεται.

41 See notably the *ad loc.* commentaries by Accattino and Donini (1996); Bergeron and Dufour (2008).

42 See Ross (1961) 296; Caston (1999) 205; Burnyeat (2008) 52 n. 46. However, if we consider the syntax, the presence of ὥσπερ is problematic, since one does not know what the clause introduced by "ἀνάγκη καὶ..." (430a13) attaches to. Alexander's passage being a paraphrase, it does not authorize us to infer definitively about the version he was reading. But if he was indeed reading "Ἐπεὶ δ' ὥσπερ ἐν ἀπάσῃ τῇ φύσει...", it is still significant that he did not preserve the original syntactical structure.

intelligibility of intellect. In the second aporia, Aristotle wonders if the fact that intellect is intelligible implies that all intelligible things be intellects. The solution he sketches (at 430a2–9) involves the distinction of two cases: the objects which are without matter and in which there is a perfect identity between intellect and intelligibility, on the one hand; and the enmattered forms which become intelligible in actuality only through some process and which are not in themselves intellects, on the other hand.⁴³ Of these two aporias, Alexander focuses on the second one (87.24–88.16).⁴⁴ He uses it to posit the existence of *forms* in themselves and separate from matter, where Aristotle speaks only of objects without matter. Alexander then understands the solution to the second aporia as introducing two types of intelligible things – those which are intelligible in themselves and those which are enmattered –, rather than introducing two situations a single kind of intelligible things can be found in. This multiplicity of pure forms has puzzled the commentators.⁴⁵ In fact, the plural comes directly from Aristotle’s text.⁴⁶ What Alexander’s interpretation adds to the ending of III 4 is then the term “form”.⁴⁷ For Alexander, the crucial achievement is that these forms without matter are themselves intellects in actuality and in the utmost manner (88.2–3). Conversely, “intellect is a form separate from matter” (88.15). It is only in this context that we can understand the determination by Alexander of the active intellect as a pure form. This determination of the active intellect is indeed the result of two movements: on the one hand, the depiction of the states of the intellect in terms of matter, perfection and form,⁴⁸ and, on the other hand, a typology of forms.

After having posited the existence of a pure form which is intellect in itself, the T1 passage aims to describe its causal role, as the last sentence of T1 (included at the

43 My paraphrase is based on Alexander’s interpretation.

44 Indeed 86.28–87.23 reuses materials taken from *DA* III 4.429b10–22. If Alexander takes up only the second aporia, it may be because it follows more closely from the passage based on 429b10–22, which Alexander uses to distinguish enmattered forms from those whose “this” is identical with their essence.

45 See notably Sharples (1987) 1211 and the answer regarding the Unmoved mover by Bodnár (2014).

46 On this topic, cf. Merlan (1969) 16–7; Accattino and Donini (1996) 284 refer in particular to *In Met.* 179.1 and 376.2–4. See also *De princ.* §§88–92.

47 See also the discussion of this reading by Menn (2020) 113–5.

48 The theory of degrees of actuality and potentiality, in Alexander, subserves the hylomorphic model. This is very clear, some lines further, in the formulation of 89.11–12: “And such an intellect is ‘separate and unaffected and unmixed’ with anything else, having all of these properties because it exists apart from matter.” (καὶ ἔστιν ὁ τοιοῦτος νοῦς χωριστός τε καὶ ἀπαθής καὶ ἀμιγῆς ἄλλῳ, ἃ πάντα αὐτῷ διὰ τὸ χωρὶς ὕλης εἶναι ὑπάρχει.) This clause is a paraphrase of 430a17–18: “And this intellect is separate and unaffected and unmixed, all because its very being is actuality” (καὶ οὗτος ὁ νοῦς χωριστός καὶ ἀπαθής καὶ ἀμιγῆς, τῆ οὐσίας ὧν ἐνέργεια). In Aristotle, the intellect is “separate and unaffected and unmixed” because of its actuality. Alexander, on the other hand, emphasizes another aspect of this intellect: that it is without matter, *viz.* a pure form.

start of T2 below) shows. This back and forth between what the active intellect is and what it does structures the rest of the passage:

T2 And since there is some material intellect, there must also be some active intellect, which comes to be the cause of the disposition of the material intellect. This will be the form which is properly and supremely intelligible, and such is the form which is separate from matter. For in all cases, that which is supremely and properly x , is what causes other things to be also x . For example, what is supremely visible (and light is this sort of thing) is cause of other visible things' being also visible. Moreover, what is good supremely and primarily is the cause of the other goods' being also such. For the other goods are distinguished by their contribution to this. So, what is intelligible supremely and by its own nature will be for good reason the cause of the intellection of the rest. Being such, it will be the active intellect. For if there did not exist something intelligible by nature, nothing else would become intelligible either, as has been said earlier.⁴⁹ For in all cases in which there is, on one hand, something which is properly x ,⁵⁰ and, on the other hand, something which is such secondarily, that which is secondarily has its being from that which is properly. Furthermore, if such an intellect is the First cause, which is the cause and principle of being for all the rest, it will also be active in the sense that it itself is the cause of being for all the things that are thought. (88.23–89.11)⁵¹

Here Alexander stops paraphrasing, and the text develops more freely. Indeed: before this passage, Alexander was paraphrasing 430a10–15 and, right after this passage (at 89.11–12), he will cover 430a17–18. In other words, this entire passage T2 depends on 430a15–17:

And there is one intellect which is such⁵² because it comes to be all things, and another because it makes all things, as a sort of disposition, like light. For in a way, light makes the things that are potentially colours, colours in actuality. (Aristotle, *DA* III 5.430a14–17)⁵³

⁴⁹ *DA* 88.26–27.

⁵⁰ The Hebrew version adds “και πρώτως” which could however originate in a double translation from the Arabic.

⁵¹ Καὶ ἐπεὶ ἐστὶν ὑλικὸς τις νοῦς, εἶναι τινα δεῖ καὶ ποιητικὸν νοῦν, ὃς αἴτιος τῆς ἕξεως τῆς τοῦ ὑλικοῦ νοῦ γίνεται. Εἴη δ' ἂν οὗτος τὸ κυρίως τε καὶ μάλιστα νοητὸν εἶδος, τοιοῦτον δὲ τὸ χωρὶς ὕλης. Ἐν πᾶσιν γὰρ τὸ μάλιστα καὶ κυρίως τι ὄν καὶ τοῖς ἄλλοις αἴτιον τοῦ εἶναι τοιούτοις. Τό τε γὰρ μάλιστα ὁρατόν, τοιοῦτον δὲ τὸ φῶς, καὶ τοῖς ἄλλοις τοῖς ὁρατοῖς αἴτιον τοῦ εἶναι ὁρατοῖς, ἀλλὰ καὶ τὸ μάλιστα καὶ πρώτως ἀγαθόν καὶ τοῖς ἄλλοις ἀγαθοῖς αἴτιον τοῦ εἶναι τοιούτοις· τὰ γὰρ ἄλλα ἀγαθὰ τῇ πρὸς τοῦτο συντελεῖα κρίνονται. Καὶ τὸ μάλιστα διὴ καὶ τῇ αὐτοῦ φύσει νοητὸν εὐλόγως αἴτιον καὶ τῆς τῶν ἄλλων νοήσεως. Τοιοῦτον δὲ ὄν εἴη ἂν ὁ ποιητικὸς νοῦς. Εἰ γὰρ μὴ ἦν τι νοητὸν φύσει, οὐδ' ἂν τῶν ἄλλων τι νοητὸν ἐγένετο, ὡς προεῖρηται. Ἐν γὰρ πᾶσιν ἐν οἷς τὸ μὲν κυρίως τί ἐστίν, τὸ δὲ δευτέρως, τὸ δευτέρως παρὰ τοῦ κυρίως τὸ εἶναι ἔχει. Ἔτι, εἰ ὁ τοιοῦτος νοῦς τὸ πρῶτον αἴτιον, ὃ αἰτία καὶ ἀρχὴ τοῦ εἶναι πᾶσι τοῖς ἄλλοις, εἴη ἂν καὶ ταύτη ποιητικὸς, ἧ αὐτὸς αἴτιος τοῦ εἶναι πᾶσι τοῖς νοουμένοις.

⁵² For the different possible construals of “τοιούτος” and whether “ἔστιν” is existential or not, cf. for instance Gerson (2005) 154.

⁵³ καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἕξις τις, οἷον τὸ φῶς. τρόπον γάρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργεία χρώματα.

I have given here Aristotle's text from 430a14 to show how Alexander's text departs from the paraphrase in the middle of the first sentence. Indeed, this clause in Alexander's text: "And since there is some material intellect, there must also be some active (*poietikon*) intellect" is an interpretation of Aristotle's clause: "And there is one intellect which is such because it comes to be all things, and another because it makes (*poiein*) all things". It is right after this that things get rougher.

In Aristotle, "disposition" (*hexis*) grammatically refers to what *is* the intellect which "makes all things". In Alexander, *hexis* refers to what is *produced* by the active intellect. Therefore, either Alexander reads a text different from ours; or he has altered the meaning of the text he was reading. The first option would imply an important difference with the text transmitted to us. All ancient commentators after Alexander understand the text as he did, but cite the text as we read it.⁵⁴ The second option is more plausible. Alexander would have displaced *hôs hexis tis* so as to qualify the way in which material intellect becomes all things under the impetus of active intellect.⁵⁵ Thus his reading involves a hyperbaton: "And there is one intellect which is such because it comes to be all things, *as a sort of disposition*, and another because it makes all things, like light". As Donini has rightfully shown, this reading saves the doctrine of the three degrees of the intellect.⁵⁶ What also speaks in favor of the second hypothesis is that the rest of Alexander's text ruptures with the paraphrastic style and refers more liberally to its source.

In order to explain what the active intellect does, Alexander relies on a principle which is not mentioned in Aristotle's *De anima*, but which Alexander plucked from *Metaphysics* α 1.993b23–31.⁵⁷ To keep things short, this principle can be called the Principle of Maximal Causality (PMC). In Alexander's interpretation, it states that, among a set of things instantiating a property⁵⁸ ϕ , what is supremely ϕ is necessarily cause of being- ϕ in the rest of the set – as fire, which is maximally hot and cause of heat in other hot things. What the text of the *De anima* teaches us is that Alexander

54 Compare Themistius's paraphrase in *In DA* 98.20–24 (which goes along the same line as Alexander's) and the quotation at 106.1–3. In Ps.-Simplicius, see for instance *In DA* 242.18–19 (in a passage which is not a lemma, but a quotation and is thus less likely to have been subject to contamination).

55 It is the solution offered by Donini (1995) 124–9, reprised in Donini (2011) 103–6.

56 Donini (2011) 105. Donini's hypothesis is more economical than Hicks' suggestion, according to which Alexander would have deliberately "substituted *aitios tês hexeôs* for *hexis tis* on his own authority, tacitly correcting A" (Hicks 1907, 501). I thank an anonymous reviewer for urging me to clarify this point.

57 Concerning the details of his interpretation, I take the liberty to refer the reader to Guyomarc'h (2015) 104–11. For another source of the principle, see also Aristotle, *Posterior analytics* I 2.72a29–32.

58 "Property" must here be understood to have a very broad meaning since Alexander also applies the PMC to substance as cause of *being* for other beings, and as being supremely in the order of the categories (Guyomarc'h 2015, 214–22).

also endorses the converse of the principle, i.e. a principle which goes from the maximum to causality: in a set of things instantiating a property φ , what is cause of being- φ in the rest of the set must itself be supremely φ .

Indeed, if we schematize the argument (without making explicit the premisses which Alexander presupposes) the first argument of T2 is:

(P1) 'There must be some active intellect.' (C) (88.23–24).

(P2) PMC (88.26–89.1).

∴ 'This <intellect> will be the form which is properly and supremely intelligible.' (M) (88.24–25)

(P1) derives directly from the analogy with what happens in nature made right before: if there is a *passive* intellect, as was asserted earlier, there must be an *active* intellect. As for the fact that the supremely intelligible form is an intellect, this has been demonstrated in the previous section, where Alexander states that the immaterial form in actuality is necessarily an intellect in actuality (88.1–2 and 15). Through the PMC, this argument thus connects the existence of an active intellect with the immaterial form which has already been introduced (relying on the second aporia at the end of III 4).

But, in the analogies with light and the good, which serve as examples for the PMC, the inference goes from the maximum [M] to causality [C]:⁵⁹

For example, what is supremely visible [M] (and light is this sort of thing) is cause of other visible things' being also visible [C]. (89.1–2)

This is why, going back to the intellect, the passage can conclude as follows:

So, what is intelligible supremely and by its own nature [M] will be for good reason the cause of the intellection of the rest [C]. Being such <i.e. supremely intelligible...>, it will be the active intellect. (89.4–6)

What could look like a *petitio principii* on Alexander's part is in fact the sign of a ring-composition, triggered by a two-way reading of the PMC: from causality to the maximum, and conversely from the maximum to causality. Alexander's principle is then more precise than the medieval axiom stating only that the cause is superior or equal to its effect.⁶⁰

⁵⁹ The way to read the inference can be indicated by the presence of the article in τὸ μάλιστα καὶ κυρίως τι ὄν, which makes it the subject of this clause, while the absence of article for αἴτιον makes it the predicate.

⁶⁰ Contrarily to what Lloyd (1976) maintains. Alexander's principle has more in common with the formula *propter quod alia id maximum tale*, provided that we read it in both ways.

In order to be valid, this principle presupposes that, *at least to some extent*, the cause and its effects instantiate the same property. This presupposition explains why Alexander departs from Aristotle's text when he covers the light analogy:

... in a way, light makes the things that are potentially colours, colours in actuality. (Aristotle, *DA* III 5.430a16–17)

... what is supremely visible (and light is this sort of thing) is cause of other visible things' being also visible. (Alexander, *DA* 89.1–2)

In Alexander's version, colors are no longer explicitly mentioned since they would complicate the PMC's application. This is likely what also accounts for the change to the Aristotelian theory of light. Aristotle, on his part, never says that light is "supremely visible".⁶¹ Thus, before we hurl ourselves at Alexander's purported "platonization"⁶² of the Aristotelian doctrine, it is better to account for his strategy. Even if Alexander distorts the Aristotelian doctrine of light, he does so because of an interpretation of an Aristotelian passage (*Metaphysics* α 1), in order to explicate another Aristotelian passage (*DA* III 5). And, certainly, Aristotle himself had in mind the reference to Plato's *Republic* VI.

But, as I have said, the maximum shares its property with the other elements of the set only to a certain extent. The PMC does not require a strict synonymy between the various elements of a given set. Alexander commonly envisions applying the PMC to things said to be ἀφ' ἐνός καὶ πρὸς ἓν.⁶³ This is what the case of the Good shows us: classically, in Alexander, the Good is not a synonym.⁶⁴ This would be a first internal explanation accounting for the introduction of the Good, which is absent from Aristotle's text. Alexander uses the Good to apply the PMC to a set of elements which are not synonymous with each other. But there is more: the case of the Good,

61 This point has been valuably brought to light by Schroeder (1981) 218–9. Cf. Alexander, *DA* 43.13–14 and 46.1–4.

62 Merlan (1969) for instance at p. 39.

63 Being "healthy" does not apply in the same way to all healthy things. Minimally, one must distinguish between health which is healthy in the proper sense and supremely, and healthy things which are said to be "healthy" in reference (πρὸς) to health and because they "contribute" to it (*In Met.* 241.29–34). On the contrary, for Alexander synonymy in the strict sense implies an "equality" in predication (*In Met.* 241.10–12).

64 For instance, *In Met.* 242–245. In his *Commentary on the Topics*, Alexander places the Good among the homonyms (*In Top.* 105.25; 106.15; 120.16 etc.). But he distinguishes a general usage and a strict usage of homonymy (*In Met.* 241.21–24). Thus, it does not contradict the *Commentary on the Metaphysics* passage. We can add to this list a passage of Alexander's commentary to *Metaphysics* Λ 4, transmitted in Averroes. In this passage, Alexander would have explicitly denied that the prime mover of all things be synonymous with all the other movers since the prime mover is common to all mobile things and ultimate. Cf. Averroes, 1529–1530 Bouyges = Fr. 20a and 20b in Freudenthal (1884).

differently from the case of light, does not provide only an analogy. Alexander explains elsewhere that the First cause is the supreme Good.⁶⁵ The Good is introduced to indicate how we must understand the causality of the active intellect.

3 What Does the Active Intellect Activate – and How?

As we have seen, the double sense of the PMC explains the text's back and forth between the active intellect's causality and its status as a pure form. However, the way in which this causality is described changes progressively in the text. To summarize, there are five formulations according to which the active intellect is:

1. "cause of the disposition of the material intellect" (88.24);
2. "cause of the intellection of other things" (89.5);
3. that without which nothing "would become intelligible" (89.7);
4. "cause and principle of being for all other things" (89.9–10);
5. "cause of the being of all things that are thought" (89.10–11).

The variety of these expressions has puzzled commentators.⁶⁶ The causality of the active intellect seems to apply sometimes to the human intellect (1 and 2), and sometimes to intelligible things or all things in general (3, 4 and 5).⁶⁷ Worse: at 89.4–5, after formulating the PMC and making the two analogies with light and good, Alexander infers that the active intellect is "cause of the intellection of other things" (2). Congruently, one would have expected the active intellect to be said to be "cause of intelligibility", since it is "properly and supremely a form". How then can Alexander go from intelligibility to intellection? If we focus on textual consistency and if we admit that the PMC does work in the way I have described above, we must attempt to understand how these statements are compatible, if not equivalent.

Alexander gives us some clues about the causality of the active intellect. The first is in the light analogy. As previously said in the *De anima*, light is something which "both is supremely visible and becomes a cause to other visible things in that they are seen".⁶⁸ Indeed, light actualizes the visibility of visible things by actualizing the transparent. This makes possible the connection of what sees with what is being seen. In the same line, Alexander says, "visible" (like "audible" or "tangible") is not

⁶⁵ For instance, *In Met.* 15.4–5; 22.18–20, and, in a more indirect manner, *In Met.* 244.16–17. See also Rashed (2011) 161.

⁶⁶ For instance, Bergeron and Dufour (2008) 348.

⁶⁷ Alexander explicitly claims that all beings are intelligible at *DA* 84.18–21.

⁶⁸ *DA* 44.13–15.

the name of a substrate, but the name of a relation (σχέσις).⁶⁹ Light does not produce the potential visibility of visible things; it enables them to affect us.⁷⁰ Although this is only an analogy, we can legitimately expect active intellect to not produce the potential intelligibility of intelligible things either.⁷¹

And indeed: what is the intelligible, i.e. an object of thought? Alexander's answer in the *De anima* is unambiguous: it is the forms, be they pure forms without matter or the forms found in compounds. In the case of the hylomorphic compound, to think is to separate form from matter.⁷² The form of a hylomorphic compound remains potentially intelligible as long as it is not thought.⁷³ Yet there is no doubt that, for Alexander (who is a dedicated Aristotelian), forms are not produced by the First cause since they are somehow eternal.⁷⁴ This issue is complex (hence my 'somehow'); yet, whichever kind of eternity we have in mind here, the fact remains that a form cannot be generated, let alone produced. As Alexander summarises in his refutation of Plato's *Timaeus* about the generation of natural bodies, "just as there is no generation of matter, so there is no generation of form by itself, but generation is of the two together".⁷⁵ In addition, we must be wary here of our modern tendency to take "cause of being" to mean "cause of existence": Alexander uses the expression in a sense which clearly cannot be that of existence many times.⁷⁶ Lastly – as has already been noted⁷⁷ – the analogy with light invites us to see this causality not as a direct production, but as an indirect action.

To understand how the active intellect can exercise its causality on intelligible things, we can now follow the lead of the analogy with the Good. As I have already mentioned (*pace* P. Accattino and P. Donini), it does not seem to me to be at all the case that the Good would be only another example, neither should we interpret it "*nel modo debole*" to "preserve" Alexander from Platonism or from the accusation of introducing participation.⁷⁸ In my understanding, the case of the Good works here as a conceptual signpost to signify "final cause". As Alexander establishes elsewhere,

69 *DA* 56.8–10.

70 See the lucid clarification of this point (concerning Aristotle) by Burnyeat (2008) 41. Another difference between Aristotle and Alexander is that, for the latter, we can also see light since it is supremely visible.

71 Despite what Moraux (1942, 92f.) maintains.

72 Among other passages, *DA* 83.14–15, 85.14, etc.

73 Cf. *DA* 87.29; Alexander has Aristotle's *DA* III 4.430a6–7 in mind.

74 On this nuanced position in Alexander, see notably *In Met.* 214.27–28; Simplicius, *In Phys.* 234.11–19 and 23.28, and the remarks of Rashed (2007) 237–46 and Kupreeva (2017) 243–5. On this issue in the case of the soul, cf. Accattino (2005).

75 Simplicius, *In De cael.* 578.32–579.1.

76 See for instance *In Met.* 244.19–20; 246.10–12, etc. See *infra*, n. 99 and 101.

77 Schroeder (1981) 222; De Haas (2019) 306. See also Accattino and Donini (1996) 293.

78 Accattino and Donini (1996) 288–91 and, on participation, Moraux (1942) 89f.

the Good is the final cause which is the principle of all generation and all motion.⁷⁹ Reciprocally, in every substance, the end is the good.⁸⁰ To clear up any misunderstanding, Alexander inserts here the notion of “contribution” (συντέλεια) which shows the end (τέλος):

Moreover, what is good supremely and primarily is the cause of the other goods' being also such. For the other goods are distinguished by their contribution to this. (89.2–4)

The claim is convoluted. Nonetheless, we can make out that the evaluation of the goodness of a secondary good is done according to its status as a means, aiming at a good in itself. If thus some thing (health, for instance) facilitates access to some end in itself which is good in itself (happiness), then health deserves the predicate “good”.⁸¹ The case of the Good is here exactly similar to the one of healthy things called thus in virtue of their “contribution” to what is properly healthy, i.e. health itself.⁸²

As is well-known, Alexander interprets elsewhere the causality of the prime mover as that of a final cause. Indeed, the first heaven – the sphere of fixed stars – and, after it, the celestial bodies are set in motion by their desire to imitate the unmoved prime mover.⁸³ To say that the unmoved mover is “loved” by all the spheres is to say, for Alexander, that the latter want to become similar to the former.⁸⁴ In this sense, the circular motion of the sphere of fixed stars imitates the immobility of the unmoved prime mover. More generally, this quest for emulation explains the tendency (ἔφεσις) of any substance – including the substances of the sublunary sphere – to actualize its own form, to “perfect” themselves and, for some, to desire immortality,⁸⁵ as if it were drawn towards the First cause by magnetic force.⁸⁶ It is thus a striking feature of Alexander’s interpretation that he assigns God as an end to the entire universe.⁸⁷ All substances are essentially guided by their desire for the Good, which is a sign of finality for the entire cosmos.

⁷⁹ *In Met.* 22.15–16.

⁸⁰ *In Met.* 160.12–13; 411.20, etc.

⁸¹ See for instance *Mantissa* §20.

⁸² See *supra*, n. 63. For another related use of the idea of contribution concerning things said ἀφ’ ἐνός καὶ πρὸς ἕν, see *In Met.* 263.25–33 and Guyomarc’h (2015) 225–7.

⁸³ See among other passages *De princ.* §§7–12; *Quaestio* I 25, 40.10f.; *Quaestio* II 18, 62.27–30, etc. See also Sharples (1983); Rashed (2011) 130–3, and, more generally, 126–40; Guyomarc’h (2017) 159–64.

⁸⁴ Notably *Quaestio* I 25, 40.17–23.

⁸⁵ *DA* 36.7 (referring to Aristotle’s *DA* II 4). On the fact that an “ἔφεσις” can be ascribed even to inanimate substances, see *Quaestio* II 23, especially 74.28–30: “For it is not only things that possess sensation and soul that have a desire (ἐπιέται) for what is natural to them; this is so with many things that are without soul, too.” (transl. Sharples).

⁸⁶ On this analogy, see again *Quaestio* II 23.

⁸⁷ Cf. Berti (2000).

For compound substances, this desire is realized in an actualization of their form, through which they can attain to their own good.⁸⁸ As M. Rashed has duly shown,⁸⁹ Alexander distinguishes between a form merely possessed by the compound (*hexis*) and its fully actualized form. For instance, this is what distinguishes a human being without virtue (who is still a human being) from a virtuous human being, who has reached the perfection and culmination of their nature.⁹⁰ This distinction between two states of form is introduced at the very beginning of the *De anima*. In the case of simple bodies, this distinction is the one between form as motive power (the power of earth to move downwards, for instance) and the perfection of such power, which is properly ἐνέργεια.⁹¹ This first perfection – reprising Aristotle’s first entelechy⁹² – is also the one which corresponds to soul, as the principle of its actualization – be it for nutrition, sensation, movement or thinking.

The prime mover is what causes, as an end, the realization of every form, i.e. its transition from first perfection to second perfection, from form merely possessed to form fully achieved. This process of perfection is firmly established by a quotation by Simplicius of Alexander’s *Commentary on the Physics*:

T3 But insofar as everything achieves its own perfection by aiming at this (as will also be said a little later) and insofar as “it causes motion by being loved” (as he has again said in the *Metaphysics*) the First cause would also be the goal and the cause “for the sake of which”. (Simplicius, *In Phys.* 258.20–23, transl. Mueller)⁹³

The interest of this passage lies less in the traditional position ascribed to Alexander (that the first mover moves as a final cause) than in the manner in which this causality is expressed. Alexander’s distinctive terminology is used: each thing tends to *its own* perfection (*teleiotes*). Here, this last word necessarily refers to the second perfection, to the full achievement of one own’s form. By adding “own” (*oikeios*), Alexander claims that substances do not aim directly at the First cause, but that their aim at it is mediated by their desire for their own good.⁹⁴ Alexander is likely not

88 On this position, see among other references *In Met.* 15.4; 22.18; 160.12; *In Top.* 226.15, etc.; Rashed (2011) 142–50.

89 Rashed (2011) 142–8.

90 *De fato* 197.30–198.3.

91 On the form as power, see notably *DA* 9.15–17. On earth, cf. 22.7–12.

92 *DA* 16.4–7.

93 καθόσον δὲ πάντα τῇ τούτου ἐφέσει τῆς οικείας τελειότητος τυγχάνει, ὡς καὶ μικρῷ πρόσθεν εἴρηται, καὶ καθόσον, ὡς αὐτὸς εἴρηκε πάλιν ἐν τοῖς Μετὰ τὰ φυσικά, “κινεῖ δὲ ὡς ἐρώμενον”, εἴη ἂν ὡς τὸ τέλος καὶ τὸ οὐ χάριν αἴτιον.

94 As the household metaphor in *Metaphysics* A 10, reprised by Alexander at *De fato* 196.7–12 and *De princ.* §133, also suggests.

breaking any new ground when making this claim: a passage where Aspasius comments on the first sentence of *Nicomachean Ethics* already says something similar:

That is how one must understand ‘aiming at’, in the sense that everything is equipped by nature to resemble the most perfect and primary cause as much as possible. For each thing is eagerly drawn by its own nature to its proper perfection. It is drawn to this because it is inclined to that which is most perfect of all. (Aspasius, *In EN* 4.6–10, transl. D. Konstan modified)⁹⁵

A precise commentary on this passage would go beyond the scope of this paper. Let us simply remark that the similarities with Alexander are numerous and striking: (i) the conceptual connection between τελειότης and ἐφίεσθαι; (ii) the correlated claim concerning what might be called universal eudemonism – that by nature everything (not just every animal or living thing) “is drawn” to the good; (iii) the idea that such inclination is aimed at the First cause, although this finality must in fact be understood as mediate, as the emphasis on “own” or “proper” (*idios*) shows.⁹⁶ The First cause is ultimately (but indirectly) that on account of which every form concretely manifests in second actualities:⁹⁷ a plant growing, a stone falling on account of its heaviness, a human being searching for happiness...

However, as the PMC requires, the First cause must be responsible for some sort of actualization of the intelligibility of intelligible things. It is indeed the cause of something happening to intelligible things, as the *modus tollens* argument sketched in T2 suggests:

For if there did not exist something intelligible by nature, nothing else would become intelligible either. (89.6–7)

The active intellect does not produce potential intelligibles, not anymore than light produces colors. Yet, without light, a potential visible thing, namely a color, could not affect us. Likewise, without active intellect, no potential intelligible thing, i.e. no form, could become manifest through the particular actualities which bring it to achievement. As light is a condition of possibility of sight, the active intellect is what guarantees that human thought may have possible objects.

For what would happen in a world without a First cause being an intellect and an intelligible in the proper sense? In *Metaphysics* Λ 6–7, Aristotle answers this question

⁹⁵ οὕτως δὲ δεῖ ἀκούειν τὸ ἐφίεσθαι ὡς παρεσκευασμένου ἐκάστου ὑπὸ τῆς φύσεως εἰς τὴν τοῦ τελειοτάτου καὶ πρώτου αἰτίου ἢ δυνατὸν ἐξομοίωσιν. ἕκαστον γὰρ ἄγεται ὑπὸ τῆς ἰδίας φύσεως σπουδῆ ἐπὶ τὴν ἰδίαν τελειότητα· ἐπὶ δὲ ταύτην ἄγεται διὰ τὸ πρὸς ἐκεῖνο νενευκέναι, ὃ πάντων ἐστὶ τελειότατον.

⁹⁶ On the “species-specific teleology” in the Peripatetic version of the Cradle argument, see Tsouni (2019) esp. 99–100.

⁹⁷ On the achievement of form through actualities, see also Aristotle, *De cael.* II 12.292b1–19.

using the mythical image of Night (1072a19–20). In Alexander’s terminology, “nothing else would become intelligible either” (89.6–7): no form would tend to reach its second perfection and every form would remain dormant – to use an analogy which Aristotle himself uses for the first actuality.⁹⁸

Our text T2 summarizes the causality of the active intellect with a formulation echoing Alexander’s commentary to *Physics* VIII: the First cause is “cause and principle of being for all the rest” (89.9–10).⁹⁹ Indeed, in Alexander’s essentialism, the more some thing is – that is, the more it is what it has to be –, the more intelligibility or “truth” it possesses, as the *Commentary on Metaphysics* α 1 establishes.¹⁰⁰ This equation of being and intelligibility, typical of Alexander’s essentialism, is easily understood if we recall that (i) the form is what is intelligible and (ii) every substance is what it is according to its form, which form Alexander commonly calls the “cause of being”.¹⁰¹ If the prime mover is the final cause of the achievement of forms, it can then legitimately be said “cause and principle of being for all the rest” (89.9–10), just as well as “cause of the being of all things that are thought” (89.10–11).

For in the case of hylomorphic compounds, a form’s perfection necessarily corresponds to the realization of its essence. In the pages that we are examining now, the *De anima* uses a quite narrow depiction of thought, namely the intellection of essences. Alexander does not dwell on discursive thinking.¹⁰² Via the separation of forms from matter, the human intellect gains access to the quiddity of the compound and to the universal.¹⁰³ The intellection of an essence thus corresponds to the recognition of the universality of the essence which was grasped.¹⁰⁴ But this recognition is only possible since most of compound substances tend by nature to achieve their quiddity. For a substance, to reach achievement is to instantiate, as much as possible, the common and universal nature of which its quiddity consists.¹⁰⁵

98 Aristotle, *DA* II 1.412a23–26.

99 Alexander frequently uses the expression “cause of being” to refer to the causality of substance compared to its accidents, or the causality of form compared to the compound. He also uses it to refer to the causality of the prime mover in a difficult but important scholium of the *Commentary on the Physics* (schol. 662 Rashed), also quoted by Simplicius (*In Phys.* 1253.30–35). On the interpretation of this passage, cf. Rashed (2007) 277–8 and (2011) 567–8.

100 *In Met.* 147.8–22; Rashed (2007) 309–23; Guyomarc’h (2015) 108–9.

101 On this repeated claim in Alexander, see, *inter alia*, *DA* 91.17–18; *In Met.* 359.34 etc.

102 Discursive thinking is only mentioned in the general presentation of the rational soul, at *DA* 81.5–22.

103 On intellect as grasping essences, see for instance 84.20; 86.29–87.1; as grasping universals: 83.7–8; 83.12; 85.22, 87.14–15, etc.

104 Cf. Sharples (2005), notably 45 on the recognition of universals α , and on the connection between abstraction and universals β . On this point, cf. also Helmig (2012) 159–60. On the idea that, in thought, forms “become” universal and common, see *DA* 90.5–6.

105 Cf. once more Sharples (2005) for this notion in Alexander.

If Alexander has in mind the final causality of the First cause in the T2 passage, he is then legitimate in claiming that the active intellect is responsible for the being of all things, but also in claiming that the active intellect is that without which no intelligible thing would come to be nor would actualize. The active intellect is not a direct cause of an episode of thought, but that without which no episode of thought could occur, for lack of an object.

But there is more. What is true for any enmattered form is also true for a human being. Not only is the human soul a form, but, in many respects, it is the paradigm of the sublunary forms in general, as the beginning of the *DA* shows.¹⁰⁶ Alexander's pages on the intellect involve the doctrine of the two states of forms and the notion of perfection. The dispositional intellect is said to be the "perfection" of the material intellect.¹⁰⁷ But, according to Alexander's full definition, a human being is a mortal and rational animal able to receive intellect and science.¹⁰⁸ It is then logical that, when he presents the rational faculty of the soul, Alexander emphasizes that it is that through which a human being becomes a more achieved animal (80.23) and that it contributes, not to a human being's being, but to their good (εὖ εἶναι, 81.16ff.).¹⁰⁹ The progress of the intellect, described in the next pages, is then also the perfecting of the human being which, in the best of cases, may end up thinking the highest possible object of thought, namely the First cause itself.¹¹⁰ But the active intellect is not only the supreme object at the end of the natural development of human intellection; it is also a condition of possibility for that development. The First cause is the final cause of the perfection of any form. It is also responsible for the development of human intellection.

There is thus no contradiction in T2 between the expressions of the causality of the active intellect which focus on objects, and those which assign it responsibility for intellection itself, or for the acquisition of a disposition by the human intellect. But, as we have seen with the Simplicius quotation (T3), it is indeed by aiming for its own perfection that a substance aims, mediately, for the prime mover. There is then no need for the intervention of *direct* causation of the active intellect on the material intellect of the human being. However, finality is certainly one of the senses of causality – and even, for Alexander, its most eminent sense. He is then legitimate in

¹⁰⁶ *DA* 11.6–7 and 22.7–12; *In Met.* 357.25–29.

¹⁰⁷ *DA* 82.2; 85.11.

¹⁰⁸ The full definition is at *In Top.* 478.23–24: ἀνθρωπὸς ἐστὶ ζῶον λογικὸν θνητὸν νοῦ καὶ ἐπιστήμης δεκτικόν. (cf. also 495.5). On "νοῦ καὶ ἐπιστήμης δεκτικόν" as a distinctive property – in conformity with Aristotle, for instance *Top.* V 2.130b8, etc. – see *In Top.* 43.27f. (differently than a god who is not "able" to receive intellect and science); 387.24. On the fact that "being able to receive science" may be deduced from rationality, see *In Met.* 382.20–22.

¹⁰⁹ See also, for instance, *Mantissa* §17, 152.9–10: "For the human being when perfected (τελειωθεῖς) has its being in being intelligent (ἐν τῷ νοητικὸς εἶναι)" (transl. Sharples).

¹¹⁰ *DA* 90.11–91.6.

maintaining that the active intellect “comes to be the *cause* of the disposition of the material intellect” (88.24).

In other words, the active intellect is twice “cause of the intellection”, i.e. cause of the actualization of human thought: once (i) when it offers thought occasions for thinking through objects, and again (ii) when it actualizes mediately the human intellect itself in its development. The active intellect as final cause thus makes possible the “relation” which thinking is. It is because all forms – both the forms of human souls and every other form – actualize in their mediating tendency toward the prime mover that the former can meet with the latter.

4 Back to Challenge B and Some Objections

The teleological solution I have proposed to answer Moraux’s Challenge A has a flaw: it no longer solves Challenges A and B at the same time – that is, it does not explain how the human intellect can begin to think, since it removes any direct intervention on the part of the First cause. Addressing this issue would require us to carefully pick through pages 83.2–86.6 of Alexander’s *De anima*. However, I will end by suggesting that the teleological reading I have attempted might shed some light on Challenge B.

The teleological interpretation can explain one of the main objections made against the interventionist reading: it can explain why active intellect is not involved in the account of human intellectual development. That is precisely because human beings, like any substance, aim at the First cause only by aiming at their own good and at the perfection of their own nature. Alexander gives us some indications according to which human beings achieve their proper perfection by actualizing their intellect. First, he describes the actualization of our intellect not as an innate phenomenon but rather as something we have acquired later in life, and this fact, he claims, is the clearest sign that our power of thinking does not contribute to our being, but to our well-being (πρὸς τὸ εὖ εἶναι, 81.16), i.e. to our flourishing and “perfection” (81.20). This point, like the distinction between practical and theoretical intellect,¹¹¹ shows how strong is the influence of the *Nicomachean Ethics* on Alexander as he writes these pages of his *De anima*.¹¹² It is no coincidence that Challenge B is so reminiscent of the Aristotelian problem of the acquisition of virtue.¹¹³ This is not a mere analogy, since becoming virtuous requires us to develop our

111 DA 80.24–81.12 and 81.20–22, referring to *Nicomachean Ethics* VI 1.

112 The echoes are too numerous to list here, but see *supra*, n. 31.

113 The problem is the following: How can we become virtuous if we can only perform virtuous actions once we are virtuous, yet need to perform virtuous actions to acquire virtue? On the allusions to Aspasius’ treatment of this question (in his commentary on the *Nicomachean Ethics*) and in

rationality and our power of thinking,¹¹⁴ and since rationality and virtue are said to be the “perfection and culmination” of human beings’ “proper nature”.¹¹⁵

On this path to culmination, Alexander says, man is helped and “guided by nature”, at least up to some point.¹¹⁶ Even though at birth we are only equipped with material intellect,¹¹⁷ the actualisation of our intellect is also in part natural¹¹⁸ and takes place during puberty.¹¹⁹ Hence Alexander’s insistence on the gradual emergence of our grasping of the universal from sensible experience. The *De anima* emphasizes the continuity and even the contiguity of mental states:¹²⁰ our cognitive life has always already begun, so much so that the issue of its very first beginning becomes less relevant. But this is so because the natural inclination of human beings towards their end, as well as the one of his ordinary objects of thought, is ultimately activated by the first final cause and drawn, as if magnetically, to it.

In conclusion, the reading I propose could be met with two objections. The first objection is based on the very name of the “active” intellect. Does the fact that this intellect is called “*poietikon*” not necessarily require that it exerts efficient causality? However, Alexander is only the inheritor of this wording, which he finds in the Aristotelian text and for which Aristotle is responsible. As such, it is entirely feasible to consider that Alexander misinterprets when he understands the causality of the active intellect as a final causality. But this objection does not invalidate the interpretation I have proposed as far as Alexander is concerned.

Additionally, Alexander sometimes calls the final causality of the prime mover “*poietikon*”.¹²¹ This designation comprises two distinct senses: in one – loose – sense, the prime mover’s causality as a final cause is *poietikon* to the extent that the prime mover produces an effect and triggers motion as a final cause,¹²² in another – more significant – sense, the prime mover is indirectly an efficient cause because it is the

particular to the different meanings of ‘natural’ in Alexander’s *De anima*, see Accattino and Donini (1996) 272, who quote Aspasius *In EN* 38.10f. See also Alexander, *De fato* 27, 181.1–12.

114 On rationality and becoming the principle of one’s actions, see *De fato* 14, 184.11–20.

115 *De fato* 27, 198.1.

116 Compare *De fato* 27, 198.3–5 and *DA* 82.13–14: ὑπ’ αὐτῆς τῆς φύσεως ὀδηγοῦμενοι.

117 According to Alexander, the material intellect is that of children, see Philoponus (?), *In DA* 518.10–12.

118 Among the meanings of “natural”, Aspasius distinguishes between what is always “co-present” and “what is not co-present from the beginning, but after a certain time comes for the most part to be present, even though we do not busy ourselves about it whether through habit or through instruction” (*In EN* 38.12–14, transl. Konstan).

119 See Alexander, *In Phys.* schol. 478 Rashed.

120 See in particular *DA* 83.2–13 and 85.20–86.6, and *Quaestio* III 3, 84.24–33.

121 Simplicius, *In Phys.* 258.14–25. On Simplicius’s discussion of Alexander, cf. Golitsis (2017) and notably 228–33.

122 Alexander, *Commentary on the Physics*, schol. 826 Rashed and Rashed (2011) 127 n. 234.

final cause of the motions of the first heaven which acts as efficient cause.¹²³ But none of this calls into question the substantive thesis: in a strict sense, the prime mover acts solely as a final cause.

A second objection would criticize the reading I have offered on the grounds that it overinterprets the text of Alexander's *De anima*. R.W. Sharples has rightfully emphasized how unspecific passage T2 was: "Those who look for a specifically epistemological explanation of the role of the Active Intellect in Alexander's treatise *On the Soul* will be disappointed."¹²⁴ Undeniably, the passage does not stand out because of its clarity or because of its abundance of details. This is on account of the text's style as a treatise, as Alexander writes it, that is, differently than the style in which he writes his lemmatic commentaries, which are often more technical and more specific. But, since Alexander maintains elsewhere and consistently that the First cause is a final cause, to ascribe another position to him in the *De anima* would be to introduce a discrepancy in the corpus. Refusing to do so is an act of minimal hermeneutic charity.

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References

- Accattino, P. 2005. "Generazione dell'anima in Alessandro di Afrodisia *De anima* 2.10–11.13?" *Phronesis* 40 (2): 198–200.
- Accattino, P. 2014. "Alessandro di Afrodisia interprete del *De Anima* di Aristotele." *Studia graeco-arabica* 4: 275–88.
- Accattino, P., and P. Donini. 1996. *Alessandro di Afrodisia. L'anima*. Roma & Bari: Biblioteca Universale Laterza.
- Bazán, B. C. 1973. "L'authenticité du *De intellectu* attribué à Alexandre d'Aphrodise." *Revue philosophique de Louvain* 71: 468–87.
- Bergeron, M., and R. Dufour. 2008. *Alexandre d'Aphrodise. De l'âme*. Paris: Vrin.
- Berti, E. 2000. "Il movimento del cielo in Alessandro di Afrodisia." In *La filosofia in età imperiale. Le scuole e le tradizioni filosofiche*, edited by A. Brancacci, 225–43. Napoli: Bibliopolis.
- Bodnár, I. M. 2014. "Alexander's Unmoved Mover." In *Nature et Sagesse: Les rapports entre physique et métaphysique dans la tradition aristotélicienne*, edited by C. Cerami, 387–416. Louvain: Peeters.
- Bruns, I. 1887. *Supplementum Aristotelicum*, II.1: *Praeter Commentaria scripta minora: De Anima liber cum Mantissa*. Berlin: Reimer.

¹²³ See again the subtle reading of Golitsis (2017) 228–33: Alexander claims that the prime mover is not ποιητικὸν αἴτιον, but κινήσεως ποιητικόν (Simplicius, *In Phys.* 1361.32–33 and 1362.15).

¹²⁴ Sharples (1989) 242.

- Burnyeat, M. 2008. *Aristotle's Divine Intellect*. Milwaukee: Marquette University Press.
- Caston, V. 1999. "Aristotle's Two Intellects: A Modest Proposal." *Phronesis* 44 (3): 199–227.
- Caston, V. 2012. *Alexander of Aphrodisias: On the Soul*. Part I: *Soul as Form of the Body, Parts of the Soul, Nourishment, and Perception*. London: Bristol Classical Press.
- Cerami, C. 2017. "Changer pour rester le même. Forme, δύναμις et ἐξις chez Alexandre d'Aphrodise." In *Alexandre d'Aphrodise et la métaphysique aristotélicienne*, edited by A. Balansard, and A. Jaulin, 237–80. Louvain: Peeters.
- De Haas, F. 2019. "Intellect in Alexander of Aphrodisias and John Philoponus: Divine, Human or Both?" In *Philosophy of Mind in Antiquity: The History of the Philosophy of Mind*, Vol. 1, edited by J. E. Sisko, 299–316. London: Routledge.
- Donini, P. 1995. "Alessandro di Afrodisia e i metodi dell'esegesi filosofica." In *Esegesi, parafrasi e compilazione in età tardoantica*, edited by C. Moreschini, 107–29. Napoli: D'Auria.
- Donini, P. 2011. *Commentary and Tradition. Aristotelianism, Platonism, and Post-Hellenistic Philosophy*, edited by M. Bonazzi. Berlin & Boston: De Gruyter.
- Freudenthal, J. 1884. *Die durch Averroes erhaltenen Fragmente Alexanders zur Metaphysik des Aristoteles*. Berlin: De Gruyter.
- Gerson, L. P. 2005. *Aristotle and Other Platonists*. Ithaca: Cornell University Press.
- Golitsis, P. 2017. "Alexandre d'Aphrodise, Simplicius, et la cause efficiente de l'univers." In *Alexandre d'Aphrodise et la métaphysique aristotélicienne*, edited by A. Balansard, and A. Jaulin, 217–35. Louvain: Peeters.
- Guyomarc'h, G. 2015. *L'unité de la métaphysique selon Alexandre d'Aphrodise*. Paris: Vrin.
- Guyomarc'h, G. 2017. "Alexandre d'Aphrodise et le Premier Moteur comme Principe." In *Les Principes cosmologiques du Platonisme. Origines, influences et systématisation*, edited by A. Michalewski, and M.-A. Gavray, 143–65. Turnhout: Brepols.
- Helmig, C. 2012. *Forms and Concepts: Concept Formation in the Platonic Tradition*. Berlin & Boston: De Gruyter.
- Hicks, R. D. 1907. *Aristotle De Anima*. With Translation, Introduction and Notes. Cambridge: Cambridge University Press.
- Kupreeva, I. 2017. "Aporia and Exegesis. Alexander of Aphrodisias." In *The Aporetic Tradition in Ancient Philosophy*, edited by G. Karamanolis, and V. Politis, 228–47. Cambridge: Cambridge University Press.
- Lloyd, A. C. 1976. "The Principle that the Cause is Greater than its Effect." *Phronesis* 21 (2): 146–56.
- Menn, S. 2020. "From *De Anima* III 4 to *De Anima* III 5." In *Aristote et l'âme humaine. Lectures de De Anima III offertes à Michel Crubellier*, edited by C. Louguet, C. Murgier, and G. Guyomarc'h, 95–155. Louvain: Peeters.
- Merlan, P. 1969. *Monopsychism Mysticism Metaconsciousness: Problems of the Soul in the Neoplatonist and Neoplatonic Tradition*, 2nd ed. The Hague: M. Nijhoff.
- Morau, P. 1942. *Alexandre d'Aphrodise. Exégète de la noétique d'Aristote* (Bibliothèque de la faculté de philosophie et lettre de l'université de Liège, 99). Liège & Paris: Droz.
- Opsomer, J., and R. W. Sharples. 2000. "Alexander of Aphrodisias, *De Intellectu* 110.4: 'I heard this from Aristotle'. A Modest Proposal." *Classical Quarterly* 50 (1): 252–6.
- Papadis, D. 1991. "L'intellect agent selon Alexandre d'Aphrodise." *Revue de philosophie ancienne* 9 (2): 133–51.
- Rashed, M. 2007. *Essentialisme. Alexandre d'Aphrodise entre logique, physique et cosmologie*. Berlin & Boston: De Gruyter.
- Rashed, M. 2011. *Alexandre d'Aphrodise. Commentaire perdu à la Physique d'Aristote (Livres IV–VIII). Les scholies byzantines*. Berlin & Boston: De Gruyter.

- Roreitner, R. (forthcoming). "Thought 'From Without': The Role of the Agent Intellect in Alexander's *De Intellectu*."
- Ross, W. D. 1961. *Aristotle. De anima*. Edited, with Introduction and Commentary. Oxford: Clarendon Press.
- Schroeder, F. M. 1981. "The Analogy of the Active Intellect to Light in the *De Anima* of Alexander of Aphrodisias." *Hermes* 109: 215–25.
- Schroeder, F. M. 1982. "The Potential or Material Intellect and the Authorship of the *De Intellectu*: A Reply to B. C. Bazán." *Symbolae Osloenses* 57: 115–25.
- Schroeder, F., and R. Todd. 2008. "The *De Intellectu* Revisited." *Laval theologique et philosophique* 64 (3): 663–80.
- Sharples, R. W. 1983. "The Unmoved Mover and the Motion of the Heavens in Alexander of Aphrodisias." *Apeiron* 17 (1): 62–6.
- Sharples, R. W. 1987. "Alexander of Aphrodisias: Scholasticism and Innovation." In *Aufstieg und Niedergang der römischen Welt*, Vol. II, 36.1, edited by H. Temporini, and W. Haase, 1176–243. Berlin & Boston: De Gruyter.
- Sharples, R. W. 1989. "The Criterion of Truth in Philo Judaeus, Alcinous and Alexander of Aphrodisias." In *The Criterion of Truth*, edited by P. Huby, and G. Neal, 231–56. Liverpool: Liverpool University Press.
- Sharples, R. W. 1994. *Alexander of Aphrodisias, Quaestiones 2.16–3.15*. London & New York: Duckworth & Cornell University Press.
- Sharples, R. W. 2002. "Alexander of Aphrodisias and the End of Aristotelian Theology." In *Metaphysik und Religion: zur Signatur des spätantiken Denkens*, edited by T. Kobusch, and M. Erler, 1–21. München: K.G. Saur.
- Sharples, R. W. 2005. "Alexander of Aphrodisias on Universals: Two Problematic Texts." *Phronesis* 50 (1): 43–55.
- Sorabji, R. ed. 2004. *The Philosophy of the Commentators, 200–600 AD, Vol. 1: Psychology (with Ethics and Religion)*. London & New York: Duckworth & Cornell University Press.
- Thillet, P. 1981. "Matérialisme et théorie de l'âme et de l'intellect chez Alexandre d'Aphrodise." *Revue philosophique de la France et de l'étranger* 106: 5–24.
- Tsouni, G. 2019. *Antiochus and Peripatetic Ethics*. Cambridge: Cambridge University Press.
- Tuominen, M. 2006. "Aristotle and Alexander of Aphrodisias on the Active Intellect." In *Mind and Modality: Studies in the History of Philosophy in Honour of Simo Knuuttila*, edited by V. Hirvonen, T. J. Holopainen, and M. Tuominen, 55–70. Leiden: Brill.
- Tuominen, M. 2010. "Receptive Reason: Alexander of Aphrodisias on Material Intellect." *Phronesis* 55 (2): 170–90.
- White, M. J. 2004. "The Problem of Aristotle's *Nous Poiêtikos*." *The Review of Metaphysics* 57 (4): 725–39.