

Aristotle's Critique of Plato's Theory of Innate Knowledge¹

David Bronstein

Abstract

In *Posterior Analytics* 2.19, Aristotle argues that we cannot have innate knowledge of first principles because if we did we would have the most precise items of knowledge without noticing, which is impossible. To understand Aristotle's argument we need to understand why he thinks we cannot possess these items of knowledge without noticing. In this paper, I present three different answers to this question and three different readings of his argument corresponding to them. The first two readings focus on the fact that we do not *use* the knowledge we allegedly possess innately. However, I argue that these readings fail to produce convincing arguments. I then offer a third reading, which focuses on the fact that we do not *notice* the knowledge we allegedly possess innately when we use it for the first time (i. e., on Plato's account, when we recollect). I argue that this reading produces a more convincing argument than either of the first two.

Introduction

For Aristotle, one has scientific knowledge (*epistēmē*) if one grasps a demonstration. A demonstration is a valid deductive argument in which the premises state the causal explanation of the fact stated in the conclusion. The highest demonstrations in a science have as their premises indemonstrable first principles, our knowledge of which does not derive from or depend on knowledge of other principles explanatorily prior to them. Aristotle calls our knowledge of first principles *nous*.²

In *Posterior Analytics* (henceforth *APO*) 2.19, Aristotle turns to the origin of our knowledge of first principles. His account is difficult to understand and has been variously interpreted.³ Everyone agrees, however, about the theory Aristotle opposes: the innatist theory that we are born with knowledge of first principles already present within us. Commentators usually (and plausibly) suppose that Aristotle's unnamed target is Plato.⁴ In the *Meno* (80d–86c), *Phaedo* (72e–76d), and *Phaedrus* (256a–257b), Plato argues that we possess latent innate knowledge of certain objects or truths, including what Aristotle would

¹ For helpful comments on previous drafts, many thanks to Dirk Baltzly, Eli Diamond, Michael Fournier, Wayne Hankey, Pieter Sjoerd Hasper, Anne Jeffrey, Scott O'Connor, Whitney Schwab, Tom Tuozzo, and audiences at Dalhousie University, the University of Kansas, the University of Sydney, the University of Virginia, and the Society for Ancient Greek Philosophy.

² Various translations "intellect", "intuition", "insight", "intelligence", "comprehension". None of these translations, it seems to me, are adequate, so I use the transliterated form.

³ For a traditional interpretation that emphasizes the role of *nous* as 'intuition' in our acquisition of first principles, see Bayer 1997; Irwin 1988, 134–137, 531 f.; Kahn 1981, 397–414. For non-intuitionist interpretations, see Barnes 1993, 267–270; Charles 2000, 265–272; Leshner 1973. See Bronstein 2012 and 2016 for a discussion of these interpretations and an alternative to them (one that is sympathetic, however, to the non-intuitionist line).

⁴ See, e. g., Barnes 1993, 261; Helmig 2012, 89; Scott 1995, 97, 155, fn. 13.

regard as first principles.⁵ Such knowledge exists in our souls prior to our birth, where it remains throughout our bodily existence and endures after our bodily death. Learning, then, is not the acquisition of knowledge the soul did not previously possess but the recollection of knowledge it already possesses. Aristotle disagrees. But on what grounds?

His argument is brief. He claims in *APo* 2.19 (99b25–7) that if we had innate knowledge of first principles, we would have certain items of knowledge without noticing, which he says is absurd. To understand Aristotle's argument we need to understand why he thinks we cannot possess these items of knowledge without noticing. In this paper, I present three different answers to this question and three different readings of his argument corresponding to them. The first two readings focus on the fact that we do not *use* the knowledge we allegedly possess innately. However, I argue that these readings fail to produce convincing arguments, for in each case the innatist has a compelling reply. I then offer a third reading, based on Alexander of Aphrodisias' interpretation of a related argument in the *Metaphysics*. This reading focuses on the fact that we do not *notice* the knowledge we allegedly possess innately when we use it for the first time (i. e., on Plato's account, when we recollect). I argue that this reading produces a more convincing argument than either of the first two.

1. Outline of Aristotle's Argument

Near the start of *APo* 2.19 Aristotle raises a puzzle about our knowledge of first principles:

καὶ πότερον οὐκ ἐνοῦσαι αἱ ἕξεις ἐγγίνονται ἢ ἐνοῦσαι λελήθασιν. εἰ μὲν δὴ ἔχομεν αὐτάς, ἄτοπον· συμβαίνει γὰρ ἀκριβεστέρας ἔχοντας γνώσεις ἀποδείξεως λαμβάνειν. εἰ δὲ λαμβάνομεν μὴ ἔχοντες πρότερον, πῶς ἂν γνωρίζομεν καὶ μαθάνοιμεν ἐκ μὴ προϋπαρχούσης γνώσεως; ἀδύνατον γάρ, ὡσπερ καὶ ἐπὶ τῆς ἀποδείξεως ἐλέγομεν. φανερόν τοίνυν ὅτι οὐτ' ἔχειν οἷόν τε, οὐτ' ἀγνωοῦσι καὶ μηδεμίαν ἔχουσιν ἕξιν ἐγγίγνεσθαι.

[We might wonder] also whether the states (*hexeis*) [in which we know the first principles] are not present [in us] but come about [in us], or are present [in us] but have escaped our notice. If we have [such states], it's absurd; for then it turns out that although we have pieces of knowledge (*gnōseis*) more precise than demonstration this escapes our notice. But if we acquire [them] without possessing [them] earlier, how would we acquire knowledge and learn from no pre-existing knowledge? For this is impossible, as I said in connection with demonstration. It is clear, then, both that we cannot possess [these states] and also that they cannot come about [in us] when we are ignorant and possess no state. (99b25–32)⁶

Aristotle's argument assumes that there are only two possibilities as regards our knowledge of first principles: either we have it innately or we acquire it.⁷ He first argues that we do not

⁵ See Scott 1995, 13–85 and 2006, 75–125. For a different reading of the *Meno* according to which Plato thinks we possess prenatal but not latent innate knowledge, see Fine 1992, 2007, and 2014, 137–176. (Fine 2007 is a response to Scott's interpretation of the *Meno* in Scott 2006.) Fine (2014, 172f.) also argues for a 'prenatalist' reading of recollection in the *Phaedo*, as does Adamson 2011, 6.

⁶ All translations are my own unless otherwise noted.

⁷ Aristotle does not consider the possibility that we neither have it nor acquire it – that knowledge of first principles is unattainable (for human beings). Perhaps he thinks that he has already established that we can attain knowledge of first principles. For in *APo* 1.3 he argues that if we have demonstrative scientific knowledge, then we have non-demonstrative scientific knowledge (i. e., *nous*) of first principles. Of course, this argument is convincing only if

have it innately. Hence we acquire it. In the first sentence of the *APo*, Aristotle says: “All teaching and all intellectual learning come to be from pre-existing knowledge.”⁸ It is safe to assume that acquiring knowledge of first principles involves intellectual learning. In that case, Aristotle’s view is that we cannot acquire knowledge of first principles from no prior knowledge. It follows that we have some prior knowledge that falls short of knowledge of first principles from which we acquire it. In the lines that follow our passage, Aristotle says that this prior knowledge is perception (*aisthēsis*), which he calls “an innate discriminatory capacity” (99b35).

Aristotle’s argument against innatism is contained in these lines: “If we have [such states (*hexeis*) – namely, the ones in which we know first principles], it’s absurd; for then it turns out that although we have pieces of knowledge (*gnōseis*) more precise than demonstration this escapes our notice” (99b26–7). A very similar claim, embedded in a critique of Plato’s theory of forms, appears in *Metaphysics* 1.9: “if [the Platonist’s science of all beings] is in fact innate, it is amazing how it escapes our notice that we possess the supreme science”⁹ (993a1–2). Both texts claim that it is impossible (in the *APo*, “absurd” [*atopon*]; in the *Metaphysics*, “amazing” [*thaumaston*]) to possess high-level scientific knowledge without noticing, and yet the innatist thinks we do.

In the *APo* passage, Aristotle says that the states of knowledge in which we know first principles are more precise than demonstration. He means, I take it, that the states of knowledge in which we know first principles are more precise than the states of knowledge in which we know demonstrations. That is, *nous* is more precise than demonstrative scientific knowledge. In fact, *nous* is the most precise knowledge of all. This is because of the nature of its objects, the first principles. In *APo* 1.27 (87a31–2), Aristotle says that one science (*epistēmē*) is more precise than another if the first is of both the fact (*to hoti*) and the reason why (*to dioti*) and the second is only of the fact. That is, one science is more precise than another if it deals more in explanations than the other. This suggests that the degree of preciseness a given form of knowledge enjoys is determined by the degree of explanatory power its objects enjoy. Since the first principles are the causes of other things and nothing else is the cause of them, they have the highest degree of explanatory power. Therefore, knowledge of them is the most precise. Aristotle’s claim, then, is that we cannot have without noticing the most precise states of knowledge – namely, noetic knowledge of first principles. In fact, his view seems to be that we cannot have without noticing noetic knowledge of first principles *because* it is the most precise.

If this is right, then Aristotle’s argument is this:

- (1) If we have innate knowledge of first principles, then we have the most precise states of knowledge without noticing.¹⁰
- (2) We cannot have the most precise states of knowledge without noticing.
- (3) Therefore, we do not have innate knowledge of first principles.

we are convinced that we have demonstrative scientific knowledge, a claim for which Aristotle does not attempt to argue.

⁸ Πᾶσα διδασκαλία καὶ πᾶσα μάθησις διανοητικὴ ἐκ προϋπαρχούσης γίνεται γνώσεως.

⁹ εἰ καὶ τυγχάνοι σύμφυτος οὖσα, θαυμαστόν πῶς λανθάνομεν ἔχοντες τὴν κρατίστην τῶν ἐπιστημῶν.

¹⁰ A similar claim appears in the parallel passage in the *Metaphysics*, where Aristotle speaks of possessing without noticing “the supreme science” (993a2). I return to this passage in section 7.

To understand Aristotle's argument we need to answer three questions. What is the nature of the "states" (*hexeis*, 99b25) and "pieces of knowledge" (*gnōseis*, 99b27) that (according to (1)) the innatist is committed to thinking we have without noticing? (I answer this in section 3.) Why (according to (2)) is it impossible to have such states of knowledge without noticing? (I answer this in sections 4–8.) Who does not notice this knowledge but should, if we have it innately? (I answer this in the next section.)¹¹

2. Barnes' Interpretation

As Jonathan Barnes points out, the standard interpretation of 99b26–7 is that "we could not have [...] knowledge [of first principles] without noticing it *ourselves*" (Barnes 1993, 261, emphasis in original). Barnes, however, offers a different interpretation: "the text [...] is more likely to mean: 'it could not escape *others*' notice that we have such knowledge'" (Barnes 1993, 261, emphasis in original). According to Barnes, "Aristotle is making the correct and pertinent point that infants evidently do not have the strong abstract knowledge which the innate hypothesis ascribes to them".¹² Barnes then remarks that the innatist's response will be to say that "the knowledge is present in infants but does not emerge without the operation of some external stimulation" (Barnes 1993, 261). Barnes concludes his discussion by offering Aristotle's rejoinder: "Aristotle would doubtless have adopted Locke's answer to this reaction: it reduces innatism to the uncontroversial hypothesis that human infants have certain innate cognitive *capacities* the exercise of which waits upon experience" (Barnes 1993, 261, emphasis in original).

However, it is not at all clear that the innatist should accept this rejoinder. Much depends on what we mean in this context by "innate cognitive capacities". As I discuss below, cognitive capacities, for Aristotle, exist at different levels of potentiality. If innatism is reduced to an uncontroversial hypothesis, then it is reduced to the view that we are born with innate *first potentiality* cognitive capacities – the bare capacity to possess knowledge of first principles as a result of learning, experience, and so on. However, the innatist need

¹¹ I disagree with Dominic Scott's assessment that in 99b25–7 "Aristotle is relying more on intuition than argument" (1995, 99). Although Scott 1995, 96–101, makes some helpful remarks about the passage, he does not address either of the first two questions that I raise in the main text and that I think we need to answer in order to understand what Aristotle's argument is. Similarly, Adamson 2011, 6, says that Aristotle's response to innatism in 99b25–7 is "disappointingly abrupt and dismissive, if we assume it [namely, the innatist view Aristotle attacks] is Plato's". He adds that "this doesn't even look like a serious attempt to criticize Plato". However, Adamson goes on to argue that the innatist view Aristotle criticizes in 99b25–7 is not Plato's view, at least not in the *Phaedo* (see fn. 5.). Now Adamson 2011, 6, concedes that Aristotle might have been attacking a view he wrongly attributed to Plato. In addition, contra Adamson, there may be a way of reading the *Phaedo* according to which Aristotle's characterization of innatism (having knowledge without noticing it) applies to Plato's theory. (Pace Fine [see fn. 5], this characterization does seem to fit the theory of the *Meno*.) Setting aside the question of how best to interpret Plato, my aim in this paper is to show that, assuming Aristotle is attacking Plato, we can extract from 99b25–7 a stronger argument than either Scott or Adamson find.

¹² Barnes 1993, 261. In keeping with his interpretation, Barnes translates the *Metaphysics* passage (993a1–2) quoted above differently than I do. Instead of "it is amazing how it escapes *our* notice that *we* possess the supreme science" Barnes has "it is wonderful how we should have the strongest sort of understanding [...] *without its being noticed*". The translations give equally acceptable renderings of the verb *lanthanomen*, which could mean "we do not notice (i. e., ourselves)" (as in my translation) or "we are unnoticed (i. e., by others)" (as in Barnes' translation).

not accept this characterization of his view. For he can claim that his view amounts to the controversial, but explanatorily powerful, hypothesis that we are born with *second potentiality* (or *first actuality*) cognitive capacities – the dispositional capacity to engage in acts of knowing first principles. The innatist can further claim that the exercise of this capacity requires the right conditions, which are met, if ever, only after intellectual maturity is reached. Therefore, the fact that we do not notice infants displaying “strong abstract knowledge” is no evidence against innatism. So Barnes’ interpretation leaves innatism untouched. If we adopt the usual interpretation of the text, however, Aristotle’s argument fares better – or so I hope to show. His claim is that we cannot have knowledge of principles without noticing it *ourselves*.

3. Potentiality and Actuality

Aristotle thinks that we cannot possess without noticing the cognitive states (*hexeis*) in which we know first principles. (I take it that each *hexis* has as its object one first principle.) To understand what these *hexeis* are, it will be useful to discuss in more detail the threefold division of potentiality and actuality Aristotle presents in *De Anima* 2 (2.1 412a21–8, 2.5 417a21–b2.), as it applies to knowledge of first principles: first potentiality, first actuality/second potentiality, and second actuality.¹³

“First potentiality” knowledge of first principles is the bare capacity, which we have from birth, to possess knowledge of first principles. First potentiality knowledge is not the capacity to learn or acquire knowledge; it is the capacity to possess knowledge, a capacity that is actualized by learning. The knowledge of first principles one possesses as a result of learning is “first actuality” or “second potentiality” knowledge. This state is both (a) the actualization of one’s first potentiality capacity for knowledge of first principles (i. e., it is an actuality; hence “first actuality”) and (b) the dispositional capacity, characteristic of an expert scientist, to engage in acts of knowing them (i. e., it is a potentiality; hence “second potentiality”).¹⁴ These acts of knowing are “second actuality” knowledge: the knowledge the scientist has when she is actively contemplating a first principle.

What are the *hexeis* the innatist thinks we possess and Aristotle thinks we cannot possess without noticing? Are they first potentialities, second potentialities, or second actualities? If they are second actualities, then Aristotle’s claim is that it is impossible to know a first principle consciously and actively without noticing.¹⁵ As I mention in the next section, Aristotle does in fact think this. However, this does not amount to a convincing argument against innatism. For the innatist is not committed to the existence of unnoticed active and conscious cognitive states. Rather, he is committed to the existence of unnoticed latent cognitive states. For example, Plato’s claim in the *Meno* is not that the slave has unnoticed

¹³ There are useful discussions of different varieties of innatism in Barnes 1972 and Fine 2014.

¹⁴ Johnston 2011 argues that although the same item can be both a first actuality and a second potentiality, first actuality and second potentiality are different in definition. She also argues that it is problematic to describe a first actuality as a capacity for some further actuality or activity. For this reason, I use “second potentiality” when discussing states of knowledge that are capacities for second actuality knowledge. (For an interesting response to Johnston’s argument, as it applies to Aristotle’s definition of the soul in *De Anima*, see Julian 2015.)

¹⁵ Aristotle seems to use *hexis* for a second actuality state in *De Memoria* 1 450a30 and 451a16.

active and conscious knowledge of the length of the line of the square double the area of the four-foot square. Rather, his claim is that the slave has unnoticed latent knowledge of this. So the *hexeis* are not second actualities. Nor are they first potentialities. For Aristotle himself thinks that we have first potentiality knowledge innately and that we can have it without noticing it.¹⁶ Evidently, then, he does not think that this view is absurd.

If the three-fold division of potentiality and actuality is exhaustive, then it seems that in Aristotle's view the innatist thinks that we have second potentiality knowledge of first principles without noticing. Several considerations support this interpretation. First, Aristotle elsewhere uses the term *hexis* for second potentiality states (see, e. g., *Nicomachean Ethics* 2.5 1105b25–8). Second, this interpretation fits well with Aristotle's claim later in *APO* 2.19 that, for the innatist, the states in which we know first principles are present in us in a determinate form (*aphōrismenai hai hexeis*, 100a10). Each item of knowledge (the innatist thinks) is marked out in the soul and present within it, ready to be exercised. Finally, this interpretation gives the innatist a robust and explanatorily powerful hypothesis and Aristotle a worthy target: part of what explains our success in achieving knowledge of abstract truths is that such knowledge is already present in us, waiting to be uncovered and used.

4. Reading 1: The No Use Argument

The second premise of Aristotle's argument implies that

(N) If one has second potentiality knowledge of first principles, then one must notice it.

This claim requires interpretation. Aristotle thinks that at every moment at which one *uses* one's second potentiality knowledge of first principles one must notice this: if one is actively contemplating a first principle P (second actuality), then one must be aware that one is contemplating P.¹⁷ However, Aristotle does not think that at every moment at which one *possesses* second potentiality knowledge of first principles one must notice this. An expert geometer working on a proof involving the definition of triangle also has second potentiality knowledge of the definition of rectangle, but she does not notice this – not because she has forgotten or lost her knowledge but because she is not using it: it remains at the level of second potentiality. So Plato and Aristotle agree that there exist non-conscious cognitive states, including non-conscious knowledge of first principles. What they disagree about is their origin. So (N) should not be understood to mean that if one has second potentiality knowledge of first principles, then one must notice it at every moment at which one has it. In the following sections I shall propose three alternative readings of (N), each of which forms the basis of a different reading of Aristotle's argument.

The first interpretation posits that

(N₁) If one has innate second potentiality knowledge of first principles, then one must notice it at some moment at which one has it.

¹⁶ See the passages cited above, p. 130.

¹⁷ See *De Anima* 3.2, *Nicomachean Ethics* 9.9 1170a29–32, *Metaphysics* 12.9 1074b35–6.

That is, Aristotle's objection to innatism is that it absurdly posits that we can possess second potentiality knowledge of first principles without *ever* noticing it.¹⁸ (N_1) can be unpacked into two further claims. First, if one has innate second potentiality knowledge of first principles, then one must *use* it at some moment at which one has it. Second, when one uses one's second potentiality knowledge, one thereby notices it. This reading of the argument shifts the focus from noticing our allegedly innate knowledge to using it: the real problem with innatism is that it posits that we can possess second potentiality knowledge of first principles without ever using it. (And indeed the innatist must concede that the vast majority of people do not ever use their knowledge of first principles.)

Why might Aristotle think that we must use the second potentiality knowledge of first principles we possess at some moment at which we possess it? The reason has to do with a general claim he makes about second potentiality capacities: if I have the second potentiality capacity to φ , then I φ if I wish to and nothing external prevents me (*De Anima* 2.5 417a27–8.). For example, if I have second potentiality knowledge of a first principle P at time t , then I actively contemplate P at t if I wish to and nothing external prevents me. This is not true of someone else's mere first potentiality knowledge. To actualize that capacity, desire and absence of external impediment are not sufficient: one must also learn. Now the innatist claims that all human beings have second potentiality knowledge of first principles. However, if the innatist were right, then we would expect many more human beings to use and thereby notice their allegedly innate knowledge of first principles than actually do. That is, if the innatist is right, it's puzzling that more of us do not use and thereby notice the knowledge we allegedly possess, when we wish to and, it seems, nothing external prevents us. I shall call this the No Use Argument:

- (1) If all human beings have second potentiality knowledge of first principles, then anyone will use and thereby notice it, if they wish to and nothing external prevents them.
- (2) It is not the case that anyone uses and thereby notices second potentiality knowledge of first principles when they wish to and nothing external prevents them.
- (3) Therefore, it is not the case that all human beings have second potentiality knowledge of first principles – i. e., it is not innate.

We can find support for this argument, and in particular for premise (1), in Aristotle's view, which the innatist presumably shares, that knowledge of first principles is the most precise (99b26–7). Second potentiality knowledge in general has a strong tendency towards actualization: wish and absence of external impediment are jointly sufficient conditions for its exercise. Aristotle may believe that the more precise a form of knowledge is, the stronger is its tendency towards actualization. For, as we saw in section 1, the more precise a form of knowledge is, the more explanatorily powerful are its objects, and Aristotle may think that the more explanatorily powerful an object of knowledge is, the more that form of knowledge is apt to be used in scientific reasoning. If this is right, then second potentiality knowledge of first principles, since it is the most precise, will have the strongest tendency towards actualization, and therefore the strongest tendency to be noticed, of any knowledge we can have. On this reading, Aristotle's argument is that it's absurd to have these states

¹⁸ This may be Fine's interpretation of the argument. For she says, in commenting on 99b25–32, that 'Aristotle imposes an accessibility condition on knowledge; and he argues that since it isn't satisfied, we don't have innate knowledge – at least not of immediates.' (2014, 2016). Helmig 2012, 89, seems to offer a similar interpretation.

without noticing because it's absurd to have them without using them, given that they are the most precise and the most precise states have the strongest tendency to be used.

On this reading, the problem with innatism is that it posits cognitive states that fall somewhere, and somewhat unhappily, between first potentiality and second potentiality. These states are like first potentiality knowledge in that they are innate and do not have the strong tendency towards actualization characteristic of second potentiality knowledge. Plato seems to believe that these states are actualized only with great difficulty (as we see in Socrates's interrogation of the slave in the *Meno*), and in many people they are never actualized at all. On the other hand, they are like second potentiality knowledge in that they are present in the soul in a determinate form (*aphōrismenai hai hexeis*, 100a10). Plato seems to believe that specific pieces of knowledge (e. g., of mathematical truths [*Meno*]; of Forms [*Phaedo*]) are really there in the soul, at all times. Aristotle's complaint, on the first reading of his argument, is that the innatist cannot have it both ways. If the knowledge is there in the form of *hexeis*, then it should get actualized if nothing prevents it – but it does not, or it does only after much effort. And if it is not there in the form of *hexeis*, then the innatist has effectively abandoned his view. Innatism, on this reading, gets the ontology of cognitive states wrong.

5. A Platonic Response: the Drunk Geometer

The No Use Argument is open to an objection from the Platonic innatist. Aristotle thinks that certain physical and psychological conditions like drunkenness, sleep, and insanity can prevent one from exercising second potentiality capacities (*Physics* 7.3 247b13–248a6, *Nicomachean Ethics* 7.3 1147a10–24). For example, a drunk geometer cannot use her second potentiality knowledge. However, she has not lost or forgotten it: she retains it, but because of her physical condition it has become (hopefully temporarily) inaccessible to her. So the fact that the drunk geometer cannot use her second potentiality knowledge is no evidence that she does not have it. The innatist could similarly argue that the fact that most people do not use their innate second potentiality knowledge of first principles is no evidence that they do not have it. For most people are prevented from using it by certain physical and psychological conditions that afflict us because of our embodiment. These impediments are very difficult to overcome. Therefore, the right conditions for the actualization of our innate knowledge are very hard to bring about. This explains why it happens so rarely, and why most of us (embodied creatures) never use or notice the second potentiality knowledge we in fact possess. So premise (2) is false: it is true that most people do not use their latent innate knowledge of first principles, but that's because there is something external to the states of knowledge – namely, certain physical and psychological conditions brought about by our embodiment – preventing them from doing so. Since, as Aristotle himself agrees, there is nothing absurd in supposing that we can possess second potentiality knowledge that, because of some physical or psychological condition, we do not use, there is nothing absurd in supposing that we can possess it without noticing it, even over the course of a whole (embodied) life. That is, Aristotle seems to have to deny (N_1): we can have second potentiality knowledge of first principles without ever noticing it.

To see that the No Use Argument is vulnerable to this response, consider Aristotle's argument in *Nicomachean Ethics* 1.5 (1095b31–3; see also 1.8 1098b30–1099a7) that

eudaimonia cannot consist in merely possessing moral virtue but requires morally virtuous activity. Aristotle argues that one can possess virtue and be asleep or inactive throughout one's life, and no one would call such a person *eudaimon*. Aristotle clearly entertains the possibility (albeit the *mere* possibility, in the context of a thought experiment) of possessing without using, even over a whole lifetime, second potentiality states – in this case, of moral virtue. But if we can possess without using, even over a whole lifetime, second potentiality states, then there is nothing absurd in supposing that we can possess them without noticing them.

In addition, Plato can argue that he has a good explanation for the different intellectual achievements of different people. Either one achieves second actuality knowledge of some first principles at some point in one's lifetime or one does not. If one does, then Plato has a good explanation of her success: the knowledge was in her along and she succeeded in overcoming the impediments blocking its recovery. If one does not, then Plato likewise has a good explanation for her failure: although the knowledge was in her along, she did not succeed in overcoming the impediments.

It is important to notice that for the No Use argument to be vulnerable to the objection I have presented, Aristotle need not accept Plato's dualistic view according to which the soul is immortal and can exist separately from the body. It only requires Aristotle to accept that soul and body are related in such a way that certain physical and psychological conditions can prevent one from using second potentiality capacities one possesses. And Aristotle clearly does accept this.

It is worth noting that the Platonic response I have sketched is the view some of the ancient Neoplatonist commentators (namely, Iamblichus, Plutarch of Athens, and Philoponus) attribute to Aristotle.¹⁹ Philoponus, for example, argues that Aristotle thinks we are born with latent innate knowledge of Forms, "which are non-evident and hidden because of the state of swoon which is the effect of birth" (Charlton's translation). He likens those who have not actualized their innate knowledge to the drunk or sleeping geometer, who possesses knowledge but cannot use it because of her physical condition. Learning (that is, recollecting), on this view, is a matter of overcoming the physical and psychological impediments preventing us from using the knowledge we possess – that is, learning (recollecting) is like sobering or waking up.

Philoponus' characterization of Aristotle as an innatist is unconvincing, especially in light of the argument in *APo* 2.19. However, Aristotle agrees with Philoponus and Plato that it is possible to have second potentiality knowledge that a physical or psychological condition prevents one from using. This gives the innatist a powerful response to the No Use Argument.

¹⁹ For Iamblichus see the commentary of "Philoponus" on book 3 of *De Anima* (*Commentaria in Aristotelem Graeca* [= CAG] XV, in *de An* 533.25–35). For an English translation of the passage see Charlton 2000, 112 (quoted in Sorabji 2005, 120). (The commentary on *De Anima* 3 was traditionally attributed to Philoponus but Charlton [2000, 1–10] argues that the author was Stephanus.) For Plutarch of Athens see the same commentary of "Philoponus" (CAG XV, in *de An* 520.1–12). For an English translation of the passage see Charlton 2000, 97 (quoted in Sorabji 2005, 178). For Philoponus see William of Moerbeke's Latin translation of the third book of Philoponus' commentary on *De Anima*, now lost (*Corpus Latinum Commentariorum in Aristotelem Graecorum* III, in *de Intellectu* 36.70–40.43). For an English translation of the passage, see Charlton 1991, 57–59 (quoted in Sorabji 2005, 178–180). For discussion of these three Neoplatonists' views about Aristotle and innatism, see De Haas 2000; Fine 2014, 221–24; and Sorabji 2010.

6. Reading 2: The No Discovery Argument

The intuition behind the No Use Argument is that we can reasonably expect innate knowledge of first principles to be actualized in, and thereby noticed by, anyone who has it at some point in their lifetime. A second reading starts from the more modest assumption that we can reasonably expect it to be actualized in, and thereby noticed by, scientists when they undertake certain kinds of inquiry. That is,

(N₂) If one has innate second potentiality knowledge of first principles, then one must notice it provided one is in the appropriate circumstances.

Suppose that a scientist knows some demonstrable fact C and she seeks the explanation. Suppose too that the explanation is some first principle P. If the scientist has innate knowledge of P, then, it seems, we can reasonably expect her to discover P when she seeks C's explanation. After all, she has second potentiality knowledge of P, and, as we saw above, such knowledge, in virtue of being the most precise, has the strongest tendency towards actualization. Sometimes, however, the scientist will fail to make the discovery. But this seems absurd: if she has second potentiality knowledge of the thing she seeks while she seeks it, how could she fail to discover it? I shall call this the No Discovery Argument:

- (1) If a scientist has innate second potentiality knowledge of a first principle P, and P is the explanation of some fact C, then if she seeks the explanation of C, she discovers that it is P and thereby notices her knowledge of it.
- (2) Sometimes when the scientist seeks the explanation of C, she does not discover that it is P.
- (3) Therefore, the scientist does not have innate second potentiality knowledge of P (or any other first principle).
- (4) Therefore, it is not the case that all human beings have second potentiality knowledge of first principles – i. e., it is not innate.

The No Discovery Argument does not claim that if we had innate second potentiality knowledge of first principles, more people in general would use and thereby notice their knowledge than actually do. Rather, it claims that if we had innate second potentiality knowledge of first principles, scientists in particular would be more successful at making discoveries than they actually are.

However, the innatist can argue that premise (1) is false. What we can reasonably expect, if the scientist has innate second potentiality knowledge of first principles, is that she will discover (recollect) them only if she has completely overcome the physical and psychological impediments blocking their recovery. The fact that a scientist will sometimes fail to discover (recollect) explanatory principles when she seeks them is not evidence that she does not know them innately. Rather, it is evidence that she has still more work to do. The innatist's hypothesis explains success in scientific inquiry; it does not guarantee it. Now, according to the innatist, the scientist invoked in the No Discovery Argument is importantly different from the drunk geometer, for she has recovered a significant amount of her innate knowledge and is, in the circumstances in question, able to engage in scientific reasoning. However, the innatist could argue that she is in a condition analogous to mild intoxication. She has learned (recollected) a good deal, so she has sobered up a fair bit, but not enough to access easily and immediately all the knowledge she possesses (latently and innately).

7. Reading 3: The No Noticing Argument

The first two arguments focus on the fact that we do not *use* our allegedly innate knowledge, either in general or in specific circumstances. However, in the *APo* 2.19 passage, Aristotle focuses on the fact that we do not *notice* it. I shall now offer a different reading according to which we must notice knowledge of first principles, if we have it innately, when we use it in certain circumstances. The circumstances are those in which we use our knowledge for the first time – that is, when we learn first principles, what the innatist calls “recollection”. The principal claim is that

- (N₃) If one has innate second potentiality knowledge of first principles, then if one learns (recollects) them, one must notice one’s knowledge of them at some point at which one learns (recollects) them.

So Aristotle’s objection to innatism is that it absurdly posits that we can possess second potentiality knowledge of first principles without ever noticing that we do so when we learn (for the innatist, recollect) them.

This reading takes its inspiration from Alexander of Aphrodisias’ commentary on *Metaphysics* 1.9. In this chapter, Aristotle argues against the existence of a Platonic science of all beings. One argument is that we could not learn such a science (992b24–33). A second argument is that we could not possess it innately, for “if [the Platonist’s science of all beings] is in fact innate, it is amazing how we do not notice that we possess the supreme science” (993a1–2). Alexander comments:

ἡ τῶν ἀρχῶν ἄρα γνῶσις ἢ τῶν ἐπιστημῶν κρατίστη. τὸ δὲ τὴν κρατίστην τῶν ἐπιστημῶν σύμφυτον ἔχοντας μὴδ’ εἰδέναι τοῦτο παράλογον. ἀλλ’ ὅτι μὲν αἴσθησιν ἔχομεν σύμφυτον, οὐ λελήθαμεν αὐτούς, οὐδὲ ὅτι βαδίζειν δυνάμεθα· ὅτι δὲ τὴν τῶν ὄντων ἐπιστήμην ἔχομεν ἔχοντας αὐτῶν τὰς ἀρχάς, ἢ ὅτι γε τὰς τῶν ὄντων πάντων ἀρχὰς ἐπιστάμεθα, λελήθαμεν ἑαυτούς, καὶ οὐδὲ ἐξετασθέντες καὶ ἐπιστήσαντες εἰπεῖν δυνάμεθα. πῶς ἂν οὖν ἔχομεν ἐπιστήμην σύμφυτον τούτων ἃ μὴ ἴσμεν;

That [we] should possess the most excellent of the sciences innately and not know this is against all reason. We are not, however, unaware that we possess perception innately, nor that we are able to walk. And yet although we possess the principles [of all beings], we do not notice that we have the science of [all] beings or at least that we know the principles of all beings, and even when we have scrutinized [them] and fixed our attention on [them] we cannot say [that we possess them]. How then would we possess innate knowledge of these things that we do not know? (Alexander in *Met* 131.19–132.6; Dooley’s translation, altered)

According to Alexander, what is amazing, and what serves as decisive evidence against the innateness hypothesis, is that we do not notice our allegedly innate knowledge even when we seem to be using it. The key phrase is “even when we have scrutinized [them] and fixed our attention on [them]”. Alexander’s claim, I take it, is that when we examine – when we concentrate our minds on – any of the candidates for the principles of the science of all beings, we do not actually discover what any of the principles are. That is, we do not achieve second actuality knowledge of any of the principles even when we seem to be contemplating them. This suggests that there are no such principles and that there is no such science, and *a fortiori* that there is no innate knowledge of such a science.

The contexts of the *Metaphysics* and *APo* arguments are importantly different. In the *Metaphysics*, Aristotle argues that a science of all beings does not exist. In the *APo*, he

accepts that particular sciences exist (e. g., geometry, biology) and that each has its own first principles. What he rejects is that we know any of them innately. Aristotle's argument may nonetheless be similar to the one Alexander finds in the *Metaphysics*. For Alexander's claim is that it is odd that we do not notice that we already know certain objects or truths while we are actively contemplating them. Adapted to *APo* 2.19, the claim is that it is odd that we do not notice that we already know the first principles while we are actively contemplating them for the first time.

Let's consider the argument in more detail. If the innatist is right, then when one contemplates a first principle for the first time, one uses second potentiality knowledge one already has. That is, learning a first principle consists in recollecting it. However, if this were so, then we would surely notice that we are recollecting, but we do not. When we learn, we think that we are acquiring knowledge we do not already have rather than using knowledge we do already have. Now Aristotle need not claim that if learning were recollection, we must notice this every time we learn (recollect). He need only claim that we must notice this at some time at which we learn (recollect). This seems especially true of our learning (recollecting) first principles. As we saw above, knowledge of first principles is the most precise, and thus the most important, knowledge we can have. When we recollect more ordinary pieces of knowledge we previously acquired, we notice that we are doing so.²⁰ Surely this should also be true, at least some of the time, of recollecting knowledge of first principles.

I shall call this the No Noticing Argument against innatism:

- (1) If one has innate second potentiality knowledge of first principles, then if one learns (recollects) them, one must notice one's knowledge of them at some point at which one learns (recollects) them.
- (2) We do not notice innate second potentiality knowledge of first principles at any point at which we learn (recollect) them.
- (3) Therefore, we do not have innate second potentiality knowledge of first principles.

The first two arguments state that if we had innate second potentiality knowledge we would use it (either in general or in certain circumstances) and thereby notice it but we do not. The No Noticing Argument states that if we had innate second potentiality knowledge we would notice it when we use it (for the first time) but we do not. This argument does not rest on a claim about the frequency with which or the circumstances in which we would reasonably expect people to attain second actuality knowledge of first principles if they possessed it innately. Rather, it rests on a phenomenological claim about what the experience of contemplating a first principle for the first time would be like, at least some of the time, if we knew it innately.

²⁰ Recollection, for Aristotle, is a search the culmination of which is an act of remembering (see *De Memoria* 2). Aristotle thinks that if one remembers, one is aware that one remembers (see *De Memoria* 1 449b22–3, 450a19–21, 2 452b26–7). He could argue, then, that if learning first principles were recollection, we would be aware of this every time we recollect. However, it seems preferable to attribute to him the weaker claim that we would be aware of this at some time at which we recollect. For this gives Aristotle a stronger argument against innatism, since it does not presuppose his own account of memory.

8. The Innatist Responds

I argued above that in response to the No Use and No Discovery Arguments the innatist has a good explanation of our failure to use our innate knowledge of first principles, an explanation consistent with Aristotle's own views. It does not seem, however, that the innatist has a good explanation of our failure to notice such knowledge when we (allegedly) recollect it.

One explanation the innatist might offer is that while we recollect, all of our cognitive capacities, including the one that would be responsible for our awareness that we are recollecting, are mildly impaired. Our condition is analogous to that of the previously drunk geometer who is now sobering up. When she does a bit of geometrical reasoning, she may not realize that she is using knowledge she possesses. She is sober enough to use some of her knowledge but not sober enough to notice that she is using it. Similarly, when we recollect some of our knowledge, we do not realize that we are using knowledge we possess.

This explanation may account for the fact that some of the time we fail to notice that our acts of learning are acts of recollection. However, it does not account for the fact that we fail to notice this all of the time. It is not plausible to think that when an expert scientist discovers a new first principle, the cognitive capacity responsible for noticing recollection is impaired. Therefore, at least some of the time she makes discoveries of this sort, we can reasonably expect her to notice that she is recollecting. But she does not.

Conclusion

The three readings of Aristotle's argument test our intuitions about innatism. Assuming most philosophers today do not believe that we are born with second potentiality knowledge of first principles, the question is, what exactly is wrong with this view? Is it that if we had such knowledge we would use it and thereby notice it, but we do not? Or is it that if we had such knowledge we would notice it when we (allegedly) recollect it, but we do not? I have argued that Aristotle's objection is better understood as relying on the second intuition than on the first.

Bibliography

- Adamson, P. 2011. Posterior Analytics 2.19: A Dialogue with Plato? *Bulletin of the Institute of Classical Studies* 54, 1–19.
- Barnes, J. 1972. Mr. Locke's Darling Notion. *Philosophical Quarterly* 88, 193–214.
- Barnes, J. 1993. Aristotle: *Posterior Analytics*. Second edition. Oxford: Clarendon.
- Bayer, G. 1997. Coming to Know Principles in Posterior Analytics II 19. *Apeiron* 30, 109–142.
- Bronstein, D. 2012. The Origin and Aim of Posterior Analytics II.19. *Phronesis* 57, 29–62.
- Bronstein, D. 2016. *Aristotle on Knowledge and Learning: the Posterior Analytics*. Oxford: Oxford UP.
- Charles, D. 2000. *Aristotle on Meaning and Essence*. Oxford: Clarendon.
- Charlton, W. 2000. "Philoponus": On Aristotle's "On the Soul 3.1–8". London: Duckworth.

- Charlton, W. 1991. *Philoponus: On Aristotle "On the Intellect" (de Anima 3.4–8)*. London: Duckworth.
- Dooley, W. E. 1989. *Alexander of Aphrodisias: On Aristotle's "Metaphysics I"*. London: Duckworth.
- Fine, G. 1992. Inquiry in the Meno. In: Kraut, R. (ed.). *The Cambridge Companion to Plato*. Cambridge: Cambridge UP, 200–226. (Reprinted in Fine, G. 2003. *Plato on Knowledge and Forms: Selected Essays*. Oxford: Oxford UP, 44–65.)
- Fine, G. 2007. Enquiry and Discovery: A Discussion of Dominic Scott, Plato's Meno. *Oxford Studies in Ancient Philosophy* 32, 331–367.
- Fine, G. 2014. *The Possibility of Inquiry: Meno's Paradox from Socrates to Sextus*. Oxford: Oxford UP.
- De Haas, F. A. J. 2000. Recollection and Potentiality in Philoponus. In: Kardaun, M./Spruyt, J. (eds.). *The Winged Chariot: Collected Essays on Plato and Platonism in Honour of L. M. de Rijk*. Leiden/Boston: Brill, 165–184.
- Helmig, C. 2012. *Forms and Concepts: Concept Formation in the Platonic Tradition*. Berlin/Boston: De Gruyter.
- Irwin, T. H. 1988. *Aristotle's First Principles*. Oxford: Clarendon.
- Johnston, R. 2011. Aristotle's De Anima: On Why the Soul is Not a Set of Capacities. *British Journal for the History of Philosophy* 19, 185–200.
- Julian, B. 2015. *The Source of Life: Activity, Capacity, and Biology in Aristotle's Account of Soul*. PhD Thesis, Boston University.
- Kahn, C. 1981. The Role of Nous in the Cognition of First Principles in Posterior Analytics II 19. In: Berti, E. (ed.). *Aristotle on Science: The Posterior Analytics*. Padua: Antenore.
- Leshner, J. H. 1973. The Meaning of Nous in the Posterior Analytics. *Phronesis* 18, 44–68.
- Scott, D. 1995. *Recollection and Experience*. Cambridge: Cambridge UP.
- Scott, D. 2006. *Plato's Meno*. Cambridge: Cambridge UP.
- Sorabji, R. 2005. *The Philosophy of the Commentators, 200–600 AD: A Sourcebook. Volume 1: Psychology (with Ethics and Religion)*. Ithaca, NY: Cornell UP.
- Sorabji, R. 2010. The Ancient Commentators on Concept Formation. In Charles, D. (ed.). *Definition in Greek Philosophy*. Oxford: Oxford UP, 424–449.