Aristotle and Alexander of Aphrodisias on active intellectual cognition

Haas, F.A.J. de; Decaix, V.; Mora-Márquez, A.M.

Chapter 2
Aristotle and Alexander of Aphrodisias on Active Intellectual Cognition

Frans A. J. de Haas

Abstract Since Antiquity, "active cognition" has been a problematic notion in Aristotelian scholarship. Part of the problem is the definition of what counts as "active". In the first part of this paper I shall offer a short survey on various contenders for "active" perceptual cognition defended in recent interpretations of Aristotle, by way of introduction to the more complicated problems of "active" intellectual cognition. In the second part of the paper I will offer—in outline—my interpretation of Aristotle's theory of intellectual cognition, which takes the most recent findings in the area of perceptual cognition as a starting point. Here I pursue the analogy that Aristotle sets up between perception and intellection throughout the *De anima*. In the third part of the paper I shall examine a number of influential accounts of active intellectual cognition found in the corpus of Alexander of Aphrodisias, in particular *Mantissa* 2–5 (also known as *De intellectu*). These accounts each develop the analogies offered in Aristotle's *De anima* III.5 in their own way.

2.1 The "Activity" of Perceptual Cognition in Aristotle

According to Aristotle all cognition, both perceptual and intellectual, has different stages of "activity" or rather "actuality", "actualisation", or "completion" (*energeia*, *entelecheia*) which correspond to preceding stages of potentiality.[1] At birth all healthy and unimpaired animals are composites of a soul that possesses the power of perception in (first) actuality, and a body equipped with the necessary sense organs. Each organ is ready to perceive its own special objects (the eyes see colour, the

[1]The central chapter where Aristotle applies, and adapts, the notions of potentiality and actuality to psychology is *De anima* II.5, for which see, e.g., Burnyeat (2002) and Johansen (2012). For my own approach to the topic see De Haas (2018b).

F. A. J. de Haas (✉)
Leiden University, Leiden, The Netherlands
e-mail: F.A.J.de.Haas@phil.leidenuniv.nl

V. Decaix, A. M. Mora-Márquez (eds.), *Active Cognition*, Studies in the History of Philosophy of Mind 23, https://doi.org/10.1007/978-3-030-35304-9_2

ears hear sounds, etc.) in terms of a well-defined range of qualities (e.g., light-dark, high-low pitch, bitter-sweet, hot-cold).[2] This entails that right from birth most animals can immediately begin to use their various senses successfully when the circumstances permit: e.g., they will see, provided there is light, they are not asleep, and their eyes are open. Each individual instance of such use of the power of perception constitutes a (second) actuality of perception which in no way diminishes the power; in Aristotle's terms it is a completion or preservation rather than an alteration proper.[3] However, Aristotle's notion of *energeia* is not equivalent to the modern notion of "activity": affections like "being moved" and "being cut" are as much *energeiai* (actualisations of a potentiality) as "imparting motion" and "cutting".

At the same time it is clear, too, that grammatically active terms like "to perceive" or "to use" are not a proper indication of "activity" in the required sense of the word either. For, famously, Aristotle assigns to the objects of perception (colours, sounds) the role of actualising the potentialities of the sense organs and the perceptual power of the soul so that they receive, or rather get assimilated to, the perceptual forms: from potentially like these forms they become actually like them.[4] In this way the perceptual objects play a double role: they function as the phenomenal content of the act of perceiving (the form that is actually being perceived) and as the causal origin of the process of assimilation. The colour of an apple initiates a motion through an external transparent medium (air, water) which affects the internal medium, the transparent eye fluid. From there a continuous chain of events transports the perceptual form to the central organ of perception around the heart where it is consciously perceived.[5] Unfortunately, the physiological and functional details of this chain of events have to be pieced together from various hints in the Aristotelian corpus which do not provide us with a fully satisfactory story.

As efficient cause the object is fully actualised at the beginning of the process the result of which is the actualisation of its form in another substrate.[6] In their role of efficient causes the perceptible forms are characterised as "capable of initiating motion" (*kinêtikon*) or "capable of producing" (*poiêtikon*) certain "products" (*erga*).[7] As cause of the formal content of perception they are described as *logoi* which are fully determined by their formal features alone at the moment they are actually perceived by the central organ of perception located around the heart.[8]

[2]See Aristotle, *De anima* II.4–12. For comprehensive discussions of the senses and their respective objects see, e.g., Johansen (1997) and Everson (1997).

[3]See Aristotle, *De anima* II.5.417a30–b16.

[4]See Aristotle, *De anima* III.7.431a4-7; III.8.431b24–432a2.

[5]For a concise description see, e.g., Johansen (2002), Corcilius (2014, 35–36 and 46–47), quoting *Phys*. VII.2.244b2–245a11.

[6]See Corcilius (2014, 34).

[7]See Aristotle, *De anima* II.5.417b18–27; II.7.418a26–b3 and 419a10–11 (colour) (with *Sens*. 2.438b2–16; *Sens*. 3.439a6–b1); *De anima* II.8.420a3–19 (sound); II.10.422b15–16; III.7.431a17–20 (despite the state of the text); *Sens*. 6.445b3–13.

[8]See Aristotle, *De anima* II.12, esp. 424a21–28; 424b1–3. Corcilius (2014, 37) claims that when *logoi*, which he takes to be proportions, are actually perceived in the central organ there is no

Once we have set aside Aristotelian actuality (*energeia*) and grammatically active verbs as indicators of "activity", we can move to three more candidates that have been claimed as reasons to ascribe active cognition to Aristotle in ancient as well as modern interpretations: the adaptation of the perceptual system to changing circumstances, awareness, and last but not least, discrimination or judgment (*krisis*).

Johansen has recently drawn attention to a passage in *De generatione animalium* which shows that according to Aristotle the perceptual mean is not entirely fixed.[9] In reaction to strong perceptual impulses, e.g., the light of the sun, the eye accommodates to the amount of light, and it takes a while for it to accommodate back to darker circumstances before it functions properly again. As Johansen notes,[10] this is an activity on the part of the perceptual system, but not a conscious one we can control. Rather, I suggest, it is a natural defense mechanism to prevent perceptual overload, which, Aristotle tells us, can destroy the perceptual mean.[11] Although this adaptation enhances the chances of successful perception, it seems insufficient grounds to speak of active perception. From the point of view of the analogy between active perception and active intellection it is interesting to see that even the innate perceptual mean may somewhat vary under different circumstances. We shall see that this variation increases when we discuss the intellectual mean.

The case of awareness as active contribution of the perceiver or the perceptual system to the act of perception is more complicated. As I have argued elsewhere,[12] I take awareness to coincide with each cognitive *energeia* as its side-effect. I agree with Corcilius and Gregorić (2013) that this awareness arises when the motion that is perception reaches the central sense organ in or around the heart. Unfortunately, this awareness is not an active response or contribution of the perceptual system towards the event of perception, but, as Aristotle explains, a concomitant of every act of cognition, perception and thought alike.[13] Given that the active role is assumed by the object of cognition, and the combined *energeiai* of agent and patient reside in the patient,[14] the perceiver need not be active in any way in awareness.

The third and most promising candidate for active perception is the power of discrimination. In *De anima* Aristotle clearly regards the power of discrimination (*kritikê dunamis*) as one of the basic characteristics of the soul: perception,

underlying matter or motion of which such a quality is an inherent quality. However, in view of passages in which the intellect seems to be able to further isolate intelligible forms from perceived forms (*De anima* III.7.431b1–3; III.8.432a3–14) this interpretation is probably too simple. Barker (1981) warns against taking *logos* as proportion in all cases.

[9] Johansen (2002, 182–183), with *De generatione animalium* V.1.780a4–13.

[10] Johansen (2002, 184).

[11] See, e.g., Aristotle, *De anima* II.12.424a28–32. I cannot here go into the discussion whether a perceptual mean is located in the sense organ (too), which is what would arguably be damaged by strong impulses, rather than, or in addition to, the mean in the central sense organ.

[12] De Haas (2009, esp. 59–61), quoting *Somn*. 2.455a12–16.

[13] For thought, see De Haas (2009, 63–68).

[14] See Aristotle, *De anima* II.2.414a11–12; III.2.426a2–6. This is an application to psychology of the general rule of *Phys*. III.3, for which see Coope (2005).

phantasia, and intellection are all listed as discriminative faculties.[15] In modern scholarship, Aristotelian discrimination has been analysed in different ways. Although the translation 'judgment' for *krisis* is most common in English, it is now more often regarded as misleading in so far as it introduces associations with rational evaluation or decision which cannot (in Aristotle) apply to the non-human animals, which are all said to perceive and discriminate, including the most primitive ones. Even though rational evaluation and decision-making are certainly involved in human psychology, they do not enter into Aristotle's theory of perception—nor, as we shall see, in the causal process leading up to basic intellectual cognition. This is important in the light of Stoic and Platonic criticisms of Aristotle, which demand rational input in human perception and read Aristotle accordingly.[16]

In an influential paper Theodor Ebert[17] has analysed the basic structure of perceptual discrimination ("what is done in perceiving") as "*S* discriminates *x* from *y*": e.g., the soul, or rather the animal as a whole, somehow compares an *x* and a *y* (items grasped by the same or different senses, or different intelligibles, or *x* from background *y*) and distinguishes one from the other. Corcilius has rightly emphasised that in basic animal perception the causal process as described by Aristotle does not allow for a separate act of comparison preceding (or coinciding with) every instance of perception.[18] Moreover, if "comparing" would suggest an inner spectator over and against the basic perceptual system, this too is to be rejected for lack of evidence in the Aristotelian corpus.[19]

However, Corcilius and Gregorić have recently developed a different approach.[20] One important incentive for their interpretation is the need to do justice to Aristotle's phrase that the perceptive mean "relatively to either extreme can put itself in the place of the other". In context:

> That is why we do not perceive what is equally hot and cold or hard and soft, but only excesses, the sense itself being a sort of mean between the opposites that characterise the objects of perception. It is to this that it owes its power of discerning the objects in that field (καὶ διὰ τοῦτο κρίνει τὰ αἰσθητά). What is in the middle is fitted to discern (τὸ γὰρ μέσον κριτικόν); relatively to either extreme it can put itself in the place of the other (γίνεται γὰρ πρὸς ἑκάτερον αὐτῶν θάτερον τῶν ἄκρων). As what is to perceive white and black must,

[15] See, e.g., Aristotle, *De anima* II.6.418a14–15; II.11.424a4–6; III.2.426b8–427a16; III.3.427a17–21, 428a1–4; III.9.432a15–16; *MA* 6.700b17–22; and not least *APo* II.19.99b35. For an earlier expression of my view of discrimination in Aristotle see De Haas (2005).

[16] For a concise statement of the options defended in later Antiquity see Sorabji (2004, vol. 1, 33–43).

[17] Ebert (1983).

[18] Corcilius (2014). However, Corcilius' own analysis discussed below describes a form of "juxtaposition" and "contrast" that comes close to what some interpreters (including the author of this paper) meant when they used the term "comparison".

[19] Contrast Johansen (2006). This is not to deny, of course, that in Aristotle the central sense organ, as well as the mind, can make comparisons in a single act of perception or thought. Cf. Aristotle, *De anima* III.2.426b8–427a16; for thought see, e.g., III.6. For the multiple functions of the common sense see, e.g., Gregorić (2007).

[20] Corcilius (2014) and Corcilius and Gregorić (2013). See also Bradshaw (1997) and Johansen (2002, 177–182).

> to begin with, be actually neither but potentially either (and so with all the other sense-organs), so the organ of touch must be neither hot nor cold. (*De anima* II.11.424a2–10, tr. *RevOT*)

Corcilius and Gregorić go on to define objects of sense as the "juxtaposition" or "contrast" between the perceptual capacity as the mean (Q_0), and the sensual input (Q_1), not as the value of a colour or sound in relation to the extremes of its own spectrum, i.e., between S_1 (black) and S_2 (white). In addition Corcilius claims that the reception of the perceptible form without its matter is the perceptual awareness of that form. But receiving the form without its matter presupposes that the form be separated from the matter. This separation, he claims, is the job of perceptual discrimination.[21]

I disagree with this interpretation in various ways, which need some comment here because I will try to use my account of active perceptual cognition to develop what I believe is the outline of a plausible account of active intellectual cognition in Aristotle.

I propose to do justice to the text quoted above by the following interpretation (which I intend to defend in more detail elsewhere): when the mean assumes the role of either one of the extremes S_1 or S_2, it narrows the scope of the spectrum to, e.g., S_1—M or M—S_2. When the mean is active,[22] the sensory input is identified as belonging to either one of the parts of the spectrum determined by the remaining extreme and the mean. Therefore, we perceive only what differs from the mean, otherwise the sensory input would not fall into either part. The advantage of this reading is that the form-without-matter, or *logos*, perceived is not itself a proportion between two extremes on the spectrum, nor between the mean and the sensory input. It is also easier, or so it seems to me, to account for Aristotle's statement about the active mean:

> To perceive then is like bare asserting or thinking; but when the object is pleasant or painful, the soul makes a sort of affirmation or negation, and pursues or avoids the object. To feel pleasure or pain is to act with the sensitive mean towards what is good or bad as such. Both avoidance and appetite when actual are identical with this: the faculty of appetite and avoidance are not different, either from one another or from the faculty of sense-perception; but their being is different. (*De anima* III.7.431a8–14, tr. *RevOT*)

Here I believe we can take advantage of the interesting suggestion by Corcilius and Gregorić about the natural function of the sensitive mean in the animal.[23] All

[21] Corcilius (2014, 37 and 47–48): "Perceptual discrimination—the separation of the perceptible form from its matter—is the production of an actual object of perception in the organism. It happens exactly in the moment at which a perceptible input reaches the endpoint of its motion toward the perceptual center of the animal [...] and before it passes that point and, perhaps, reverses into a different region of the body: the point at which the motions literally stop moving in direction of the perceptual center is where the perceptual soul's neutral value is actualised. The resulting juxtaposition of the incoming perceptible value with the soul's neutral value generates a contrast and this contrast is the actual sense object." For more details see Corcilius and Gregorić (2013).

[22] As Aristotle calls it at *De anima* III.7.431a10–11: τὸ ἐνεργεῖν τῇ αἰσθητικῇ μεσότητι.

[23] See Corcilius and Gregorić (2013, 60–64).

animals are born with the power of perception as a first actuality. This natural makeup is the result of nature which does nothing in vain; hence we are entitled to assume that the natural perceptual mean will more or less successfully discriminate from birth what is generally good or bad, pleasant or painful, for the animal (kind) that has it.[24] Only in this way Aristotle can say that the sensitive mean in activity identifies the sensory input as belonging to the good or bad, pleasant or painful side. These identifications are different in kind, but are made in virtue of the same active perceptual mean. In this way, we also arrive at a remarkable analogue for the role of the intellectual mean that is active in rational choice and action. The difference is that human beings are not born with any kind of intellectual mean and it therefore allows for a much larger variation—the ethically correct mean itself can only be the result of experience, and proper guidance by parents and tutors.

A consequence of this reading of discrimination is, however, that there is little or no room for understanding the power of discrimination as the active aspect of perceptual cognition. To be active with the perceptual mean simply is to discern pleasurable from painful, or good from bad; the same holds for the intellectual mean, which is the corresponding first actuality in the case of intellectual cognition.[25]

If this is correct, we should resist the identification of discrimination with the activity of separating form from matter, as Corcilius suggests—even though this interpretation has a long pedigree as we shall see. My first objection is that it is not at all clear, and whether if so, how the perceived form is abstracted, and from which matter. On Corcilius' account the perceived object is the ratio of mean (Q_0) and sensory input (Q_1). This new entity that comes into being in the act of perception has no need to be abstracted from anything. If the separation is directed at the incoming perceptual form, it is odd that Aristotle does not even hint that the sensory input first has to be actively separated from the corporeal substrate it exists in, in order for it to be perceived. In fact, and this is my second objection, in a way the incoming perceptible has already been separated from its original subject long before it reaches the central sense organ. After all, colour, while inherent on the surface of a body, has the power to affect the transparent medium so as to be qualified like it; the medium qualified accordingly in its turn affects the transparent medium inside the eye; this *energeia* results in the activity of *phantasia* which presents the affection to the central sense organ. The theory of action and passion, with its series of events where active powers affect suitable passive recipients, does not require the soul or the perceptual system to separate the form from the matter, not even when inside the body. The active impression exercises its actualising power without requiring separation; or rather, the effect separates itself from its subject each time it affects the next. What Aristotle's statements mean, I propose, is that perception is limited to whatever active power in external objects can affect the organs and the soul. Plants do not perceive because they do not have the required mean.[26] The specific

[24]This system does not seem to be fail proof: animals (including humans) sometimes eat food that is harmful to them, and they have to build experience to learn to avoid these.

[25]See Aristotle, *De anima* III.7.431a14–17.

[26]Cf. Aristotle, *De anima* II.12.424a32–b2.

receptivity (or potentiality) of organ or soul restricts the affection to the relevant active aspect of the actually perceptible object—without requiring any activity on the part of the receiver.

It seems to me, then, that discrimination is not the same as separation of perceptible form from matter, and in so far as we can understand the details of the psychological process of discrimination, there is no reason to assume it is an independent activity from reception. Both discrimination and awareness are aspects of the events of perceptual and intellectual cognition as Aristotle analyses them. Discrimination is the identification of a specific part of the relevant spectrum, which is defined by the actualisation of a mean prompted by the incoming effect of an active power that originates from the objects of perception.

2.2 The Activity of Intellectual Cognition

For intellectual cognition in Aristotle the situation is far more complicated because the human capacity for thinking is rich and varied. As Polansky has shown,[27] the analogies between perception and thought can be seen to extend much further than most commentators tend to allow, so as to include the structure and aims of *De anima* III.4–8. In the same vein, I will use my assessment of activity in perceptual cognition to find a way into Aristotle's intellectual cognition. In view of the reception of Aristotle's view in Late Antiquity I will single out *De anima* III.5, where Aristotle definitely seems to attribute agency (*poiein*) and productive power (*poiêtikê dunamis*) to intellect. If this agency is the analogue of the perceptual mean discussed above, this, too, need not indicate an activity in the stronger sense of term.[28]

According to Aristotle, at birth the intellect has no characterisation whatsoever, except the first potentiality to receive intelligible objects. This is for the best: the rational soul has to be able to think *everything* (as opposed to the limited number of perceptual qualities and their limited ranges with which the perceptual system has to deal), so any characteristic of the intellect itself would be an obstacle to the assimilation of intelligible forms without distortion.[29] When the intellect is confronted with intelligible content it thinks it in (second) actuality, which is also a completion or preservation rather than a simple physical alteration. Intelligible forms are stored in memory, from which we can consciously recall them for simple or complex thoughts, or sometimes they are presented to us by, e.g., association as in memory techniques.[30]

In the case of intellectual cognition, then, there is no preexisting "mean" against which the incoming formal content stands out. With the aid of memory, which leads to experience, individual instances of thought concerning forms or concepts

[27] See Polansky (1999).

[28] For a more rudimentary version of this interpretation, see De Haas (2005, 337–342).

[29] See Aristotle, *De anima* III.4, esp. 429a22–24 and 429b31–430a2.

[30] See Aristotle, *De anima* III.3.427b17–21; *Mem.* 2.

gradually add up to the (first) actuality called "knowledge" of general concepts and (hopefully) truths. This knowledge of a universal concept, I submit, is the analogue of the first actuality of the perceptual mean that is present from birth.

In the process of learning Aristotle assigns to the intelligible *objects* the active role of actualising the sheer potentiality of intellect which passively receives, or rather identifies itself with, intelligible forms or concepts. Analogously to sense perception, the disposition of knowledge is at the same time a (second) potentiality for its application to new individual experiences and thoughts in which the intellect each time becomes identical with its objects in the act of thought. Again, the causal story does not match the various uses of *energeia*, and again, grammatically active terms like 'knowing' and 'thinking' hide a causal process in which the power of intellect is styled as the passive recipient rather than the active efficient cause. Again, the object of intellection acts as efficient cause of the actualisation of the potentiality of intellect (this time both first and second potentiality), which results in the identification of the intellect with the object's form as intelligible content.

In my view Aristotle's first universal, which is subsequently refined and further analysed as *Posterior Analytics* II.19 so famously describes, is the intelligible form to which the intellect is assimilated. In the beginning the first universal is rough and ready and lacks distinctions that become clear only later. This process, including the later refinements, is summarised at 100a13–14: "And the soul is such as to be capable of undergoing this".[31] This phrase is a downright denial of any kind of *poiein* on the part of the soul during this process, just as the analogy with sense perception would lead us to expect. In this context, Aristotle explicitly denies that there is any cognitive disposition in place besides perception, and it is perception that establishes (*empoiei*) the universal in this way (100a10–11).

The universal concept, or intelligible form, which is stored ready for use in memory, henceforth comes to act as the mean in relation to new intelligible input. In this way dispositions arise that immediately result in action when new input is set off against the current intelligible mean. The intellect discriminates good and bad depending on the standard of its self-created mean. Aristotle's famous definition of virtue as a mean concerns precisely such an acquired disposition of the soul which predisposes a person to act in accordance with it—because when used in a particular action it acts as the person's standard against which she separates what is morally good for her from what is morally bad for her. Although it is hard to act against an acquired disposition (whether virtue or vice) it is crucial for Aristotle's ethics that a

[31] See Aristotle, *APo* II.19.100a13–14: "And the soul is such as to be capable of undergoing this." (ἡ δὲ ψυχὴ ὑπάρχει τοιαύτη οὖσα οἵα δύνασθαι *πάσχειν* τοῦτο), with 100b3-5: "Thus it is clear that it is necessary for us to become familiar with the primitives by induction; for perception too instils the universal in this way." (δῆλον δὴ ὅτι ἡμῖν τὰ πρῶτα ἐπαγωγῇ γνωρίζειν ἀναγκαῖον. καὶ γὰρ ἡ αἴσθησις οὕτω τὸ καθόλου ἐ*μποιεῖ*) (Tr. *RevOT*). See De Haas (2002) for a reading of this and similar texts, and their reception in later philosophy.

person remains responsible for acquiring (and if necessary correcting) an acquired habit.[32]

For the sequel it is crucial to realise that intellect has no power of agency at this initial stage of concept formation; all content derives from perception, and the activity of perception is sufficient to instill initial, and more refined, universal concepts. Only when the question is raised how the intellect can discriminate intelligibles from perceptibles, or separate intelligible forms from their matter, philosophers begin to seek for an actuality that will explain this particular ability of the intellect. Two kinds of answer are commonly given: this activity is present in the human intellect, or it affects the human intellect from outside, e.g., a higher, divine actuality—both answers have been read in *De anima* III.5 since Antiquity. But in the Aristotelian framework as I have reconstructed it, the question is wrong to begin with: once again it mistakes the active verb *krinein* for an indication of agency on the part of intellect.

We are left with only one conspicuous text that clearly seems to associate intellectual cognition (*nous*) with production (*poiein*)—the famous chapter *De anima* III.5.[33] Let us quote it first, for ease of reference:

> [1] Since in every class of things, as in nature as a whole, we find two factors involved, a matter which is potentially all the particulars included in the class, a cause which is productive in the sense that it makes them all (τὸ αἴτιον καὶ ποιητικόν, τῷ ποιεῖν πάντα) (the latter standing to the former, as e.g. an art (τέχνη) to its material), these distinct elements must likewise be found within the soul.
>
> [2] And in fact intellect (νοῦς), as we have described it [in *De anima* III.4], is what it is by virtue of becoming all things, while there is another [intellect] which is what it is by virtue of making all things (τῷ πάντα ποιεῖν): this is a sort of positive state (ἕξις) like light (φῶς); for in a sense light makes (ποιεῖ) potential colours into actual colours. Intellect in this sense of it is separable, impassible, unmixed, since it is in its essential nature activity (ἐνέργεια) (for always the active (τὸ ποιοῦν) is superior to the passive factor (τοῦ πάσχοντος), the originating force (ἀρχή) to the matter (ὕλη)).
>
> [3] Actual knowledge is identical with its object: in the individual, potential knowledge is in time prior to actual knowledge, but absolutely it is not prior even in time. It does not sometimes think and sometimes not think. When separated it is alone just what it is, and this above is immortal and eternal (we do not remember because, while this is impossible, passive thought is perishable); and without this nothing thinks. (tr. *RevOT* modified)[34]

What does the maker mind make?[35] This is a crucial question for both ancient and modern commentators. In line with our interpretation so far, I take it that in *De anima* III.4 Aristotle has established the potential, or receptive aspect of intellection, so that in *De anima* III.5 he needs to establish the existence of its active,

[32] See, e.g., Aristotle, *EN* III.5, esp. 1113b3–14 and 1114a3–1114a21.

[33] For an excellent introduction to this chapter, with an interpretation that carefully balances the "divine" and "human" interpretations of productive intellect, see now Shields (2016).

[34] I substituted 'intellect' for 'thought' in the *RevOT* translation.

[35] See the title of Kosman (1992).

or productive aspect. He does so [1] by pointing out that the pairs of potentiality and actuality, and passivity and agency, are a general trait of natural objects. The general productivity involved is characterised by means of an analogy with craft (τέχνη). This is not the productivity of an efficient cause (a builder or a carpenter) but the agency of a formal cause: it is practical knowledge acquired by experience applied to particular material in accordance with the principles that constitute the craft.

In a second step [2], Aristotle applies the general format to the case of intellect. In *De anima* III.4 he has established the sheer potentiality of intellect; the general format now requires him to establish the corresponding productive aspect of intellect. He returns to the analogy between perception and thought he has been using before. The productivity of intellect is analogous to the productivity of light in perception: in a way—by rendering actually transparent the medium between perceptible colours and our eyes—it makes (*poiei*) potential colours into actual colours. To be more precise: it allows potentially visible colours, i.e., actually existing colours that have the power to affect our eyes, to actually have their effect on our eyes through affecting the medium which then affects the liquid in our eyes. We are expected to infer from the analogy that intellect is essentially an actuality (in the way that a state or disposition is), but also that it is separate, unaffected and unmixed. In what way is light or actual transparency separate, unaffected and unmixed? It resides in the medium, as a state that has nothing to do with water or air and is not affected along with it.[36] Neither, then, is productive intellect, although it resides in us. Note that the analogy does not imply that there is any distance to travel in thinking, or any medium. The sequel suggests that the productivity, or actuality, of intellect does not make potential objects of thought into actual objects of thought (one possible analogue with the role of light in perception), but relates to potential intellect as productive to passive, and principle to matter (430a18–19). Aristotle seems to revert to the craft analogy, which—in the general format of [1]—is the analogue of the illustration of light in the application to intellect (in [2]).

What follows in [3] is controversial: the reference to the identity of actual knowledge with its content (430a19–21) reappears in the manuscripts at 431a1–3, and some editors strike it from *De anima* III.5. What remains are puzzling statements that something does not think intermittently, and is only what it is, and immortal and eternal—which "we" do not remember, because it is impassible, and passive intellect is perishable—and without it nothing thinks.

What is this something? Perhaps the intellect-in-actuality (430a17–18) that is called productive in this chapter? But if these statements refer to it, they hardly seem to fit anything that is part of the human soul—hence the long tradition, extending into modern commentaries on the chapter, that takes the section to refer to a suprahuman, divine, intellect. This, however, would destroy the initial analogy that wherever we find something passive, there must be something productive. This analogy was applied to the intellect that Aristotle had been discussing in the

[36] See Aristotle, *De anima* II.7.418b3–419a21 on light, with *Sens*. 3.439a13–b18 and 6.446b27–447a11.

previous chapter: human intellect. If human intellect were merely passive after all, the analogy would break down.

Therefore, let us consider an alternative reading, that also explains the insertion, by Aristotle or by a later reader, of the statement of the identity of knowledge and its content.[37] *De anima* III.7, which repeats the statement though in slightly different wording (431a1–4), leads to the claim that for the deliberative soul objects of *phantasia* (which are caused by perception in actuality)[38] play the active role that objects of perception play in perception. That is why the soul never thinks without *phantasmata*,[39] which it considers as *noêmata* to calculate present and future events, to compare, and to combine or separate in true and false statements.[40] The priority of perception to thought in cognition rests on the dependence of thought on *phantasmata*, which are necessary for every act of thought.[41] So what if "without it nothing thinks" in *De anima* III.5.430a25 refers to the necessary trigger and content of thought? Every activity of intellect, especially the first one, relies on the actuality of perception and *phantasia*, not on a prior actual intellect or its prior knowledge. But once universal concepts are known and intellect is actualised, in more and more sophisticated ways, by observation and analysis, these universals constitute the productive complement to the potential intellect. They act as intellective mean, and when actualised they are productive as light, when they discern further intelligibles,[42] and productive as craft, which is also a body of knowledge that prompts and guides thoughts and actions. As universal knowledge productive intellect is by definition as such impassible, eternal, and immortal because that is what universal truth is, regardless of our thinking it or not, regardless of our knowing that it is true or not. The actuality in human intellect, the first actuality that has its analogue in the first, but innate, actuality of perception, is nothing but the knowledge it contemplates, with which it is identical in thought.

I realise, of course, that this reading is as controversial as everything that relates to *De anima* III.5. Here it may serve merely to introduce possible interpretations of craft and light, and various senses of *poiein* to set the scene for Alexander of Aphrodisias and his contemporaries, who saw themselves confronted with the same problems.

[37] This reading is inspired by Polansky (1999), although I depart from his interpretation in various ways.

[38] Aristotle, *De anima* III.3.428b10–429a9.

[39] Aristotle, *De anima* III.7.431a14–17; III.8.432a7–10.

[40] Aristotle, *De anima* III.7.431b6–10.

[41] Aristotle, *De anima* III.8.432a7–10.

[42] I.e., in perceptibles, or from memory from which thought can conjure them up at will.

2.3 Alexander of Aphrodisias and His School on Active Intellectual Cognition

In recent scholarship *Mantissa* 2–5 (also known as the *De intellectu*) is ascribed to Alexander with some confidence, although it cannot be ruled out that this short text was created in his school.[43] For our purposes the precise attribution is not a matter of grave concern, because I shall use this treatise here as testimony to the existence of an interesting discussion concerning notions of activity involved in intellectual cognition in the Peripatetic school. The text holds at least three different approaches to the issue. Due to the reputation of Alexander of Aphrodisias the treatise had a long history of reception.[44] As such, the relation between the various options discussed, and the arguments that accompany them, have been interpreted in different ways, giving fuel to various accounts of active intellectual cognition.

2.3.1 De intellectu, Section A

The first part of *De intellectu*, labelled (A),[45] consists of three sections distinguishing three intellects: the material, the dispositional, and the productive intellect. The productive and material intellect occur together in Aristotle's oeuvre only in *De anima* III.5. *De intellectu*, then, can be read as a partial record of interpretations of *De anima* III.5. Theophrastus had raised a number of pertinent questions on the chapter, which later commentators continued to address directly or indirectly.[46] *De intellectu* deals with other known issues from this context, e.g., Xenarchus' charge that Aristotle identified intellect and prime matter,[47] but first and foremost the vexed question whether the productive intellect is part of the human soul, or a higher, divine, entity. As is well-known, Alexander in his own *De anima* championed the view that the productive intellect is Aristotle's divine intellect described in more detail in *Met*. XII.[48] This divine intellect that has its own actuality as its proper

[43] On Alexander of Aphrodisias in general see Sharples (1987), on intellect see pp. 1204–1214. For the *Mantissa* see Accattino and Cobetto Ghiggia (2005), Sharples (2004, 2008). Schroeder and Todd (1990) contains the first pioneering translation and commentary of *De intellectu*, as I shall henceforth call it. For the debate on its provenance see also Schroeder (1997).

[44] For a survey see, e.g., Blumenthal (1987) and Kessler (2011). For a sample of relevant texts from later ancient commentators, see Sorabji (2004, 102–118).

[45] I here follow the labelling of Sharples (2004), who discusses its rationale in the footnotes *ad loc*.

[46] For Themistius, who has preserved for us Theophrastus' list of questions in full (*In DA*, 107, 30–108, 18 = FGH&S 307A, with Huby and Gutas (1999, 114–217)), see Gabbe (2008b) and De Haas (2018a). For Themistius' influence on the later tradition see Pines (1987) and Magrin (2011).

[47] *De int*. 106,20; cf. Alex. ap. Philop., *In DA*, 15, 65–9; refuted in 106, 20–29; compare Alexander, *DA*, 83, 13–84, 14.

[48] Cf. Alexander, *DA*, 80, 16–92, 11. For a more detailed account of my reading of Alexander's *De anima* in this respect, see De Haas (2019). The concept of a higher eternally active intellect actualising human potential intellects already appears in Alcinous' *Didaskalikos*, 10, 164.18–23 H.

object, Alexander argues, is the only possible referent of the attributes bestowed to the productive intellect in *De anima* III.5: separate, impassible, unmixed, essentially in actuality, imperishable, eternal.[49] We shall see this interpretation emerge in *De intellectu* as well. As an interpretation of *De anima* III.5, this identification convinced neither Philoponus nor Thomas Aquinas—they argued that the subject of *De anima* III.5 is the human rational soul.

The first part of *De intellectu*, then, distinguishes the three intellects, as follows:
(A1, 106, 19–107, 20) The material intellect, viz. the sheer potentiality for thinking everything, with which all human beings are born (νοῦς ὑλικός).[50] The material intellect does not think. In the same way as the senses cannot apprehend (ἀντιλαμβάνειν) and discriminate (κρίνειν) any of the corporeal qualities that inhere in their organs, "intellect, which is a kind of apprehension and discrimination of intelligibles cannot itself be any of the things discriminated by it".[51]
(A2, 107, 21–28) The second intellect is the intellect that is already thinking and has the disposition of thinking, and is able to grasp the forms of intelligibles on account of its own power.[52] The author sets up an analogy inspired by Aristotle's mention of craft (τέχνη) at *De anima* III.5.430a12. Material intellect is like people who can acquire the craft and can become craftsmen; dispositional intellect is the same as craftsmen that already possess the disposition that is their craft, through which and in accordance with which they can produce (ποιεῖν). So the human material intellect becomes dispositional intellect when it has acquired disposition (ἕξις), thinking (νοεῖν), and being in actuality (ἐνεργεῖν).

The text does not state how the disposition is acquired, nor whether material intellect acquires it of its own account, and on its own initiative. The analogy with craftsmen suggests that it can acquire the disposition by learning. In his *De anima* Alexander allows that the ordinary process of concept formation culminates into what he there calls the common intellect,[53] or a stock of acquired concepts with reference to their sources in perception. For this the material intellect's natural power of discrimination, which is another aspect of its receptivity, suffices.[54] In *De anima* Alexander regards the dispositional intellect as a further stage of the development of material intellect, when it can think intelligible forms without having recourse to sensible forms. In *De intellectu* we are still uncertain at this

[49]This argument still plays an important role in modern adherents of this interpretation, e.g., Frede (1996) and Caston (1999).

[50]See Tuominen (2010).

[51]Alexander, *De intellectu*, 170, 7–8: ὁ νοῦς ἀντίληψις τις καὶ κρίσις τῶν νοητῶν, οὐδὲν αὐτὸν οἷον τε εἶναι τῶν κρινομένων ὑπ᾽ αὐτοῦ.

[52]Alexander, *De intellectu*, 107, 21–22: ὁ ἤδη νοῶν καὶ ἕξιν ἔχων τοῦ νοεῖν καὶ δυνάμενος τὰ εἴδη τῶν νοητῶν κατὰ τὴν αὑτοῦ δύναμιν λαμβάνειν.

[53]See Alexander, *DA*, 81, 22–83, 13. The commentary tradition derived this different (state of) intellect from Aristotle, *De anima* I.4.408b27–29, against any modern understanding of that passage.

[54]See Alexander, *DA*, 83, 13–84, 14.

point. We are also in the dark about what the analogue is of the productivity the accomplished craftsman is capable of.

(A3, 107, 29–110, 3) The third intellect is the so-called productive intellect (ὁ ποιητικὸς νοῦς).[55] For the interpretation of this intellect the author of *De intellectu* draws on the analogy with light in *De anima* III.5.430a15–17[56]: as light turns potentially visible colours into actually visible colours, the productive intellect turns the potential, material intellect into an intellect in actuality "by creating the disposition of intellection in it".[57] It is interesting to note, first, that the author of *De intellectu* distributes the two analogies of craft and light over two different intellects, although in Aristotle both analogies explained the productive aspect of intellect. Furthermore, it is remarkable that the analogy of productivity shifts from potential and actual objects of cognition in Aristotle to potentiality and actuality of the human intellect in *De intellectu*.

The productive intellect is by nature actually intelligible, hence an immaterial form, and hence at the same time intellect: in the act of cognition subject and object are identical.

In *De intellectu*, 108, 3–7, it becomes clear that in the act of intellection our human intellect itself separates intelligible forms from whatever they inhere in, in the same way as perception separates perceptible forms from their matter in the act of perception. When our intellect grasps and separates forms from matter it is said "to make (*poiei*) the form of the intelligised object actually intelligible".[58] Here we have a clear statement that abstraction, or the separation of forms, is the activity of intellect involved in intellection—at least in the case of enmattered forms that require abstraction.

According to the rule that knowledge is identical with its content, every actually intelligised form *is* an actually thinking intellect that is thinking it. Therefore, our intellect renders *itself* intellect in actuality *by the very action* of grasping and separating forms from matter.[59] The same rule entails that every thinking intellect is automatically self-referential, or reflexive (which for some ancient and modern authors constitutes consciousness). Qua object of thought each intellect thinks itself—but it does not think itself qua intellect, unless it is the divine intellect. For our intellects, then, this type of reflexivity or consciousness is accidental or concomitant, and not the activity of intellection we are concerned with here.[60]

[55] For a different interpretation see Tuominen (2006).

[56] For the use of the analogy of light in Alexander cf. Schroeder (1981).

[57] Alexander, *De intellectu*, 107, 33–34: ἕξιν ἐμποιῶν αὐτῷ τὴν νοητικήν.

[58] Alexander, *De intellectu*, 108, 14–15: ὁ γὰρ νοῦς τὸ εἶδος τοῦ νοουμένου λαμβάνων καὶ χωρίζων αὐτὸ τῆς ὕλης κατ᾽ ἐνέργειαν ἐκεῖνό τε νοητὸν ποιεῖ καὶ νοῦς αὐτὸς κατ᾽ ἐνέργειαν γίνεται.

[59] See previous note.

[60] Alexander, *De intellectu*, 109, 22–23: γίνεται οὖν κατὰ συμβεβηκὸς αὐτὸν νοῶν ὁ νοῦς οὗτος ἀπὸ τοῦ ὑλικοῦ νοῦ προϊών.

We can understand the shift in the analogy from the actualisation of objects to establishing actuality as such, when we see that just like Alexander, the author of *De intellectu* regards the productive intellect as the intellect of *Met*. XII: a pure immaterial form that is by nature always intellect in actuality. As such it is always the object of its own intellection without requiring the skill of separating form from matter.[61] This has a striking consequence: the productive intellect never separates forms from matter in the act of thought it is, so power of abstraction is not an actuality it possesses for it to bestow to our intellects—it merely possesses the actuality of intellection itself. A crucial passage summarises the above and adds further insights that will determine the remainder of *De intellectu*:

> [1] This thing that is both intelligible in its own nature and intellect in actuality [viz. the productive intellect], comes to be the cause of the material intellect's separating and imitating and thinking (by reference to such a form) each of the enmattered forms as well, and making it intelligible.
> [2] It is the intellect said to be "from without", the [productive] intellect, not being a part or power of our soul, but coming to be in us from outside, whenever we think of it, if indeed thought comes about in the apprehending of the form, and (if indeed) it is itself immaterial form, never being accompanied by matter nor being separated from matter when it is thought (*De intellectu*, 108, 19–26, tr. Sharples 2004).

The first section of this text contains an answer to the question in what way the divine productive intellect establishes the disposition of intellection in human intellects: it establishes itself as a cause—but it seems to act as a final cause or role model rather than as an efficient cause. The activity of human intellects somehow derives its character from divine intellection which is concerned with pure form.[62] In order to be concerned with pure forms themselves, too, in thinking about the enmattered forms that surround us, our intellects have to separate forms from their matter. Separation is necessary for us to imitate divine thinking, except when we are thinking the pure form that is the divine intellect itself. If the productive intellect makes the material intellect intelligible, this is only because the material intellect needs to invoke this productivity to separate intelligible forms because otherwise it cannot become identical with them in thought. And that is the aim the divine intellect constitutes for them.

In the second section [2] of this text reference is made to the intellect "from without" that the commentators took from Aristotle's *Generation of Animals* II.3.736b27–29. There Aristotle claimed that the intellect enters the human embryo "from outside" (θυραθέν), i.e., from outside the body of the female, viz. by means of the male semen. Ancient commentators struggled to give this statement a place in their account of intellect. In *De intellectu* we find the solution that Alexander also adopted in his *De anima*, 87, 24–88, 16: the productive intellect enters our intellect whenever we think of it, as the object that becomes identical with our intellect while we are thinking it. It is intellect *from outside* (the commentators also use ἔξωθεν)

[61] Alexander, *De intellectu*, 107, 34–108, 3; 108, 16–110, 3.

[62] Alexander, *De intellectu*, 108, 21–22: κατὰ τὴν πρὸς τὸ τοιοῦτο εἶδος ἀναφοράν.

because it is not part of our soul when we are not thinking it. It is *intellect* from outside because—unlike enmattered forms that become intellects only when thought by us in separation from their matter—the productive intellect is always intellect in actuality, also when it is not thought by us. Needless to say that this interpretation takes us far away from Aristotle.

The sequence of texts [1] and [2] has created the impression that the author implies that the productive intellect renders our intellects actual by the very activity of entering them as object of our thinking. However, both Alexander and the author of *De intellectu* state something different: we have the divine intellect in us each time we think it—that is the closest we can ever get to thinking the divine.[63] Section [2] serves to weave the intellect from outside into the account of intellect, in order to do justice to the problems raised by the commentary tradition; it does not tell us how it causes our intellect's separating and thinking. Nevertheless, a similar scenario is developed, and refuted, in more detail in section [C] to which we turn shortly.

So far section [A] has given us three types of productivity (*poiein*) associated with intellectual cognition:

> P1 a divine productive intellect establishes the disposition of intellection in human material intellects;
> P2 our actualised intellects separate enmattered forms from their matter in order to think them as intelligible forms;
> P3 the productive intellect is said to make material intellect an intelligible object in virtue of their being objects of thought. For after[64] separation, the now actually intelligible forms actualise the material intellect: the combined actuality of object and subject resides in the now actualised (former material) intellect. As a consequence, human intellects become identical with the form(s) they are thinking, and thereby become an intelligible object themselves.

In section B of *De intellectu* we find a report of a slightly different, probably older, interpretation of Aristotle on the issue of the intellect "from without" (B1) with Alexander's development of it (B2). In section C we find the exposition of an attack on the notion of the intellect "from without" (C1), probably originating from the Platonist Atticus who serves more often as a source for critical comments on Aristotle.[65] The reporter of C1, probably Alexander, then refutes the attack (C2).[66] Since both sections B and C contain further reflections on the active character of either divine or human intellect they are worth reviewing here to see if we need to extend our list.

[63] See, Alexander, *De intellectu*, 108, 19–26; 112, 3–4. Cf. Alexander, *DA*, 87, 24–88, 8 (with the actual intelligibles in the plural); 89, 19–90, 2; 90, 11–91, 6: if we want to have something divine in us, and become immortal, we must think the divine intellect!

[64] This is at least a logical order, if not a temporal one.

[65] Cf. Sharples (1987, 1212n133); see Atticus Fragm. 7.75ff Des Places.

[66] See Sharples (2004, 38n92) for other views on the relationship between B and C, and B1–B2, and C1–C2 respectively.

2.3.2 *De intellectu, Section B*

In B1 the author reports a reading of Aristotle which he heard at some time in the past.[67] On this reading the analogy between perception and thought receives more emphasis along the lines of *De anima* III.5.430a10–14: for all things that come to be, there is something that is affected, something that produces, and something that comes to be from both of these.[68] Hence, in the case of intellect, too, there must be some productive intellect that actualises the potential and material intellect into actuality; this actuality then makes (*poiei*) sensible things intelligible to itself (110, 10–13). "For it is not possible for anything to be productive of anything if it is not itself in actuality".[69] This is a clearer statement of P1 and P2 listed above: the productive intellect establishes actuality, in virtue of which the dispositional intellect then abstracts intelligible forms. The text stresses the fact that this is the main characteristic of human intellect, which the productive intellect must bring to actuality:

> For this is the activity (ἐνέργεια) of intellect, by its own power to separate and abstract the things which are sensible in actuality from those things in the company of which they are sensible, and to define (them) in themselves.[70] (tr. Sharples 2004)

Section B2 then continues to draw out the consequences—there must be something that is intelligible in actuality by its own nature, independently of being thought by human intellects, i.e, the productive intellect from without:

> This then [is what] the potential intellect, when it is being perfected and has developed, thinks.[71] (tr. Sharples 2004)

Interestingly, the potential intellect has to be advanced to a certain level before it will think the productive intellect.[72] At this point the Aristotelian framework I described in the first part of this paper is changed dramatically:

> For intellect is not in its own nature such as to be affected, so as to be brought about by something else and affected, like sensation. The reverse is the case. For sensation is by being affected, for it is [a thing] that can be affected, and its apprehending is through being affected; but intellect is [a thing] that is productive. For in the case of most things, being able

[67] See Opsomer and Sharples (2000) for the argument that Aristotle (110, 4) is the Stagirite (as in 110, 5).

[68] This may go back to Theophrastus' theory of intellect as a mixture or composite, see Gabbe (2008b).

[69] Alexander, *De intellectu*, 110, 15–16: οὐ γὰρ οἷόν τε ποιητικόν τι εἶναί τινος μὴ ὂν αὐτὸ ἐνεργείᾳ.

[70] Alexander, *De intellectu*, 110, 18–20: αὕτη γὰρ ἐνέργεια τοῦ νοῦ, τὰ ἐνεργείᾳ αἰσθητὰ τῇ αὐτοῦ δυνάμει χωρίσαι καὶ ἀφελεῖν τούτων, σὺν οἷς ὄντα ἐστὶν αἰσθητά, καὶ ὁρίσασθαι καθ' αὑτά.

[71] Alexander, *De intellectu*, 110, 30–31: τοῦτο δὴ καὶ αὐτὸ ὁ δυνάμει νοῦς τελειούμενος καὶ αὐξόμενος νοεῖ.

[72] The author compares the natural development of the ability to walk that starts from birth, and does not involve affection (*De intellectu*, 110, 31–111, 1).

> to think them, it at the same time comes to be their producer too in order that it may think them—unless someone might want to say that the intellect too is subject to being affected in this respect, that it apprehends the forms. For to apprehend seems to be to be affected. […]
>
> So, if it shares with sensation the fact that it is able to apprehend forms, even if not in the same way, but it is peculiar to it that it produces these forms which it apprehends, it will rather be defined by producing. Accordingly, intellect will be [a thing] that is productive, rather than one that can be affected.[73] (tr. Sharples 2004)

Here we witness a clear shift of perspective: productivity, in the sense of producing intelligible forms (by abstraction), becomes the hallmark of intellect that distinguishes it from perception. This is a reinforcement of P2.

Pursuing this line of argument (111, 15–112, 5), the author clarifies that productivity is in fact prior in time and in thought to apprehension[74]: first intelligible forms are produced, then they are apprehended. Although the author seems to leave open the option that apprehension is a kind of affection of the intellect (by the actually intelligible forms), productivity is essential to intellect. There is little room for agency of intelligibles on intellect, because we are already dealing with intellect in first actuality (dispositional intellect). In Aristotle first actuality is the presence of actual knowledge that opens up the (second) potentiality to actual thinking. In the *De intellectu* the material intellect is not developed to first actuality by its objects, but by the productive intellect that instills the power to *produce* intelligible objects. Their impact on the status of the intellect that is already actual becomes secondary—hence, I presume, the author's hesitation about whether intellective apprehension is an affection or not. By the end of B2 the statement is clear: "being productive is peculiar to intellect, and its thinking is being active, not being affected".[75]

The intellect by nature and "from without" will work together with the intellect in us (συνεργός). It leads our intellect to its proper objects by perfecting it. It alone is intelligible in itself; everything else (including our own intellect) is intelligible by its craft and is produced by it.[76] Without it nothing that is potentially intelligible would ever become actually intelligible.[77]

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[73] Alexander, *De intellectu*, 111, 2–8: οὐ γὰρ παθητικὸς ὁ νοῦς τῇ αὐτοῦ φύσει, ὡς ὑπὸ ἄλλου γίνεσθαι καὶ πάσχειν, καθάπερ ἡ αἴσθησις. ὑπεναντίως γὰρ ἔχει. ἡ μὲν γὰρ αἴσθησις κατὰ πάθος, παθητικὸν γάρ, καὶ ἡ ἀντίληψις αὐτῇ διὰ πάθους, ὁ δὲ νοῦς ποιητικόν. νοητικὸς γὰρ ὢν τῶν πλείστων ἅμα καὶ ποιητὴς ἵνα αὐτὰ νοήσῃ γίνεται, πλὴν εἰ μὴ κατὰ τοῦτό τις καὶ τὸν νοῦν βούλοιτο παθητικὸν λέγειν, καθὸ ληπτικός ἐστι τῶν εἰδῶν. πάσχειν γὰρ εἶναι δοκεῖ τὸ λαμβάνειν. 111, 11–15: ὥστε εἰ κοινὸν μέν ἐστιν αὐτῷ πρὸς τὴν αἴσθησιν τὸ τῶν εἰδῶν εἶναι ληπτικῷ, εἰ καὶ μὴ ὁμοίως, ἴδιον δὲ τὸ ποιητικῷ εἶναι τούτων τῶν εἰδῶν ἃ λαμβάνει, ἀπὸ τοῦ ποιεῖν ἂν μᾶλλον ὁρίζοιτο. ὥστε ποιητικὸν ἄν, οὐ παθητικὸν ὁ νοῦς εἴη.

[74] At *De intellectu*, 111, 6 thinking and production are presented as occurring at the same time (ἅμα).

[75] Alexander, *De intellectu*, 112, 4–5: ἴδιον γὰρ τοῦ νοῦ τὸ ποιητικόν, καὶ τὸ νοεῖν αὐτῷ ἐνεργεῖν ἐστιν οὐ πάσχειν.

[76] Alexander, *De intellectu*, 111, 27–112, 4.

[77] Alexander, *De intellectu*, 111, 25–27. Note the echo of *De anima* III.5.430a25: "without it nothing thinks".

In this context the analogy with light is used again, first to transfer the characteristics of intellectual cognition to perception: by analogy with productive intellect, light is now said to be productive of sight in actuality (no longer of actual perceptibles). This is striking because it seems to undermine the difference between thinking and perceiving in terms of productivity stated above. At the same time light is used to observe a further analogy between perception and thought that was not of much interest to Aristotle in *De anima* III.5: as light is itself seen, productive intellect is itself thought, by coming to be in us.[78]

The text is tantalisingly vague about the question whether productive intellect causes the perfection of our material intellect *and* also happens to be thought by us, or causes the perfection of our material intellect *because* it is thought by us and has thereby come to be in us. This tension is probably caused by the persistent need of the commentator to explain in what sense "from without" applies:

> [. . .] this [intellect from without], being intelligible by its own nature, by being thought has come to be in the one who thinks it; it is [1] intellect that has come to be in the one who thinks, and [2] it is thought "from without" and [3] [is] immortal, and [4] implants in the material [intellect] a disposition such that it thinks the things that are intelligible potentially.[79] (tr. Sharples 2004)

The Greek *te* [. . .] *kai* links [1] and [2] together to explain the phrase "intellect from without": it is already as an actual *intellect* that it has come to be in what is thinking it, and it is thought "*from without*" because it has entered our intellect as an object of thought from outside. If we believe [3] and [4] to continue this close connection, we might have to construe [3], the immortality (if it is not an intrusion in the text),[80] as deriving from being intelligible and (hence), intellect by nature, and [4] the establishing of disposition as connected to this entering in the material intellect. Alternatively, we can read [3] and [4] as more loosely added further characteristics. In that case establishing the disposition need not be the same event as entering from without by being thought.

All in all, section B gives us stronger formulations of the types of productivity listed as P1 and P2, and when it portrays the divine intellect as cooperating with our intellect it almost suggests a merger of P1 and P2, without illuminating us about the details.

[78] Alexander, *De intellectu*, 111, 32–36.

[79] Alexander, *De intellectu*, 111, 29–32: τοῦτο δὴ τῇ αὑτοῦ φύσει νοητὸν ὂν ἐν τῷ νοοῦντι γενόμενον διὰ τοῦ νοηθῆναι [1] νοῦς τέ ἐστι γεγενημένος ἐν τῷ νοοῦντι καὶ [2] θύραθεν νοεῖται καὶ [3] ἀθάνατος καὶ [4] ἐντίθησιν τὴν ἕξιν τῷ ὑλικῷ ὥστε νοεῖν τὰ δυνάμει νοητά.

[80] Cf. Sharples (2004, 37n86).

2.3.3 De intellectu, Section C

This section presents a complex argument aimed at [1] defending the immortality of the intellect, while [2] avoiding the objection that when the intellect from without "enters" the body, it is subject to change of place while being incorporeal.

In C1 (112, 5–113, 12), the productivity of (divine) intellect is raised to new heights. The reported defense of immortality [1] comes with a series of further assumptions: [a] intellect is in every mortal body; [b] intellect is in matter as one substance, and actuality, in another, and [c] intellect always performs its own activities.[81] Section [a] is most remarkable: intellect is not only in human bodies, but indeed in *every* body.[82] At the end of C1 the reporter elaborates that intellect may organise the sublunary world either together with the sun, while itself acting as creator (*dêmiourgos*) of the potential intellects, or, more indirectly, by means of the orderly motion of the heavens so that nature organises individual things together with a (presumably immanent) intellect.[83] We are told that when bodies mix and a form (e.g., fire) supervenes which the intellect can use as its instrument, this instrument is called potential intellect, and constitutes a suitable potentiality in such a corporeal mixture to receive intellect in actuality. On this interpretation, the disposition and the light in *De anima* III.5 are supposed to refer to an omnipresent divine intellect (113, 4–6)[84]:

> When [the intellect that is in actuality] takes hold of this instrument, then it is active as through an instrument and in relation to matter and through matter, and then we are said to think. For our intellect is composed of the potentiality, which is the instrument of the divine intellect [and] which Aristotle calls intellect in potentiality, and of the activity of that [divine intellect]. And if either of these is not present it is impossible for us to think. (tr. Sharples 2004)

In other words, "we" think when the divine intellect uses suitable bodies. On this reading both material and divine intellect are necessary for "us" to think; "our" intellect is the composite of our potentiality and the activity of the divine intellect. The focus is no longer on the power to separate forms from matter, but on the use of our intellect as instrument for the divine intellect. This text at once provides us with two further interpretations of the productivity of intellect:

[81] Sections [b] and [c] reflect phrases of *De anima* III.5.430a17–18 and 22–23.

[82] This is elaborately confirmed in 112, 21–30, which contains the analogy of a craftsman who alternates using or not using instruments, without ceasing to be a craftsman in actuality. Here Aristotle's craft analogy has borne another fruit. Since these views sit well with a Platonic world view, they seem to confirm the possibility that Atticus authored the argument.

[83] Sharples (2004, 42–43 with nn. 107–109). Even if these suggestions originate with Alexander (*De intellectu* 112, 16–21); they are not in line with his own world view.

[84] The objection [2] that the intellect from without changes place is now quickly dealt with in conformity with the reported view, by pointing out that intellect is "everywhere" rather than in a place. When the body it has been using as its instrument perishes, it continues to exist in actuality, like a craftsman whose craft remains unaffected once he has laid down the tools of his trade for a while (*De intellectu*, 112, 31–113, 2).

P4 Divine intellect is in every body, whether that body is sophisticated enough to enable thinking or not; it may arrange the heavenly bodies, especially the changing distance between the sun and the earth; it may be regarded as the creator of corporeal mixtures and (thus) of potential intellects; it works on matter, either through the heavenly bodies, or by cooperation with nature in the sublunary world.

P5 When our material constitution is suitable we have potential intellect; the divine intellect can use our potential intellect to think in and through us.

It is quite remarkable to find in *De intellectu*, as early as the time of Alexander, an interpretation of Aristotle's productive intellect of *De anima* III.5 in terms of an omnipresent creator who, moreover, seizes upon the suitability of our material intellect to think in us.[85]

However, given that Alexander had himself identified the productive intellect with the Divine Intellect of *Met*. XII, and the Prime Mover of *Phys*. VIII, he was closer to regarding the productive intellect as a divine creator than one might think:

> Furthermore, if such [productive] intellect is the First Cause (*to prôton aition*), which is responsible for (*aitia*) and principle of (*arkhê*) the being of everything else, then it would also be productive (*poiêtikos*) in such a way as to be itself responsible for the being of all intelligibles.[86] (my translation)

Here Alexander himself is willing to give "productive" the sense of being responsible for the existence of all beings, hence also of all intelligibles. The text continues to confirm that such an intellect would deserve to be called separate, impassible, unmixed; and that this is exactly what Aristotle has proven the first cause to be: intellect in the true sense of the term (*kuriôs*).[87]

We can now see why Alexander or his circle would have a strong interest in an alternative interpretation of productive intellect as creator. When developed as C1 describes, it constitutes a rival theory that strips humans of their responsibility for thought and action.[88] Surely Alexander, who wrote the *De fato* as an emphatic defense of human responsibility against all possible threats, could not accept any of this. The author of C2, generally believed to be Alexander, does not spend many words on this interpretation. It is wrong on four counts (113, 12–24):

[85] The interpretation of Themistius is similar, but preserves human responsibility for thinking and action, see Gabbe (2008a) and De Haas (2018a). For the the notion of composition in this context see Gabbe (2008b).

[86] Alexander, *DA*, 89, 9–11: ἔτι, εἰ ὁ τοιοῦτος νοῦς τὸ πρῶτον αἴτιον, ὃ αἰτία καὶ ἀρχὴ τοῦ εἶναι πᾶσι τοῖς ἄλλοις, εἴη ἂν καὶ ταύτῃ ποιητικός, ᾗ αὐτὸς αἴτιος τοῦ εἶναι πᾶσι τοῖς νοουμένοις.

[87] Alexander, *DA*, 89, 11–18.

[88] Incidentally, in its extreme form it is unlikely to be upheld by a Platonist such as Atticus—which might suggest that the further elaboration of a creative and omnipresent god in the direction of the Stoic view is already part of the Peripatetic rebuttal.

[a] because (!) it resembles the Stoic view that the divine is in the basest things[89]—which would indeed be a damaging argument if the opponent is the Platonist Atticus;
[b] because it posits a kind of providence that reaches down to all individual things (whether through their relation to the heavenly bodies or not);
[c] because thinking would not depend on us and would not be our task or achievement (*ergon*): from birth the composition of potential and actual intellect from without would exist naturally[90];
[d] forms are not in our sense organs or in our intellect as in a place. The only way divine intellect comes in us is as a form being thought; it leaves because we no longer think it.[91]

2.4 Conclusion

In the first two parts of this paper we have seen that Aristotle's psychology as described in *De anima* allows for a reading that attributes hardly any agency or productivity to perception and human intellect. The rich text of *De intellectu* has introduced us to a debate in which we were able to distinguish five modes of what one might call active cognition in the sense of productivity, attributed to divine and human intellects—all of which the authors presumed to be referred to in Aristotle's *De anima* III.5:

P1 a divine productive intellect establishes the disposition of intellection in human material intellects;
P2 our actualised intellects separate enmattered forms from their matter in order to think them as intelligible forms;
P3 the productive intellect is said to make material intellects an intelligible object in virtue of their becoming objects of thoughts;
P4 divine intellect creates or organises the sublunary world, through the arrangement of the heavenly bodies or in cooperation with sublunary nature;
P5 divine intellect uses our potential intellect to think in and through us.

De intellectu shows us the richness of the later ancient discussion about active cognition, prompted by *De anima* III.5. Each of the five modes of productivity of intellect, and each of the readings of III.5 and its analogies of craft and light has found staunch defenders, and have spawned creative further developments. The history of the tradition to which this volume testifies includes Themistius, the Athenian and Alexandrian Neoplatonists, the Arabic philosophers, the Latin Scholastics, and the Renaissance commentators, up to and including modern

[89] Though not in making god material as Moraux (1942, 156–157) rightly observed.

[90] It is not necessary that actualisation occurs instantly at birth—we may need to develop into suitable instruments of divine intellect first.

[91] This is the view embraced earlier in *De intellectu*, and in Alexander's *De anima*, as we have seen above. In this formulation it seems to rule out once more that the divine intellect is our first object of thought after birth, and that thinking the divine intellect enables us to abstract forms.

scholarship on Aristotle's *De anima*. They all display the pervasive influence of Alexander's psychology and *De intellectu* in particular, as well as our fascination for the mysteries of human cognition.

References

Accattino, P., & Cobetto Ghiggia, P. (2005). *Alessandro di Afrodisia. De anima II (Mantissa). Premessa, testo rivisto, traduzione et note*. Alessandria: Edizioni dell'Orso.

Barker, A. (1981). Aristotle on perception and ratios. *Phronesis, 26*, 248–266.

Blumenthal, H. J. (1987). Alexander of Aphrodisias in the later Greek commentaries on Aristotle's De anima. In J. Wiesner (Ed.), *Aristoteles: Werk und Wirkung* (Vol. II, pp. 90–106). Berlin/New York: Walter de Gruyter.

Bradshaw, D. (1997). Aristotle on perception: The Dual–Logos theory. *Apeiron: A Journal for Ancient Philosophy and Science, 30*, 143–161.

Burnyeat, M. F. (2002). De anima II.5. *Phronesis, 47*(1), 28–90.

Caston, V. (1999). Aristotle's two intellects: A modest proposal. *Phronesis, 44*(3), 199–227.

Coope, U. (2005). Aristotle's account of agency in physics III 3. *Boston Area Colloqium in Ancient Philosophy, 20*(1), 201–227.

Corcilius, K. (2014). Activity, passivity, and perceptual discrimination in Aristotle. In J. F. Silva & M. Yrjönsuuri (Eds.), *Active perception in the history of philosophy: From Plato to modern philosophy* (pp. 31–53). Dordrecht: Springer.

Corcilius, K., & Gregorić, P. (2013). Aristotle's model of animal motion. *Phronesis, 58*, 52–97.

De Haas, F. A. J. (2002). Modifications of the method of inquiry in Aristotle's Physics I.1. An essay on the dynamics of the ancient commentary tradition. In C. H. Leijenhorst, C. H. Lüthy, & J. M. M. H. Thijssen (Eds.), *The dynamics of Aristotelian natural philosophy* (pp. 31–56). Leiden: Brill.

De Haas, F. A. J. (2005). The discriminating capacity of the soul in Aristotle's theory of learning. In R. Salles (Ed.), *Metaphysics, soul, and ethics in ancient thought. Themes from the work of Richard Sorabji* (pp. 321–344). Oxford: Oxford University Press.

De Haas, F. A. J. (2009). Know thyself: Plato and Aristotle on awareness. In G. Van Riel & P. Destrée (Eds.), *Ancient perspectives on Aristotle's De Anima* (pp. 49–69). Leuven: Leuven University Press.

De Haas, F. A. J. (2018a). Themistius. In A. Marmodoro (Ed.), *A history of mind and body in late antiquity* (111–128). Cambridge: Cambridge University Press.

De Haas, F. A. J. (2018b). Potentiality in Aristotle's psychology and ethics. In K. Engelhard & M. Quante (Eds.), *Handbook of potentiality* (pp. 71–91). Dordrecht: Springer.

De Haas, F. A. J. (2019). Intellect in Alexander of Aphrodisias and Philoponus. In J. Sisko (Ed.), *Philosophy of mind in antiquity* (pp. 299–316). Chesham: Acumen.

Ebert, T. (1983). Aristotle on what is done in perceiving. *Zeitschrift für Philosophische Forschung, 37*, 181–198.

Everson, S. (1997). *Aristotle on perception*. Oxford: Oxford University Press.

Frede, M. (1996). La théorie aristotélicienne de l'intellect agent. In G. Romeyer-Dherbey & C. Viano (Eds.), *Corps et âme: sur le De anima d'Aristote* (pp. 377–390). Paris: Vrin.

Gabbe, M. (2008a). Themistius as a commentator on Aristotle: Understanding and appreciating his conception of *Nous Pathêtikos and Phantasia*. *Dionysius, 26*, 73–92.

Gabbe, M. (2008b). Theophrastus and the intellect as mixture. *Elenchos, 29*(1), 61–90.

Gregorić, P. (2007). *Aristotle on the common sense*. Oxford: Oxford University Press.

Huby, P., & Gutas, D. (1999). *Theophrastus of Eresus. Sources for his life, writings, thought & influence. Commentary* (Psychology, Vol. 4). Leiden/Boston: Brill.

Johansen, T. K. (1997). *Aristotle on the sense-organs*. Cambridge: Cambridge University Press.

Johansen, T. K. (2002). Imprinted on the mind: Passive and active in Aristotle's theory of perception. In B. Saunders & J. Van Brakel (Eds.), *Theories, technologies, instrumentalities of color: Anthropological and historiographic perspectives* (pp. 169–188). Lanham: University Press of America.

Johansen, T. K. (2006). In defense of inner sense: Aristotle on perceiving that one sees. *Boston Area Colloqium in Ancient Philosophy, 21*, 235–276.

Johansen, T. K. (2012). Capacity and potentiality: Aristotle's *Metaphysics* IV.6–7 from the perspective of the *De Anima. Topoi, 31*, 209–220.

Kessler, E. (2011). Alexander of Aphrodisias and his Doctrine of the Soul. 1400 Years of lasting significance. *Early Science and Medicine, 16*, 1–93.

Kosman, L. A. (1992). What does the maker mind make? In M. Nussbaum & A. Rorty (Eds.), *Essays on Aristotle's De Anima* (pp. 343–358). Oxford: Oxford University Press.

Magrin, S. (2011). Theophrastus, Alexander, and Themistius on Aristotle's *De anima* III.4–5. In R. Wisnovsky et al. (Eds.), *Vehicles of transmission, translation, and transformation in medieval textual culture* (pp. 49–74). Turnhout: Brepols.

Moraux, P. (1942). *Alexandre d'Aphrodise. Exégète de la noétique d'Aristote*. Luik-Paris: Faculté de Philosophie et Lettres.

Opsomer, J., & Sharples, R. W. (2000). Alexander of Aphrodisias, *De Intellectu* 110.4: 'I heard this from Aristotle'. A modest proposal. *Classical Quarterly, 50*(1), 252–256.

Pines, S. (1987). Some distinctive metaphysical conceptions in Themistius' commentary on book Lamba and their place in the history of philosophy. In P. Moraux (Ed.), *Aristoteles Werk und Wirkung* (Vol. 2, pp. 177–204). Berlin: Walter de Gruyter.

Polansky, R. (1999). Analogy and Disanalogy of the Soul's Faculties in Aristotle's *De Anima*. *Boston Area Colloquium in Ancient Philosophy, 15*, 57–86.

Schroeder, F. M. (1981). The analogy of the active intellect to light in the *De anima* of Alexander of Aphrodisias. *Hermes, 109*, 215–225.

Schroeder, F. M. (1997). The provenance of the "De intellectu" attributed to Alexander of Aphrodisias. *Documenti e studi sulla traditione filosofica medievale, 8*, 105–120.

Schroeder, F. M., & Todd, R. B. (1990). *Two Greek Aristotelian commentators on the intellect: The "De intellectu" attributed to Alexander of Aphrodisias and Themistius' Paraphrase of Aristotle "De anima", 3.4–8*. Toronto: Pontifical Institute of Medieval Studies.

Sharples, R. W. (1987). Alexander of Aphrodisias. Scholasticism and innovation. In *Aufstieg und Niedergang der Römischen Welt* (Vol. II, 36.2, pp. 1176–1243). Berlin/New York: Walter de Gruyter.

Sharples, R. W. (2004). *Alexander of Aphrodisias. Supplement to On the soul*. London: Duckworth.

Sharples, R. W. (2008). *Alexander Aphrodisiensis De anima libri mantissa. A new edition of the Greek text with introduction and commentary*. Berlin: Walter de Gruyter.

Shields, C. (2016). *Aristotle. De anima. Translated with an introduction and commentary*. Oxford: Clarendon Press.

Sorabji, R. R. K. (2004). *The philosophy of the commentators 200–600 AD* (Psychology, Vol. 1). Ithaca: Cornell University Press.

Tuominen, M. (2006). Aristotle and Alexander of Aphrodisias on the Active Intellect. In V. Hirvonen, T. J. Holopainen, & M. Tuominen (Eds.), *Mind and modality: Studies in the history of philosophy in Honour of Simo Knuuttila* (pp. 55–70). Leiden: Brill.

Tuominen, M. (2010). Receptive reason: Alexander of Aphrodisias on material intellect. *Phronesis, 55*, 170–190.