
Αἴσθησις, Ἐμπειρία, and the Advent of Universals in Posterior Analytics II 19

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Posterior Analytics II 19 is one of Aristotle's most tantalizing chapters. Having kept us waiting since I 3 for an account of how we know the principles by demonstration from which we achieve ἐπιστήμη, the answer he gives is compressed and metaphorical, and it seems to consist in the outlines of a theory of concept-formation, though one might have expected principles to be propositions, since they are supposed to serve as premises in demonstration.¹ Ultimately, I think a satisfactory interpretation of the chapter requires reading it in the context of the *Analytics'* doctrine that demonstrations must be conducted at the maximal level of universality (I 4-5 and 24) and seeing the chapter as

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- 1 However, it is worth noting that, of the things that Aristotle describes as principles in I 2, only hypotheses might be able to serve literally as premises in a demonstration, and even this is true only in a qualified way. Since a definition formulates what something is, it is not a proposition and nothing follows from it as such. Definitions figure in ἐπιστήμη by making clear what it would be to prove the existence of a given thing. If ice is by definition solidified water, then for ice to exist is for water to be solidified, and one proves its existence by finding a middle term between water and solidification. Definitions also make clear what premises one is entitled to in virtue of knowing that a given thing exists. For example, once one knows that there is ice, its definition licenses the premise that it is solid, from which other things about it may follow (e.g., that it can be walked on). Even in the case of primaries, whose existence is hypothesized, the definitions provide content to these hypotheses, and it is not the hypotheses alone that serve as premises. Geometrical proofs, for example, do not depart from the premise that there are points but from basic premises about them, which are licensed by their definitions — e.g., from the premise that points have no magnitude.

re-characterizing in descriptive language, and at a very general level, prescriptions given across Book II for reaching this level of universality. Close attention must be paid to the third book of *de Anima* as well.² As is so often the case, interpreting one difficult text requires engagement with others of equal or greater difficulty.

My project in the present paper is more modest. I focus narrowly on the progression that II 19 describes from perception to the advent of universals in the soul and offer a number of points and suggestions about the individual stages of this progression. From my discussion will emerge the beginnings of an interpretation of Aristotle's account of concept-formation and its place in his epistemology, but to complete even the outlines of the interpretation would require considering more texts than I will here.³ I hope that the suggestions I offer for reading II 19 will be of interest independent of the larger interpretive project at which I can only gesture here. To set the context for these suggestions, it will be best to begin with an overview of the structure and aims of the chapter as a whole. But before embarking on this I will need to introduce a terminological convention.

II 19 (and the *Analytics* more generally) makes frequent use of several different Greek terms that are best translated with 'knowledge' and its cognates. In order to follow the argument, it is often necessary to distinguish between them, and in a scholarly context this is most easily accomplished by leaving the terms in Greek. I do this wherever possible; but this solution is impracticable with verbs, which require more grammatical transformations than nouns to function in English sentences, so I've adopted an alternative. In what follows I prefix 'e-', 'g-', or 'o-' to 'know' and cognate words to indicate whether they are meant to translate: 'ἐπίστασθαι', 'γινώσκειν', or 'εἰδέναι'.⁴

2 III 6 is of special interest. See my 2008 §3.1.3 and §3.2.3.

3 For an extended treatment of this issue see my (2008) dissertation; some of its essential arguments are summarized in 'Aristotle's Conception of Universality'.

4 The prefixes are derived from Irwin and Fine (1995) who use the same letters as subscripts to mark the differences between the terms in their translations. Prefixes are more intrusive than the subscripts and this makes them more suitable for my purposes. Whereas subscripts subtly provide information about the Greek while enabling you to think of the terms in English, my purpose is to leave the words effectively untranslated while availing myself of the grammatical transformations possible to an English verb. I take it that, in most contexts 'γνωρίζειν' refers to the acquisition of γνώσις (whereas 'γινώσκειν' refers to its possession) so I usually

I The Structure and Project of II 19

Aristotle sets his agenda for II 19 as follows: 'It will henceforth be clear about the principles, both how they come to be g-known and what the g-knowing state is, after we've first raised an ἀπορία' (99b17-19). The chapter divides into two broad sections corresponding to the two questions raised here: how γνώσις of principles comes to be is discussed in 99b20-100b5; and the knowing state is considered and identified as νοῦς in 100b5-17. Our present interest is in the first of these sections. Its structure is typical of an aporetically motivated discussion. After raising the ἀπορία (99b20-30), Aristotle immediately gives an abstract solution framed the terms in which the ἀπορία was set out (99b30-4). This solution makes clear what features a concrete account of the process by which we come to know principles will need to have if it is to resolve the ἀπορία. Aristotle then provides such an account, drawing on facts in the relevant domain not referenced in the initial statement of the ἀπορία, and he describes how this account satisfies the requirements made salient by the abstract solution (99b34-100b3).

The ἀπορία is introduced as follows:

It was said earlier that it is not possible to e-know through demonstration unless one g-knows the first and immediate principles. Someone might puzzle over g-knowledge of the immediates and whether it is the same or not the same, and whether there's e-knowledge of each, or e-knowledge of one but some other g-knowledge of the other, and whether the states, having not been in us, arise in us, or, having been in us, have been overlooked.

On the one hand, it's absurd if we do have <g-knowledge of the principles>; for it follows that possessors of g-knowledge more precise (ἀκριβής) than demonstration overlook <it>. On the other hand, if we acquire it not having it before, how would we get to g-know and learn, if not from preexisting g-knowledge? For it's impossible, as we also said about demonstration. (99b20-30)⁵

render it 'getting to g-know'. On the relations between these knowledge-verbs in Aristotle, see Burnyeat (1981) and Salmieri (2008), §3.0.

5 Cf. *Posterior Analytics* I 1 and *Physics* I 1, the first sentence of which tells us that εἰδέναι and ἐπίστασθαι proceed from γνώσις of principles, elements or causes.

Before analyzing the argument in this passage it is instructive to pause on a few of the key terms and their relations. It is clear from the second sentence that ‘γνώσις’ is intended as a more generic term than ‘ἐπιστήμη’, which denotes one variety of it. We can infer from what Aristotle says later in the chapter, the other varieties include νοῦς (100b5-15), the state by which we g-know principles, and αἴσθησις (99b38-9), the state from which this γνώσις arises in us.⁶

Γνώσις comes in degrees: Aristotle speaks at 100a11 of some states as ‘γνωστικώτερον’ (‘more g-knowing’) than others, and he frequently describes certain things as γνωριμώτερον (‘more g-known’) than others.⁷ Νοῦς and ἐπιστήμη are γνώσις in the highest degree (100b8-9), with perception being γνώσις in a lower (likely the lowest) degree.⁸ One respect in which γνώσεις can surpass one another (and so be γνωστικώτερον) is precision (ἀκρίβεια), and this is primarily what is at issue in the present ἀπορία. Aristotle’s conception of ἀκρίβεια is a fascinating subject, which I cannot pursue in any depth here.⁹ For the present I will just make a few observations: Certain types of γνώρις are more precise than others, with νοῦς and ἐπιστήμη being the most precise. Even within a given type, one γνώσις can be more precise than another (I 27 is devoted to the features that make one ἐπιστήμη more precise than another). Γνώσεις which involve a grasp of causes are more precise than those which do not; so though some objects admit of being more precisely

6 On αἴσθησις as a sort of γνώσις, cf. *Generation of Animals* 731a33-4, *On Dreams* 458b2-3, and *Protrepticus* 76. I discuss Aristotle’s conception of γνώσις and its relation to contemporary conceptions of knowledge in my 2008 §3.2.1.

7 100b9-10; I 2, 72a1-5; *Physics* I 1, 184a17-21; etc

8 We can gather this from I 2:

Things are prior and more g-known in two ways, for it is not the same to be prior by nature and prior in relation to us nor to be more g-known <by nature> and more g-known to us. I call prior and more g-known in relation to us the things nearer to perception, and <prior and more g-known> *simpliciter* the things that are further. While the most universal things are furthest, the particulars nearest, and these are opposite to each other. (71b33-a5)

Since the particulars that are g-known in perception are furthest from what is g-known *simpliciter*, perception will be the lowest form of γνώσις considered *simpliciter*, though there is another respect in which particulars are the most g-known, and plausibly in this respect perception will be the most g-knowing state since the senses are ‘the most authoritative (κυριώταται) γνώσεις of particulars’ (*Metaphysics* A 1, 981b12).

9 I discuss it briefly in Salmieri (2008), §3.3.3.

known than do others, it is possible to g-know the same objects more or less precisely depending on the explanatory depth of one's knowledge.¹⁰

With these points as background let's return to our ἀπορία. It can be laid out as follows: Given that there is γνῶσις of principles, it must be either (a) innate or (b) learned; if innate it must be either (a1) conscious or (a2) unconscious. To this division we add four premises, two explicit and two tacit:

- (P1) Learning proceeds from preexistent γνῶσις.¹¹
- (P2) The γνῶσις of principles is especially precise.
- (P3) For γνῶσις, precision implies self-consciousness.
- (P4) There is a time prior to a given person's self-conscious apprehension of a principle, during which he is not conscious of possessing any γνῶσις with the precision characteristic of γνῶσις of principles.

P4 flatly denies possibility a1, and, when combined with P3, it rules out a2. Therefore, γνῶσις of principles must be learned, and, as of P1, this means that it must proceed from preexistent γνῶσις. This preexistent γνῶσις must then either be (b1) at least as precise as the γνῶσις of the principles or (b2) less precise than it. P3 and P4 rule out b1 (regardless of whether the earlier γνῶσις is held consciously or unconsciously), so b2 is the only remaining alternative. This is what I referred to earlier as the 'abstract solution' to the ἀπορία. Aristotle states it as follows:

Accordingly, it is clear that neither do we <innately> have such <states as g-knowledge of the principles> nor do they arise in us <despite our> being g-ignorant and having no state. Therefore, while it is necessary to have some capacity <in order to acquire g-knowledge of the principles>, it's not <necessary> to have <one> such as it <viz.

10 See *Nicomachean Ethics* 1094b11-27 and 1098a26-b3 (cf. *Topics* 101a18-26), where Aristotle advises students of statesmanship to study certain subjects in less precision than would be required if studying them for other disciplines, and discusses how subjects of statesmanship admit of less precision than do those of some other disciplines.

11 This premise is, of course, a restatement of the principle with which the *Posterior Analytics* begins: 'All teaching and all intellectual learning arises from pre-existent g-knowledge' (I 1, 71a1-2).

the g-knowledge> or <one that's> more honorable than it or more precise. (99b30-4)

Immediately we're told that the required state or capacity is perception, a 'connate discerning capacity' possessed by all animals, but the ἀπορία is not yet resolved because b1 is initially implausible. It is not clear how a more precise γνῶσις can arise from less precise ones, especially if deduction is one's paradigm of one γνῶσις arising from another. Thus a wider conception of how one γνῶσις can arise from others is called for. Aristotle's project in the 27 Bekker lines that are my primary subject in this paper is to provide this wider conception. They are meant to make clear the manner in which perception 'instills the universal', in response to a worry that it is impossible for knowledge of universal principles to arise in this way. Thus the point of II 19 is not to advise a knower on how to grasp the principles (arguably the rest of II does that), or to describe the detailed psychological mechanics of the transition from perception to a grasp of universals or essences (this occurs in *de Anima* III 4-8), but rather to give a broad descriptive sketch of the process in a manner that makes clear how it is possible for the highest degree of γνῶσις to come about from the lowest. Once he has done this, Aristotle has resolved the ἀπορία and can complete the agenda announced at the beginning of the chapter by turning his attention to the 'g-knowing state' that results from this process — viz. νοῦς.¹²

12 David Bronstein in his commentary on this paper asks (citing a distinction drawn by David Charles and Aryeh Kosman) whether the concern of the chapter is how we grasp the items which in fact are principles or how we grasp them as principles. In particular, he asks whether forming a concept for something that is a principle (e.g., a point) constitutes knowledge of the latter sort. It is not clear to me that Aristotle himself has a distinction between knowing something that is a principle and knowing it as a principle, but insofar as that distinction applies, the subject of the chapter would have to be the latter. I think this in part for some of the reasons Bronstein suggests, but more importantly because only a grasp of a principle as such would have the precision that generates the ἀπορία that drives the chapter. The question of the precise relation between concepts and principles is a bit more complicated. My view, though I cannot defend it here, is that Aristotle thinks that concept possession is a sort of γνῶσις and supplies one with certain premises that can be used in deductive reasoning, and that the concept-possessor is aware of this in virtue of possessing a concept. Thus anyone who has a concept self-consciously knows (at least part of) the role it plays in deductive knowledge, and therefore in demonstration. I discuss some of these issues in my 2008, §3.2.3 and §4.3.2-3 and 'Aristotle's Conception of Universality'.

With the preceding as our context, then, let's look at the 27 Bekker lines:

<All animals> have a connate discerning capacity, which is called perception; since perception is inherent, a retention of the perceptible arises in some of the animals, but in others it does not arise. So, for whichever <animals> it doesn't arise (either on the whole or about that for which it doesn't arise), there is not g-knowledge for them outside of perception; but for those who've perceived in which <the perceptible> inheres, it is still in the soul. Once many such things have arisen, a certain difference arises, in that for some an account arises from the retention of such things, for others not. (99b35-a3)

So, while from perception arises memory (as we call it), from many memories of the same thing arises experience; for numerically many memories are a single experience. And from experience, or from all of the universal that has settled in the soul (the one beside the many, which would be the same one in all these), arises a principle of art and e-knowledge — of art if it's about what arises, of e-knowledge if it's about what is. (100a3-9)

Indeed the states neither hold in <us> determinately nor arise from other states that are more g-knowing, but rather from perception, as in battle: a rout's occurred; <with> one <man> standing, another stands, then another, until it's arrived at a principle. And the soul is such as to be capable of undergoing this. (100a9-14)

Let's state again what was just said, but not said plainly. For, <with> one of the undifferentiated things (ἀδιάφορα) standing, the first universal is indeed in the soul (for while one perceives the particular, perception is of the universal — e.g., of man rather than Callias the man); then in these <something> stands, until a partless and universal thing stands — e.g., such an animal until animal, and in this likewise. (100a14-b3)

Now it's clear that it's necessary for us to get to g-know the first things by induction; for perception too instills the universal in this way. (100b3-5)

II The Meaning of 'ἄσθησις'

Normally Aristotle uses 'ἄσθησις' to refer to sense-perception — i.e., to seeing, hearing, touching, etc. But there are difficulties with understanding the term in this way in II 19. If we do so, it becomes difficult to make sense of the remark at 100b5 that ἄσθησις instills the universal by induction: the induction of which Aristotle speaks is surely no part of seeing or smelling; rather, it refers either to the whole process of perceiving, remembering, associating like memories into experiences, etc. or, alternatively, it may refer to some late stage in that process. Moreover, taking 'ἄσθησις' in its usual sense, we will be at a loss to explain the claim at 100a17 that 'while one perceives the particular, perception is of the universal.' This statement is puzzling on two counts. First, Aristotle elsewhere tells us that perception is of particulars.¹³ And second, it is obscure what it could mean for what one perceives and what one's perception is of to be different. If 'ἄσθησις' were functioning here merely as the coordinate of the verb 'αἰσθάνεται' so that words refer, in different grammatical forms, to the same act, then the statement would be incoherent, since the genitive complement of the noun would be equivalent to the accusative object of the verb so that Aristotle would be differentiating a thing from itself. It's unlikely, therefore, that Aristotle is using the genitive complement and the accusative object to capture different relations in which different things stand to an act of perception. More likely, the contrast intended is between 'αἰσθάνεται' and 'ἄσθησις', which are being said to have different objects.

To get a sense of what Aristotle might mean in contrasting these two forms of the same verb, consider the case of 'ἐπίστασθαι' and 'ἐπιστήμη'. In *Metaphysics* M 10 Aristotle draws a distinction between ἐπιστήμη in potentiality and in actuality (or in first and second actuality). 'Ἐπιστήμη in actuality is the active use of knowledge, whereas ἐπιστήμη in potentiality is what we would normally call knowledge — i.e., the possession of knowledge, which is what makes contemplation possible.

It is doubtful that the noun 'ἐπιστήμη' was naturally used for the (second) actuality any more than the English noun 'knowledge' is. Indeed, Aristotle illustrates the distinction between first and second actuality in *de Anima* II 1 by contrasting 'ἐπιστήμη' with the verb 'θεωρεῖν' (412a22-3), and notice how he distinguishes between the two senses of 'ἐπιστήμη'

13 Cf. I 18, 81b6; I 31, 81a2.

in *Metaphysics* M 10: 'ἐπιστήμη is twofold, as ἐπίστασθαι also is: one is in potentiality and the other in actuality' (1087a15-16). Presumably the verb form is mentioned because the sense of actuality more naturally attaches to it than to the noun. This is confirmed by *Nicomachean Ethics* VII 3 where it is 'ἐπίστασθαι' rather than 'ἐπιστήμη' that it said to have two senses: 'But e-knowing is said in two ways; for both one who has e-knowledge without using it and one who uses it are said to e-know' (1146b31-2). Here the noun is used not for something that can become active or not, but for an item in the soul that can either be employed or can lie dormant, whereas the verb can mean either having the item or using it. Now surely Aristotle didn't regard contemplating (or knowing in actuality) as making use of an inner item as one might make use of a tool. One makes use of it rather as one makes use of an ability, which is to say that it's quite natural to regard the ἐπιστήμη as the capacity or potentiality and its 'use' in actualized ἐπίστασθαι as the actuality. So, it wouldn't be at all unnatural for Aristotle to draw the distinction between potentiality and actuality as one between ἐπιστήμη and ἐπίστασθαι.

There is no passage in which he draws the distinction in quite this way, but I think he is doing something equivalent with 'αἴσθησις' and 'αἰσθάνεται' in *Posterior Analytics* II 19. Of course, there cannot be a direct analogy in the case of perception to the difference between ἐπίστασθαι in potentiality and in actuality. The later distinction arises only because, once one has learned, one can exercise one's ἐπιστήμη at will; perception, by contrast, cannot occur at will by actualizing an internal state; rather it occurs only when one is affected by the perceptible object.¹⁴ Nevertheless, Aristotle does think that episodes of percep-

14 As we saw earlier, this is one of the disanalogies that Aristotle draws between perception and thought in *de Anima* III 4: 'When <νοῦς> has become each thing, as the e-knower (ἐπιστήμων) in actuality is said to do (and this happens when he can actualize his potentiality by himself), even then it is <each thing> potentially in a way (<though> surely not like before he learned or discovered), and then it <viz. the intellect> is able to think by itself' (429b5-9). The adjective 'ἐπιστήμων' is used for people well versed in a given art or science, and so probably suggests someone with a stable intellectual state — a 'first actuality' — more strongly than 'ἐπιστήμη' would. Thus 'ἐπιστήμων in actuality' must mean having ἐπιστήμη as opposed to merely being able to learn, and this state is analogized to perceiving as opposed to merely being able to perceive. What the passage tells us is that, in the intellectual but not the perceptual case, even this actuality is a potentiality in a way. And it is this way of being a potentiality that Aristotle has in mind in the passages in which he refers to ἐπιστήμη or ἐπίστασθαι in potentiality.

tion leave as a trace in the soul states that can (at least sometimes) be actualized at will, and that these states have contents that can be put to various uses. In the *de Anima* and *Parva Naturalia*, such states are called 'φαντασίαι' and their contents 'φαντάσματα'. Neither of these words appears in the *Posterior Analytics*, but II 19 speaks of a 'retention' ('μονή') of perceptibles in the soul and of the perception's 'inhering' ('ἔνειμι') (99b36, 39). Compare this with *de Anima* III 3's characterization of φαντασίαι as aftereffects of αἰσθησις that 'are retained' (ἔμμεναι) and are like the αἰσθήσεις' (429a4-5). Recall also that II 19 equates this retained perception with memory, which is defined in *On Memory* 1 in terms of the possession of φαντάσματα (451a14-17).

I submit, then, that in *Posterior Analytics* II 19, Aristotle uses 'αἰσθησις' in a wide sense to mean something like imagistic content (i.e., φάντασμα) or the state of having such a content (i.e., φαντασία), and that he contrasts this with 'αἰσθάνεται', by which he means the act of perceiving. If this is right, we can restate 100a17's puzzling remark as follows, in the idiom of Aristotle's psychological texts: while αἰσθησις is of particulars, φαντάσματα are of universals. As we will see shortly, this is probably not exactly correct on Aristotle's view, but it does approximate to an important point made in *On Memory* 1. There we learn that the φάντασμα in which the memory of an individual is stored does not, when considered in its own right, have that individual as its content. The φάντασμα is analogized to 'a picture (ζῶον) that's been drawn on a board', which 'is both a picture and a likeness':

And one and the same thing is both of these, although it is not the same thing to be both of them; and one can contemplate it both as a picture and as a likeness. So too, one must suppose the φάντασμα in us to be something itself in itself and <also to be> of something else. So, while as <a thing> in itself it is a θεώρημα or a φάντασμα, as of another (as a likeness) it is also a remembrance. And thus, whenever the motion of this activates, if it does so as <what it is> in itself, the soul perceives the very same thing (e.g., some νόημα or φάντασμα appears to occur); but if <the motion activates> as of something else, then, just as one views a likeness also in a drawing and, without having seen Coriscus, <views it> as Coriscus, and <just as> in this <case> the affection of viewing this is different when <it is> viewed as a drawn picture, so too <with the thing> in the soul: though it occurs as an νόημα only, since it's a likeness, it is a remembrance. (450b20-51a2)

There is a way, of course, in which a φάντασμα isn't analogous to a picture: the latter can be considered, without any regard to its representational content, as mere paint on a board, whereas nothing analogous can be done with the φάντασμα, which is the retention in the soul of a perceptible form without its matter. Likely, what it is to be a particular φάντασμα is wholly to be the retention of a form received in perception, and all it is to have mental content of a perceptible form is to have it in the perceptive part of one's soul (either as a current perception or as a stored φάντασμα). Therefore, the φάντασμα is inherently representational in a way that the arrangement of paint is not. But what it is inherently a representation of is a *such* (e.g., perhaps, man), and not of the *this* (e.g., Coriscus) that initially transmitted the form. It is only a representation of *him* (as opposed to any other similar looking item) when considered in a certain way.

With this in mind, let's look again at II 19's puzzling remark about perception: '<with> one of the undifferentiated things standing, the first universal is indeed in the soul (for while one perceives the particular, perception is of the universal — e.g., of man rather than Callias the man)' (100a15-b1).

Most likely, given the context, 'undifferentiated thing' refers to an individual member of a species — e.g., to Coriscus.¹⁵ The word 'stand-

15 Aristotle uses divisional language in several distinct senses. In two of its three prior occurrences in the *Posterior Analytics*, 'ἀδιάφορα' clearly refers to infima species such as man (97b8, 31). (The remaining use, at 97b21, describes an 'indifferent' attitude towards pleasure). Thus there is a prima facie case that the ἀδιάφορον referred to in the present passage is also an infima species. However, if this is what the term means here, then the point of the clause cannot be to affirm that a universal is present in the soul (since it is obvious that such a form is a universal), but only to point out which forms are *first*. If so, the μὲν at 100a15 is odd, and more importantly, the parenthetical remark about perception being of the universal is irrelevant. Outside of the *Analytics*, 'ἀδιάφορα' is often used to refer to things that do not differ from one another in form (see *de Caelo* 310b5, *Generation and Corruption* 323b19, *de Respiratione* 478b23, *Generation of Animals* 746a31, and *Metaphysics* M 7-8). (The meaning of 'ἀδιάφορον', when used in this way is simply 'not different', and Aristotle sometimes specifies the respect in which the things are not different, thus 'ἀδιάφορα κατὰ τὸ εἶδος' [*Topics* 103a11, cf. 121b15-22, *de Caelo* 277a2-4, *Parts of Animals* 644a25] or 'κατ' ἀναλογίαν ἀδιάφορα μόνον' [*History of Animals* 497b10-11].) If it is being used in this sense here, then 'one of the ἀδιάφορα' means one member of a group of things that do not differ from one another in species — e.g., one man — and this makes the most sense in context, since the assertion that having retained a perception of one of these amounts to having a universal in your

ing' comes from the rout metaphor a few lines earlier, where it seems to represent the retention of something in memory. So, for an undifferentiated thing to be 'standing' is presumably for a perceived individual to be held in memory. The contrast, then, is between the original act of seeing and what remains of it in the soul as a memory. Coriscus is perceived as a particular, but this content is retained as a universal, just as we might expect should be the case from the *On Memory* passage quoted above.

Now, it cannot be that all we retain in memory from the perception of an individual man is a representation of man in general, because then we would have no way to remember differences between people. Moreover, people can look quite different from one another and if the φαντάσματα are remnants of perception, we should expect them to inherit some of these perceptible differences. Perhaps details are blunted in the φαντάσματα, as the details of a signet ring might be blunted in the impression it leaves in wax, so that fine differences between similar looking men may not be retained, or may be less salient in the φαντάσματα than in the original perceptions, but a perception of Milo the wrestler will surely leave a different φάντασμα than a perception of a slender pigmy, and any remembered difference between two men, however fine grained, must be stored in the respective φαντάσματα. Aristotle cannot be maintaining then that all we retain from the perception of Callias is the universal man. Likely his point is simply that instead of retaining Callias in all his individuality, we retain a *such*. The universal man is mentioned as a paradigm example of a *such*, but what would actually be retained would be a much more determinate *such* that includes all of Callias' distinctive perceptible qualities. Since there is no general name for people who look such as Callias does, and Aristotle is only making an aside, he simplifies by giving 'man' as an example. This interpretation is suggested by an earlier remark:

There is no e-knowing through perception. For even if perception is of a such and not of a this such, still necessarily <one> perceives a certain this and <one perceives it> somewhere and now. And it's impossible to perceive what's universal and applicable to all; for it's not a this nor <is it> now; otherwise it wouldn't be universal; for what exists always and everywhere we say is universal. (I 31, 87b29-30)

soul is both bold enough to warrant a μὲν and supported by the comment about perception being of a universal.

The distinction between a *this* and a *such* is a distinction between an existent and (all or part of) its identity in abstraction from its individuality, time, and location. A 'such' is a 'way of being' (or what some of the early modern philosophers called a 'mode'). As a way of being, a *such* is (as Sellars sometimes put it) 'repeatable'.¹⁶ The point of the remark at 100a17, then, is that there is no special work involved in getting from a *this* to a *such* — from an individual to a repeatable sort of thing. That part of the process of conceptualizing just happens for us when our percepts are retained. The *such* Aristotle mentions is more specific than the *such* he must think is actually retained from the relevant perception, but this is not a problem since he is about to discuss how the soul moves from a specific *such* to progressively more general ones. The simplification in the example merely foreshortens the number of times this process will have to be iterated. Strictly speaking, however, the *such* retained in memory can be a universal only in an attenuated sense.¹⁷ Aristotle defines a universal as something that can be predicated of many, and it is an important doctrine of the *Organon* that in order to function as subject or predicate a term must be a non-accidental unity, but the various features in which Callias perceptibly differs from other men constitute one visage only numerically and accidentally.¹⁸

Before leaving the topic of ἀσθησις, I want to address briefly another reason why some authors have found the remark 'the ἀσθησις is of man' troubling: they think the *de Anima's* theory of perception rules out the possibility of either man in general or any particular man being anything more than an incidental object of perception. Barnes expresses the worry as follows:

16 See Sellars (1963), section VI, 156-61.

17 Notice that, in *Metaphysics* Z 13, when Aristotle argues that 'none of the things that belong universally is a substance' because 'none of the things predicated in common signifies a certain this but rather a such' (1038b34-a2), he treats being a universal as a sufficient condition for being a *such*, but he does not say or imply that it is a necessary condition.

18 See *De Interpretatione* 18a12-25; *Prior Analytics* 40b35; *Posterior Analytics* I 2, 72a9; I 22, 83b17-31; and *Sophistical Refutations* 6 and 30; cf. *Metaphysics* 1011b24. On these passages and their significance, see my 2008, §2.1.1, 4. I discuss the difference between the universal-particular distinction and the such-this distinction in 'Aristotle's Conception of Universality.'

Aristotle's theory of perception divides the objects of perception into two classes, essential and incidental (cf. *An B 6*). Essential objects are either proper to a given sense (e.g. colors to sight, sounds to hearing) or common (e.g. motion, shape, size). Incidental objects cover everything else. If *X* is an incidental object of perception, then I perceive *X* only if there is some essential object *Y* such that I perceive *Y* and *Y* is *X*. Individuals are the prime examples of incidental objects (*An B 6*, 418a21; *Γ 1*, 425a24). There is very little evidence for *man*, but what there is makes it an incidental object (*An Γ 6*, 430b29); and in any case it is hard to see how man could be either a proper or a common sensible. *Man*, then, is not directly implanted in our minds by the senses, as Aristotle's words in *B 19* suggest; but in that case we need an account, which Aristotle nowhere gives, of how such concepts as *man* are derived from the data of perception.¹⁹

Barnes treats it as obvious that individual men are incidental sensibles, but I don't think that it is clear that this is the case. In the two passages cited in support of this view, the things said to be incidental sensibles are, respectively, the son of Diares and the son of Cleon. If Aristotle meant to be referring to individual men as such, he should have spoken about Diares and Cleon rather than their sons. That he twice speaks instead of sons cannot be an accident, and it is clear in the second case especially that the man's being Cleon's son is precisely what's at issue. What he says there is that we perceive 'Cleon's son not because he is Cleon's son, but because he is white'. Presumably he repeats 'Cleon's son' rather than using the man's name or saying 'this man' because he wants us to focus on a characteristic that is unambiguously incidental to his being perceived — namely, his relation to Cleon. The passage leaves entirely open whether his being a man (or being the man he is) is incidental to his being perceived. But the fact that the point is made twice in terms of people's sons suggests (though only subtly) that Aristotle thinks that men are non-incidentally perceived, in which case man (or perhaps particular men) would have to be a common sensible.²⁰ Contra Barnes, it is not hard to see how this could be. Magnitude, shape, and motion are common sensibles, and surely a man's

19 Barnes (1994), 266. Cf. McKirahan (1992), 253ff.

20 This possibility is left open also by the passage Barnes cites from *III 6*. All that is said there is that the perception that the white thing is a man can be false whereas the perception of white cannot be because white is a proper sensible. But *de Anima*

being the size and shape he is and moving in the way he does is part of what it is for him to be a man. After all, Aristotle's model definition of man is 'biped animal', and being bipedal is largely a matter of having a certain shape and moving in a certain way. Even if a man's shape and means of motion are not part of what it is to be a man (or to be the man he is), these things are surely more than incidentally connected to his being a man. They are consequences or expressions of his being a man, and are at least as intimately connected to being a man as being noisy is to being thunder. There is a strong case to be made, then, that the common sensibles include some of the things that make individuals be what they are. If this is so, then the individual objects will be non-incidentally perceived. And, though the form 'man' won't be (non-incidentally) perceived 'for it's not a this nor <is it> now', we will perceive the features in virtue of which Callias is here and now a man.²¹

III The Nature of Ἐμπειρία

From memories of perceived individuals a knower progresses to ἔμπειρία, about which II 19 tells us only that it 'arises from many memories of the same thing' ('for numerically many memories are a single experience') and that a principle of τέχνη or ἐπιστήμη arises from it ('or from all of the universal that has settled in the soul').²² *Metaphysics* A 1 discusses this stage in greater detail:

So while the other <animals> live by φαντασίαι and memories but have little experience, mankind <lives> also by art and reasoning. Experience (ἐμπειρία) arises from memories for men; for many memories of the same object culminate in (ἀποτελέω) a single capacity (δύναμις) for experience. And experience is quite like e-knowledge and art, but e-knowledge and art come about through experience for men; for

III 3 tells us that we can be wrong about common sensibles as well as about things perceived incidentally (428b22-5).

- 21 It is worth adding, in this connection, that the issue of going from individuals to kinds exists just as much for the proper sensibles as for man. In perceiving the red of a rose for example, one receives a determinate *such*, which may (in some contexts at least) qualify as a universal, but one does not as a unit receive the kind red, which subsumes many differing shades.
- 22 I discuss the parenthetically quoted disjunction below.

experience made art, as Polus stated, but inexperience, luck. But art arises when, from many notions (ἐννοήματα) of experience, a single universal view (ὕπoληψις) arises about similar things. For, while it is for experience to have the view that this benefited Callias when afflicted with this illness and Socrates <too> and many such particulars, it is for art <to have the view> that it benefited all such <people> defined according to a single form when afflicted with this illness (e.g., phlegmatic or choleric <people> when burning with fever). (980b25-a12)

In fact, relative to acting, experience seems no different from art; rather the experienced succeed more than those without experience who have an account. The cause is that, while experience is g-knowledge of the particulars, art is of the universals; and actions and occurrences are all about the particular; for one doesn't heal man when doctoring (or else <one does it> incidentally) but rather <one heals> Callias or Socrates or someone else spoken of in this way, who is incidentally a man. So, if someone without experience has an account and, while g-knowing the universal, is g-ignorant of the particular under it, he will often mistake the treatment; for the treatment is particular. But, just the same, we think *o-knowing* and comprehending (ἐπείδειν) belong more to art than experience, and we suppose the artist to be wiser than the experienced (as, with respect to being more o-knowing, wisdom is implied in every case); this is because the former o-know the cause and the latter do not. For while the experienced o-know the that but don't o-know the why, the others g-know the why and the cause. (981a12-30)

Whereas the *Posterior Analytics* passage speaks only of ἐμπειρίαί, here Aristotle mentions first a 'δύναμις for ἐμπειρία' and then 'ἐννοήματα of ἐμπειρία'. The δύναμις must be either the innate ability to have ἐμπειρία as such or else an acquired state that stands to an exercise of ἐμπειρία as an ἐπιστήμη in potentiality stands to an ἐπιστήμη in actuality. Clearly the latter is what is meant here, since the δύναμις is said to come about from memories. What comes about from the memories of a certain sort of thing must be a δύναμις for ἐμπειρία about that sort of thing. This suggests that the 'ἐννοήματα of ἐμπειρία' are the exercises of this δύναμις, and this would be a sensible thing for Aristotle to mean by 'ἐννοήμα'.

In Hellenistic thought the word means 'concept', but there is no precedent for this in Aristotle's time or before (indeed Aristotle's use in *Metaphysics* A 1 is the earliest occurrence of the word listed in the *TLG*) so there is little basis for reading this usage into Aristotle. More sensible would be to try to understand it by extension from the verb 'ἐννοεῖν'.

Aristotle uses it in contexts where he wants to stress the occurrent character of a mental state — for example, in *On Memory* 1, 451a6, where Beare amusingly translates it as ‘gets a sudden idea’ or *de Anima* III 6, 430a10, where it refers to what one ‘has in mind’ in a short segment of time, and *On Dreams* 1, 458b18, where it refers to thoughts that occur during dreams. Plato often uses the verb in this sense, which corresponds to the *LSJ*’s first definition: ‘to have in one’s thoughts, consider, reflect.’ Notably, he uses it several times at *Phaedo* 75a in connection with thoughts that occur to us about perceived objects while we are perceiving them — for example, the thought that two perceived stones are equal, which Plato attributes to a recollection, occasioned by perception, of the equal itself. Since ἐμπειρία, and the broader process of which it is a stage, is Aristotle’s alternative explanation of our coming to (explicitly) know principles, we should expect Aristotle to view as ἐννοήματα of ἐμπειρία thoughts that Plato attributes to recollection.

If the preceding is correct then the ἐννοήματα of ἐμπειρία are not concepts, but there is still a temptation to view ἐμπειρία as involving concepts — i.e., units of thought (of the sort expressed in language by individual words), which are universal in that they apply to a plurality of existential objects. The word ἐννόημα, based as it is on νόημα might suggest that it involves conceptual thought, and the discussion of people experienced in medicine could be taken to confirm this. Surely, Aristotle has in mind here adults who are able to have thoughts such as: ‘Socrates felt better after having chicken soup when he was coughing like that, so maybe soup will help Callias now.’ Moreover, disjunction ‘from ἐμπειρία, or from all of the universal that has settled in the soul’ in II 19 at 100a6-7 could be taken exegetically to mean that ἐμπειρία just is the settling of a universal in the soul, in which case ἐμπειρία would almost certainly involve concepts. (I’ll return to this issue in the next section.) Finally, the statement that experienced people ‘o-know the *that* but don’t o-know the *why*’, employs the jargon of *Posterior Analytics* II 8-10, thereby suggesting that experienced people are on a par with the people discussed there who know (and can define) thunder as a ‘certain noise in the clouds’. (The possessors of τέχνη, would presumably then be like the people who grasp thunder as ‘noise in the clouds due to the extinguishing of fire’.²³) If this is correct and ἐμπειρία is conceptual,

23 This point is made by Bolton (1976, 530), who identifies experience with ‘the type of understanding which is nearest to sense’ and is enjoyed by ‘the possessor of a nominal definition’. From this, he concludes:

then the move from it to τένη or ἐπιστήμη is one of increasing the precision or causal depth of one's knowledge, rather than one of moving

Experience is that type of codification of information about actual particulars drawn from sense experience of them which marks the first stage in learning where it is appropriate to speak of concept acquisition (*Posterior Analytics*, 100a3-9, *Metaphysics*, 980b28-981a2,a5-7). From this stage, Aristotle says, science takes its start (*Posterior Analytics*, 100a6-8, cf. *Prior Analytics*, 46a17f.). This makes clear why nominal definitions, being starting points in science of the type which are better known to us contain information of the sort embodied in experience. Experience involves 'a universal stabilized as a complete whole within the soul' (though not the final form of the universal, 100a6-7, 16). It also involves a 'knowledge of particulars' (100a4-7, *Metaphysics* 981a15-16). Experience is a type of systematized memory (100a4-6) and as such involves a knowledge of a universal which is not detached from the knowledge of and memory of actual particulars. The specification of such a universal requires a reference to particulars though not by name or by mention of uniquely identifying characteristics. So when Aristotle characterizes nominal definitions as accounts from the point of view of what is better known to us and what is best known to sense he means that they focus on actual familiar perceptible instances of a kind and define the kind partly by means of a reference to those instances.

Bolton thinks that the tie to the individuals is crucial to the progression, because he reads Aristotle as having a Putnam-like account of reference, on which the concept refers to all the items that share an essence with the individuals in connection with which it was initially formed. Since we do not know this essence at first, reference has to be fixed causally (rather than descriptively) through those remembered individuals. But this account is predicated on a moderate realism about concepts and essences that I have argued elsewhere Aristotle does not hold. (See my 2008 and 'Aristotle's Conception of Universality'.) Moreover, as we saw in the last section, Aristotle thinks that, already when a percept is retained in memory, the inherent link to the perceived individual is broken. The retained φάντασμα is still an individual in the sense of being determinate (and we have the ability to consider it in relation to the perceived individual), but in its own right it is of a *such* rather than a *this* and so cannot include reference to any deep essence that the individual object may have. Consequently, the respective φαντάσματα generated by water and the analogous substance on a Twin Earth (to use the standard example) would be identical. Thus it is doubtful that experience can have the kind of tie to individuals that Bolton needs. Granted, we can consider our φαντάσματα as likenesses of the individuals that figured in their causal histories, but in II 19, Aristotle's focus is precisely on the respect in which they are not bound to the individuals, which he seems to regard as important in grasping how perception can lead ultimately to (genuine) universals (presumably through the progressive de-specifying, correlating and explaining of the *suches* that remain after the inherent link with the individual is broken).

from an essentially perceptual and particularistic form of γνῶσις to a conceptual and universal one.²⁴

On the other hand, the comment that some animals have ἐμπειρία, even if only a little, suggests strongly in the opposite direction.²⁵ More-

24 This view is maintained by Modrak (2000, 97-8):

As described here <viz. at 981a5-12> experience consists in many notions (ἐννοημάτων). The external world through sense perception acts on the mind, producing not only perceptions and memories, but also particular conceptualizations of the observed phenomena. The experienced person is in a position to articulate these observations in sentences describing the effects of the medication on this patient and that one. Experience comes into play when past and present observations are grouped together and common features are recognized and generalizations based on these features are made.

But it seems that this is precisely what experience cannot do. If it could, it would have a ὑπόληψις that the medicine 'benefited all such <people> defined according to a single form when afflicted with this illness', and this is the sort of γνῶσις that Aristotle contrasts with experience. One might think, however, that the merely experienced people are defective not in universality as such but in the degree to which their universals are 'defined according to a single form'. But there is no evidence for this in A 1 or II 19, and the impetus for such an interpretation would likely come from the view that 'ἐμπειρία' denotes the highest stage of knowledge attained by non-specialists in a field and that it underwrites their ability to think and speak about it. However, we know from *Parts of Animals* I 4, that Aristotle thinks that laymen sometimes do have well-defined universals:

Perhaps, then, it is right ... to speak in common in accordance with kinds whenever <one> is spoken of properly (καλῶς), men having defined it well, and has a single common nature and, in it, forms that are not very different, <e.g., the kinds> bird and fish, and <likewise> if there is any other that, though unnamed, includes the forms in it like a kind ... (644b1-6)

Surely the men who defined bird and fish well, by (as Aristotle goes on to tell us) noting 'the figures of the parts of the whole body', are ordinary people, rather than specialists; for Aristotle's point in this chapter is that we should eschew weird concepts introduced by philosophers in favor of (certain) concepts in ordinary use and of any new concepts that can be introduced on the sound policies that they exemplify. (For example, at 644a12-16, he rejects the idea that there should be a named kind, such as that introduced in *Sophist* 220b, embracing swimming and flying animals.) This respect for (but not subservience to) natural language is evident in other parts of the corpus as well. See my discussion of the 'named virtues' in Section II of 'Aristotle's Non-Dialectical Methodology in the *Nicomachean Ethics*' (*Ancient Philosophy*, forthcoming).

25 So does the comparison with *Phaedo* 75a and following (discussed earlier). Central to Plato's argument there is that the states that Plato attributes to recollection are

over, A 1's initial statement of the difference between *ἐμπειρία* and *τέχνη* focuses on universality rather than on precision or causal depth, which is only mentioned when Aristotle shifts his attention to how useful *τέχνη* and *ἐμπειρία* each are. That the experienced person's capacity affords him *ἐννοήματα* and *ὑπολήψεις* about particular cases, where the person with *τέχνη* has a single universal *ὑπόληψις* suggests that *τέχνη* enables its possessors to think universally about the relevant objects, whereas *ἐμπειρία* does not, which would mean that *τέχνη* but not *ἐμπειρία* involves the possession of concepts. This should not be taken to imply, however, that the merely experienced person lacks concepts altogether, only that he lacks certain concepts, and this points the way to a solution that reconciles most of the evidence.

There are different *δυνάμεις* of *ἐμπειρία*, resulting from memories of different sorts of objects. If we deny that *ἐμπειρία* is conceptual, we can think of each *δύναμις* as a sort of precursor to a concept, so that someone who is merely experienced about a given thing will not yet have the concept for it, though he may have other concepts, which may even play some role in his *ἐμπειρία*. A concept, too, is presumably a *δύναμις*, which is exercised in the various thoughts that employ it. Take for example the thought that Socrates is a bilious man burning from fever: the concepts 'bilious' and 'fever' are universal *λνώσεις* linked with one another, and with other concepts, through deductive relationships that enable us, when thinking of Socrates as bilious and feverish, to draw further conclusions about him.²⁶ A *δύναμις* for *ἐμπειρία* of biliousness, by contrast, would consist of a body of associated memories of individual bilious men and how they fared in different circumstances, and the *ἐννοήματα* in which it issues would be either memories about these particulars that are relevant to present circumstances or else *ὑπολήψεις* concerning the present circumstances which are somehow underwritten by the body of associated memories.

enjoyed from the moment of birth on. Plato surely cannot think that infants already enjoy articulate thoughts to the effect that two sticks or stones are or are not equal. Rather, he must think that the approximate equality of perceptible objects must occur to the infants in some more rudimentary way — that they have something like the pre-conceptual states that I go on to ascribe to the possessor of Aristotelian *ἐμπειρία*. Aristotle, of course, is committed to denying that infants have even these states from birth, because he thinks that they arise over time from memory.

26 I discuss the respect in which concepts are *γνώσις* in my 2008 §3.3.

If ἐμπειρία is understood in this way, there is nothing to prevent the memories in which the δύναμις consists (or the ἐννοήματα it produces) from involving conceptual content in some cases. For example, one might remember that Callias drank broth and that his complexion became less sallow, holding all this material in a conceptual form; as a consequence of an ἐμπειρία consisting of these and related memories one might have an ἐννοήμα to the effect that Socrates should drink broth or that he would become less sallow if he did so. What could not be present, however, would be the concept 'bilious'. The experienced person would simply regard the various bilious people as evocative of one another in some way, and this would dispose him to apply material remembered about one to the others.²⁷ The experienced man, like the possessor of a τέχνη, may reach the same ὑπόληψις about a particular and even hold it conceptually. The difference is that the τέχνη-possessor will reach the ὑπόληψις *conceptually*, whereas the merely experienced man will not. The τέχνη-possessor will think of Socrates as bilious and use his knowledge of biliousness to reach the conclusion that Socrates should drink broth, whereas the merely experienced person has no concept 'bilious' and no content about bilious people as such, only more or

27 Cf. Charles (2000), 152:

The experienced person can pick out particular people as the ones to be treated by this medicine, but will still lack the resources to say (or understand) what groups them together as a unit. Thus, she may be able to say correctly: 'This case is like that one', but not yet grasp in any general terms what the relevant likeness consists in. Her ability comes to no more than her being able to say: 'This individual (Socrates) is like that one (Kallias) in (e.g.) that respect' (pointing to some demonstrated feature of Socrates).

Similar remarks may apply to her grasp of this illness or this medicine. In each case, the relevant person with experience has no more grasp on *illness* or *medicine* than is given by her ability to discriminate particular instances on the basis of their being like other particular cases. Thus she will not grasp universals.

He goes on to note that some may describe the experienced person as having 'the concept of the relevant illness' since she 'can discriminate instances when confronted with them':

but this label is misleading. Aristotle's point is this: the content of a knowledgeable person's thoughts is fully general, involving universals which contain no essential reference to particular cases, but the person with experience alone enjoys a distinctive type of content, essentially constituted by reference to particular cases.

less associated content about different bilious men. He has, if you will, no *mental file* for biliousness, though he has a bunch of associated material that belongs in such a file. We can think of him as noticing relations between various pieces of paper (analogous to individual memories) and so placing them near to one another, with the result the papers that might be filed together cluster into a (more or less distinct) pile.²⁸

In the previous example, the subjects of the memories that cohere into the δύναμις for ἐμπειρία are individuals, but (for all that Aristotle says) this need not always be the case. We can envision a similar associational state arising among universals. A person might, for example, have the concepts 'ant', 'beetle', 'bee', etc. while lacking the concept 'insect' and yet have his (perfectly general) ant-knowledge associated with his beetle-knowledge, in such a manner that it often occurs to him that something may be true of beetles when he knows it to be true of ants. Thus we can envision different degrees of conceptual sophistication that might be involved in different ἐμπειρίαι. A cat may have ἐμπειρία of mice without having any concepts at all, while a pre-Aristotelian metaphysician might, on the basis of some fairly sophisticated concepts, have ἐμπειρία of potentiality, essence, or final causality without yet having concepts for these things.

The experienced person's frequent ἐννοήματα may, of course, prompt him to organize the pile into a file — to form a concept for the biliousness that Socrates and Callias have in common. This is likely Aristotle's point when he says that a 'single universal ὑπόληψις' arises 'from many ἐννοήματα of ἐμπειρία'. However, this development represents a step beyond the limits of ἐμπειρία into (or at least towards) ἐπιστήμη or τέχνη.²⁹ Until he takes that step, the experienced person lacks the con-

28 I adapt this analogy from Binswanger (1989), who was elaborating on Rand's (1990, 67) likening of one's body of concepts to a complex filing system.

29 Charles, with whose treatment of experience I largely agree, describes what this step might consist in:

Reflection on what is common in the particular cases of illness one has confronted and treated, and how they differ from other somewhat similar cases, gives an initial impetus towards grasping the relevant universal and seeing its connections with, and distinctions from, other related universals. Initially, one may introduce a term (e.g. 'dropsy') as a way of labeling the instances one thinks of as examples of one type of illness. One may grasp some of the symptoms which one has found in general terms (nausea and lethargy followed by fever), and also note which medications work for which patients. For, one is

cepts in which the τέχνη (e.g.) of medicine consists, and which would enable him to render precise more ordinary concepts like 'sick' which he may have and to grasp the causes of symptoms that he may be able to conceptualize at some level of precision. Someone, possibly a medical student, might have imprecise versions of [at least some of] the concepts lacked by the merely experienced person, without fully having the τέχνη, as someone might learn the concept 'insect' or 'thunder' without yet having a deep understanding of what an insect or thunder is. Someone who uses the word thunder knowing that it designates a 'certain noise in the clouds' will have the concept. Mere ἐμπειρία with regard to thunder would be possessed, for example, by a child who has started associating memories of that certain sound, but doesn't yet treat it as a unit in thought, or by an animal that has come to expect to hear such a sound whenever it sees lightning.

If the preceding interpretation of ἐμπειρία is correct, then a complex body of largely conceptual knowledge might qualify an ἐμπειρία relative to the concepts that would serve as principles of an ἐπιστήμη or τέχνη — say, perhaps, to the concepts of the four humours in medicine. Aristotle, writing in his brisk and essentialized manner, may have simply omitted the formation of the other concepts which we would form in the course of the progression from perception to these concepts and which would be partially constitutive of our medical ἐμπειρία, especially since it is likely not true in the case of every ἐπιστήμη that the experience from which its principles arise involves concepts. Surely the concept 'animal' is a principle of zoology, as may be the concepts for some species and genera of animals, but these are just the sorts of concepts that a child is likely to form first.³⁰

concerned to see which types of treatment work for which patients and which do not, and to find some way of representing this knowledge at a general level (e.g. so as to communicate it to others). (Charles 2000, 156-7)

If one follows a route of this type, one has some reason to think that one is in touch with a genuine kind. This thought is underwritten by the similarities one sees in the cases with which one interacts. While it is a step beyond experience to grasp in general terms the illness with which one interacts, it is one which arises naturally from experience.

30 On some of the issues involved in whether the various species and genera of animals are primaries, posited by the science, see above my 2008 §3.2.3, n. 3. *Posterior Analytics* I 10 tells us that the kind an ἐπιστήμη studies is constituted by the things that it posits to exist, which may suggest that the genus animal, which is the

Depending on one's theory of concepts and of what it takes to possess them, one might regard ἐμπειρία as I have described it here as conceptual. I myself do not, and since concept is not Aristotle's own term, it is not crucial for interpreting him that we settle this matter. What is important for our present purposes is that in some strong sense at least ἐμπειρία is of particulars rather than universals. The main alternative to the way I am interpreting the state is to think of someone as possessing only ἐμπειρία about a given subject until he has reached its principles and attained ἐπιστήμη (or τέχνη if the subject is productive rather than theoretical).³¹ On this view, whether or not we credit the experienced

subject of zoology, is constituted by multiple distinct posited species of animals, in which case each may be a primary. On the other hand, it may be that all or some of the species have their existence demonstrated from such things as the existence of the genus, the basic contraries predicated of it, and the relationships between these various dimensions of contrariety. Likely, both kinds of structures are to be found in ἐπιστήμαι. *Politics* IV 4, 1290b25-38 endorses the latter sort of structure in the case of zoology, but there is hardly any evidence of it in the zoological works themselves. A notable exception is *Generation of Animals* III 11's bizarre speculation about fiery animals on the moon (761a33-b23), which gives some indication that Aristotle thinks he can derive the existence of different broad animal types from general principles concerning animals and the four elements.

- 31 This is Bolton's (1976) position, as he thinks that the tie to the remembered particulars is necessary to fix the reference of the thoughts until one has a deep understanding of the essence. Modrak's view is similar, and she stresses the idea that the contrast between universal and particular ὑπολήψεις in A 1 is between precise or scientific cognition and a more casual sort of universality that she thinks is part of ordinary thought and language use.

By grouping together appropriate memories, the experienced person is able to make use of generalizations and to bring past observations to bear on the present situation. Insofar as this person employs generalizations, this person can be said to produce homespun universals, and Aristotle's description of experience in the *Posterior Analytics* <at 100a6-9> suggests as much. What experience does not yield are universals in the technical sense of the *Posterior Analytics'* definition of universal <i.e. the one given in I 4 at 73b25-a4> , and Aristotle often makes the divide between experience and art by employing the contrast between universal and particular in the strict sense. The scope of the universals of art and science should be such that the universal is predicable of all and only those objects that exemplify the universal at issue, and this is equally true for the universal principles of art and science, where one universal description is predicated universally of another. The difference in scope and character between the rudimentary universals of experience and the universals of art and science parallels the difference between linguistic meanings and scientific definitions. (Modrak 2003, 98)

person with concepts in the relevant domain, we will have to think of his mental contents as not fully universal until they have been rendered perfectly precise and taken their place in a finished ἐπιστήμη. I have indicated why I do not think this interpretation is correct, but little turns on this for the points that I want to make about the advent of universals in the next section.³² What is important going forward is that an experienced person has a certain δύναμις that is distinct from a (precise) concept but can approximate to its function.

IV The Advent of Universals

We are told little about the final step from perceptual cognition of particulars to the grasp of universals. On Aristotle's first pass through the progression, he makes only the remark we've already seen — that a principle arises 'from experience, or from all of the universal that has settled in the soul — the one besides the many, which would be the same one in all these' (100a6-8). We are next given the famous metaphor concerning a rout in battle, which is supposed to illustrate this explanation of how γνώσις of principles can arise from less g-knowing states (100a10-13). Then (at 100a15-b3) Aristotle concludes with (what he takes to be) a more 'plain' (σαφής) restatement of the account.

Though I agree that the sense of universal defined in *Posterior Analytics* I 4 captures an important difference between ἐπιστήμη and art on the one hand and less precise conceptual γνώσεις on the other, I know of no evidence that Aristotle ever (much less 'often') uses this definition to distinguish art and science from experience, and I can find none in Modrak. (She cites *Metaphysics* A 1 981a15-20, but nothing of use is to be found there.) I also agree more generally that there is a difference between the most imprecise universal γνώσις that will allow for thought (and speech) and the precise form in which concepts figure in a mature ἐπιστήμη — a point which she is right to emphasize and to which I do not think Charles gives sufficient attention. But I do not think there is any item in Aristotle's thought corresponding to a 'linguistic meaning' and I don't think that thought or speech arises until after the level of experience. Language is an expression of thought, which is universal (putative) γνώσις and experience is not yet universal in character.

32 This does make a big difference, however, for some of the scholars who approach Aristotle through the lens of twentieth-century philosophy of language, and especially for Bolton, because the more inclusive reading of experience makes the attribution of a Putnam-like theory of reference to Aristotle more plausible than it otherwise would be. Thus the defense of this view is central to Bolton's project and to Charles' refutation of (and alternative to) reading Aristotle as a 'modern essentialist'.

In this last treatment of the issue, Aristotle explains the progression using decompositional or divisional language. When an individual member of a species is standing, there is already a universal present in the soul,

then in these <something> stands, until a partless and universal thing stands — e.g., such an animal until animal, and in this likewise. (100b1-3)

Here we have a description of a process by which we can proceed from determinate universal concepts, such as ‘man’, to wider concepts such as animal — and perhaps by which we can go from *suches* that are more plausibly present in φαντάσματα of individuals to genuine universals. It a process of division: man is broken down into ‘such an animal’ — i.e., into (say) animal and bipedal, a universal genus and a differentiating feature. Plausibly man itself was reached by breaking down Callias in like manner: he is such a man — perhaps a white, sophist-hiring man. In any event, the process can be iterated; animal can be divided into (say) living thing and perceptive, until one is left with indivisible primaries. (Notice, incidentally, that Aristotle does not say that we do not have a principle of ἐπιστήμη until we arrive at the partless universal. He says only that this is where the process stops. It may be that prior to that point we have already reached a principle from which a less precise ἐπιστήμη can depart.)

Paradoxically, the rout metaphor, which is supposed to represent the very process that is explained more ‘plainly’ in divisional terms, involves the coming together of a whole from parts. A phalanx is no part of a hoplite; quite the reverse. Given its position in the text, the metaphor must be meant to illustrate the coming to be of something determinate like the phalanx from something indeterminate like the group of hoplites scurrying in retreat. However, the metaphor is too complex to be used to illustrate only that order can arise from disorder, and the reuse of the language of ‘standing’ in the subsequent ‘plain’ treatment suggests that the details and stages in the metaphor are meant to have analogs in the cognitive process. Let us, then, consider how a phalanx would re-form after a rout and how its stages might mirror the stages of the progression from memory through experience to principles.³³

33 I write specifically of hoplites and phalanxes to conjure a specific image. Of course, there are (and were in the Greek world) other types of military units that might

It is significant that the phalanx is a functional whole. A single hoplite standing his ground is able to maneuver in certain ways, deflecting blows from one side with his shield while thrusting from the other, but he is not able to take the actions distinctive of a phalanx or to function as he would as a phalanx-member. As other hoplites take their stands with him, they can increasingly work together, but they still function essentially as individuals rather than as phalanx-members. They cannot perform the maneuvers distinctive to a phalanx, though as more hoplites make their stands, they can begin to approximate to these maneuvers. This, I want to suggest, is the analog of ἐμπειρία, which allows one to reach a conclusion about a novel case based on old γνώσις, but not in the systematic way that ἐπιστήμη or τέχνη does.

Continuing our story of the rally, at a certain point all the members of the phalanx are present. Now there is a step between the ad hoc co-functioning of the whole group of hoplites and their self-conscious organization into a proper phalanx. I think it is the analog of this transition that is signaled by the phrase 'from experience or from all the universal that has settled in the soul', around which there is some scholarly controversy. McKirahan frames the issue nicely:

Is <the conjunction 'or'> (a) disjunctive (the principle of science comes *either* from experience *or* from the universal in the soul), (b) explicative (it comes from experience, *that is to say* from the universal in the soul), or (c) progressive (it comes from experience, *or rather* from the universal in the soul, which is the next stage after experience)?³⁴

Reading (a) is implausible and hasn't won any significant defenders.³⁵ Reading (b) is accepted by Barnes, Bolton, Modrak and probably Ross.³⁶ The third, which McKirahan adopts, was Aquinas' view and is

be routed and then reform. The points I go on to make could be applied, mutatis mutandis, to any.

34 McKirahan (1992), 243

35 Though Charles (2000, 150-1, especially n. 8 and n. 10) suggests some considerations on its behalf.

36 Barnes (1993), 294; Bolton (1976), 530; Modrak (2003), 98. In his periphrastic translation, Ross (1947, 674) renders the 'ἢ' as 'i.e.', but what he says in his commentary on *Metaphysics* A 1 about the relation between experience and universals could be read as suggesting something nearer to the position I advance below:

defended by Charles.³⁷ I think this reading is closest to correct, but that the 'or' is not quite corrective. Rather, I think the rout metaphor gives us a way to see the whole universal's coming to settle in the soul as a sort of culmination or limit to experience — a point at which it ceases to be experience and becomes more, just as, when enough hoplites have made their stands in the appropriate relations to one another, they cease to be a bunch of hoplites and become a phalanx. On the metaphor, ἐμπειρία is the *gathering* group of hoplites that can function ad hoc, without central command, in a way that more and more closely approximate the functioning of a phalanx. There is then a moment when the whole of the phalanx is there, and it remains only for it to conceive of itself as a whole and self-consciously to function as such. At the corresponding moment in the soul, there is a universal present, in that the δύναμις in which the experience consists has acquired all the functionality of a concept. At this moment, the knower can say about the instances *what they are* and see this as a *basis* for having the sorts of ὑπολψεις about them that his δύναμις for experience has been generat-

What is revived by memory has been previously experienced as a unit. Experience, on the other hand, is a coagulation of memories; what is active in present consciousness in virtue of experience has not been experienced together. Therefore (a) as embodying the data of unconsciously selected awareness it foreshadows a universal; but (b) as not conscious of what in the past is relevant, and why, it is not aware of it as universal. I.e. experience is a stage in which there has appeared the ability to interpret the present in light of the past, but an ability which cannot account for itself; when it accounts for itself it becomes art. (1924a, 116-17)

In this passage (which is reproduced in the commentary on *Posterior Analytics* II 19), he treats it as ambiguous whether merely experienced people have universals, and the sense in which he thinks they do have them amounts to nothing more than their possession of the inarticulate ability that I've attributed to them, whereas on Modrak's and Bolton's views, the experienced person should be able to give some sort of account of his reasons for thinking what he does about present cases. Certainly the person who conceives of ice as 'solidified water' (without knowing that this is due to the total absence of heat) could explain why he thinks he'll be able to skate on the ice rather than falling through it. And the person who knows that the moon is now eclipsed will either know this by perception, in which case he will be able to say that he can see that it has no light, or else by inference (e.g., assuming that he is looking at the ground rather than the sky, from the moon's failure to cast shadows [cf. *Posterior Analytics* II 8, 93a37-b3]), in which case, he should be able to state his premises.

37 Berquist (2007), 339; Charles (2000), 151ff

ing for some time. Thus he is in possession of a concept and a principle that he did not have before.

The preceding is speculative, as any interpretation must be given the sparseness of Aristotle's imagery, but I think it is suggestive. Whether or not the details are right, what is most significant is that the metaphor involves a group of things forming a functional whole by coming into a determinate order. Universals have a job to play in the soul: they make possible ἐπισήμη (and τέχνη and, presumably, φρόνησις) by serving as the terms in (and principles of) demonstrations.³⁸ What it is to have a concept (i.e., a universal in one's soul) must be understood (in part at least) in terms of being able to perform this function, and it makes sense that the concept-formation (or principle-acquisition) should be understood in terms of the coming to be of such an ability from other, less rarified, cognitive states and dispositions.

The compositional perspective provided by the metaphor is significant: if we look at the process of concept formation only divisionally, as the cognitive extraction of a single universal from memories of particulars in which it cohabitates with differentiating features, it becomes mysterious why more than one memory is necessary.³⁹ Perhaps the many memories could make the universal form salient by providing contrasting contexts for it, but if this were Aristotle's view, we would

38 I discuss the function of concepts or universals at greater length in 'Aristotle's Conception of Universality' (especially Part VI) and in my 2008, Chapter 3.

39 And II 19 is not the only evidence that we need to have perceived many particulars to grasp the universal:

There is no e-knowing through perception. For even if perception is of a such and not of a this such, still necessarily <one> perceives a certain this and <one perceives it> here and now. And it's impossible to perceive what's universal and applicable to all; for it's not a *this* nor <is it> *now* (otherwise it would be universal; for what exists always and everywhere we say is universal). So, since demonstrations are universals and <one> can't perceive these, it's evident that there is no e-knowing through perception; but rather it's clear that even if one could perceive that the triangle has angles equal to two rights, we would seek a demonstration and not, as some say, already e-know it; for, while what one perceives is necessarily a particular, e-knowledge comes by getting to g-know a universal. That's why, even if, while on the moon, we saw the earth intercepting, we would not o-know the cause of the eclipse. For we would have perceived that there's now an eclipse, and not wholly why; for there was not perception of the universal. Nevertheless, <since> the universal comes about from observing this many times, if we hunted <for it> we would have a demonstration; for from many particulars the universal is revealed. (I 31, 87b28-a5)

expect the metaphor to bring this out, or at least for there to be some indication of it in the text, and there isn't either in II 19 or elsewhere.

When we take the compositional and functional elements of the metaphor together, we get an image of an Aristotelian concept as a complex cognitive state or disposition that is built on or incorporates more primitive states of the perceptual part of the soul. However, as we've seen, Aristotle also speaks of the same process of concept-formation in divisional terms, suggesting that there is another respect in which the concept is more simple than the perceptual states from which it comes to be. Key to understanding Aristotle's position on concepts and on their role in knowledge is seeing how these two perspectives can be two perspectives on the same phenomenon. But that is a project for another occasion.

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