Introduction

In Part 2, I argued that a number of later Platonic dialogues, notably the *Timaeus* and the *Philebus*, enrich Plato's psychological theory by adding a reasonably well worked out conception of non-rational cognition that is centred on the senses, but not limited to what is presented in acts of sense-perception. It crucially includes memory, which Plato conceives of as the preservation and re-enactment of sensory impressions.

In Part 3, I intend to show that Aristotle employs a somewhat more developed version of this Platonic conception in attempting to account both for the motivation of non-human animals and for the non-rational forms of human motivation. Like Plato, Aristotle operates with a rich conception of non-rational cognition that involves sense-perception as well as the preservation and re-enactment of sensory impressions. One significant Aristotelian addition is a theory of associations between sensory impressions, which clarifies how non-rational cognition can involve the formation of complex and ordered sensory representations, as well as the active occurrence of action-guiding representations that are suitable and relevant to the animal's, or person's, current circumstances as these are grasped by way of the senses. Like Plato, Aristotle operates with a conception of practical rationality that is clear and defensible, though not, of course, uncontroversial. One thing that he takes to be characteristic of practical rationality is the grasp of 'for the sake of' relations, which include, but are not limited to, means–end relations. This kind of grasp, he thinks, is a prerogative of reasoning creatures, and of the rational parts or aspects of their souls. For Aristotle as for Plato, means–end reasoning is always an exercise of reason.

It may be useful to state a number of commitments that are central to both Plato's and Aristotle's psychological theories, as these emerge from the interpretations I am presenting and arguing for. For Aristotle as for Plato, human motivation springs from a number of different sources, only one of which incorporates the capacity for reasoning. The cognition involved in the non-rational forms of motivation is centred on the senses. One way in which sensory cognition is richer than it may initially appear to be is that it includes the preservation and re-enactment of sensory impressions. Moreover, it is a fact about the constitution of the human soul that the intellect and the sensory system are integrated so that at least some acts of the intellect are accompanied by exercises of the sensory imagination in and through which the subject envisages the objects of thought in a sensory mode.

This is not to say that there are no significant differences between Plato's and Aristotle's psychological theories. There are, and I shall discuss some of them in the Conclusion. The task of Part 3 is to present and interpret Aristotle's

conception of non-rational motivation, and of the cognition involved in such motivation. As in Parts 1 and 2, my focus will be on appetitive motivation.

The task of Chapters 8–10 is to lay out and defend a certain view about what Aristotle takes the mental capacity that he calls *phantasia* to be, and what role he takes it to play in non-rational motivation. On that view, *phantasia* is a capacity for sensory representation that enables the representation of features and objects of various kinds that are not currently perceived by way of the senses. I shall argue that Aristotle assigns to that capacity a prominent role in the production of behaviour, and in particular in the production of purposive locomotion, because he takes it to be able to do something that perception cannot do, which is to put an animal in cognitive contact with prospective situations. Such cognitive contact, I shall argue, is required for the formation of desires that impel the animal in question to engage in goal-directed locomotion, which is the particular form of animal behaviour that is Aristotle's central concern in his writings about the motivation of animals. These writings are the *De Motu Animalium* and *De Anima* 3.9–11.

Chapter 8 introduces the 'chain of movers' passage from chapter 8 of the *De Motu Animalium* (702ª17–19). That passage offers a picture of the production of animal movement in which *phantasia* is given the role of 'suitably preparing' desire. Much of Part 3 is meant to shed light on why this role falls to *phantasia*, what tasks are involved in playing it, and how *phantasia* can accomplish those tasks. The chapter adds a number of preliminaries. It presents and briefly discusses the evidence for thinking that Aristotle conceives of *phantasia* as a cognitive capacity that enables both humans and non-human animals to apprehend objects of desire. It also reminds readers of Aristotle's denial of reason to the brute animals, of his interest in animal behaviour, and of his evident awareness of the considerable cognitive powers exhibited in many forms of animal behaviour.

Chapter 9 begins by noting two appearances. These in fact are commonly taken at face value in the relevant secondary literature. The first of them is that, according to the 'chain of movers' passage, forming a desire requires having some suitable *phantasia*. Secondly, Aristotle's account of animal motivation in *De Anima* 3.10–11 commits him to the view that if an animal is capable of desire, it must be capable, not only of perception, but also of *phantasia*. On my own view, which will not be fully stated until the end of Chapter 10, neither of these appearances is quite right. Nonetheless, I take both of them to contain important grains of truth. In Chapter 10, I shall attempt to extract those grains of truth. Before this can be done, however, it is necessary to get clear about what Aristotle is committing himself to in the texts pinpointed by the two appearances just stated. In the context of the 'chain of movers' passage, as well as in the entire discussion in *De Anima* 3.9–11, he is attempting to explain, *not* desire-formation or action-production in general, but the rather more specific phenomenon of the production of purposive movement from one place to another. Once this is duly taken into consideration and all relevant texts are interpreted accordingly, it becomes clear that what he is committed to, so far as non-rational motivation is concerned, is not that

phantasia is required for the formation of every desire, but that it is required for the formation of desires that impel animals to engage in locomotion. It is specifically this Aristotelian commitment that my interpretation is meant to explain. I begin by identifying a cognitive task that animals must accomplish if they are to form desires that impel them to engage in locomotion. This is to apprehend prospective situations. For example, if a lion is to form a desire to eat a stag that it sees somewhere in its environment, it must in some way apprehend the prospect of eating the stag. This, it should be clear, is not a task that perception by itself can accomplish. A good part of Chapter 9 is meant to show that, given how Aristotle conceives of *phantasia*, it can accomplish that task.

Chapter 9 sets out an interpretation that explains why Aristotle thinks that some suitable *phantasia* is required for the formation of desires that impel animals to engage in locomotion, taking it that, so far as non-rational motivation is concerned, he is committed only to the view that *phantasia* is required for the formation of *such* desires, rather than to the stronger view that it is required for the formation of every desire. Chapter 10 completes my argument for thinking that Aristotle is committed only to the weaker one of these two views about the connection between desire and *phantasia* in non-rational motivation. It does so by offering positive reasons for thinking that he does *not* take the view that desire-formation always requires some suitable exercise of *phantasia*, and that he is committed to *rejecting* the view that every creature capable of desire must be capable of *phantasia*. The overall interpretation of Aristotle's position that I shall present and argue for also resolves two apparent contradictions in the *De Anima*, one about *phantasia* and whether there could be animals that are incapable of it, the other about self-movement and whether there are animals not capable of that. On both counts, Aristotle's answer is a clear and unqualified 'yes'.

It is in Chapter 11 that I turn to Aristotle's version of the association of ideas. The chapter begins with the question of how he can think that the cognitive achievements involved in all forms of non-human animal behaviour can be adequately explained just in terms of perception and *phantasia*. Chapters 11 and 12, it should be noted, concentrate on non-human animal behaviour as exhibiting the clearest and most straightforward case of non-rational motivation. They aim to bring out a rich and interesting conception of non-rational cognition, in which *phantasia* plays the main role. In Chapter 13, I shall take up the question of the extent to which Aristotle takes that conception to be applicable to the motivation of ordinarily developed, adult human beings.

It is plain, to Aristotle as well as to us, that many kinds of non-human animals exhibit purposive behaviour in ways that are highly sensitive to their current circumstances as they grasp them by way of their senses. Their behaviour tends to be relevant and suitable to their circumstances. For example, a hungry and normally developed lion that notices a stag in its environment will typically try to hunt it down and eat it. If Aristotle thinks that such behaviour requires the occurrence of suitable sensory representations by means of which the lion apprehends the

prospect of eating the stag, he needs to explain why it is that non-human animals tend to have behaviour-guiding representations that are relevant and suitable to their circumstances. I shall argue that Aristotle's conception of sense is rich enough to enable him to explain the occurrence of *relevant* sensory representations. What he calls the perceptual part of the soul, I shall suggest, is a system of capacities centred on the capacity for sense-perception, which also includes the capacity for *phantasia*. Moreover, I shall argue that he takes it to be part of the functioning of that system of capacities that suitably constituted animals form and maintain associations or connections between sensory impressions, to the effect that the active occurrence in the animal's perceptual system of one specific representation tends to 'trigger' the active occurrence of some other specific representation. My argument for this view for the most part consists of detailed textual analysis of a number of passages from the *De Insomniis* and the *De Memoria*.

The *De Insomniis* contains a rather elaborate theory of sensory affections being preserved in the perceptual apparatus of suitably constituted and conditioned animals. Such affections are potentialities for sensory representations, and Aristotle's theory posits the existence of dispositions that obtain among them such that sensory representations tend to follow one another in certain orderly ways. It is, moreover, clear from Aristotle's discussion that he takes the formation of such dispositions to be part of the functioning of the perceptual part or aspect of the soul.

Aristotle's account of recollection in *De Memoria* 2 makes use of his theory of ordered sequences of sensory representations, and in doing so sheds light on the questions of what sorts of connections or associations he envisages, and how he thinks the dispositions that underlie them are formed and maintained. He envisages associations of a number of different kinds, such as associations between things that are temporally or spatially proximate to each other, and things that are similar, or opposite, to one another. And he thinks the underlying dispositions are formed and maintained chiefly by habituation. I shall argue that Aristotle takes the formation and maintenance of at least some such dispositions to be part of the functioning of the perceptual system of suitably constituted animals. My argument for this conclusion will be somewhat complicated, and will involve a number of claims about how he conceives of recollecting, and about certain aspects of his conception of memory. A full statement of my argument will therefore require analysis both of the discussion of remembering in *De Memoria* 1 and of the subsequent remarks in *De Memoria* 2. The upshot of my argument will be that it is part of Aristotle's conception of sense that the perceptual system of suitably constituted animals can all by itself account, not only for acts of sense-perception, but also for associating one thing with another, remembering things, and being reminded by something of something else. If so, it should be clear that, so conceived of, the perceptual system can also account for the occurrence of sensory representations that are relevant and suitable to a perceiving subject's current circumstances.

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In Chapters 8–11, *phantasia* will emerge as a powerful cognitive capacity that can account for the occurrence of representations that are both indeterminately complex and relevant to the subject's current circumstances as grasped by way of the senses. On that basis, it will be easy to see why Aristotle thinks that it is at least for some purposes appropriate to treat *phantasia* as 'thinking of a sort' (*De Anima* 3.10, 433ª9–12). One crucial point of contact between thought and *phantasia* is that both can present prospective courses of action, and, in doing so, provide the cognitive underpinnings needed for the formation of desires that impel animals to engage in movement from one place to another.

However, Aristotle plainly insists that *phantasia* is different from thought, and that none of the cognitive achievements of the brute animals counts as an act of thought. Chapter 12 addresses the question of whether his denial of thought and reason to the non-human animals is coherent and well-grounded. The chapter begins with some clarificatory remarks, showing that, within Aristotle's conceptual framework, practical thought is reason's cognitive contribution to the production of action. To justify his denial of reason to the non-human animals, it is necessary and sufficient to justify his denial of practical thought to them; and this is what the chapter attempts to do. I shall provide a detailed picture of how Aristotle conceives of practical thought. I shall then argue that practical thought, so conceived of, includes a number of features that are *not* part of the conception of non-rational cognition to be described in Chapters 8–11. The key point will be that practical thought crucially includes the apprehension of 'for the sake of' relations. I shall conclude on that basis that Aristotle has a viable distinction between rational and non-rational forms of motivation. While his position invites questions of various sorts, and stands in need of development, it seems that his denial of reason to the brute animals is well-grounded and defensible.

In presenting and discussing Aristotle's conception of non-rational cognition, I shall for the most part concentrate on the cognitive resources that his psychological theory makes available to non-human animals. I shall do this in order to arrive at a maximally clear and straightforward Aristotelian conception of cognition which does not involve, and is not affected by, any distinctively rational resources. Having worked out such a conception, I shall complete Part 3 by arguing, in Chapter 13, that Aristotle takes a conception very much along these lines to be applicable to the non-rational forms of human motivation. I shall argue that even though it is part of his moral psychology that all of a human being's cognitive and motivating conditions are rational in a way, this leaves intact a clear sense in which appetite and spirit are non-rational forms of motivation, and also a clear sense in which at least some of the cognition involved in such motivation is non-rational.

I shall begin by discussing his outline account of the human soul in *Nicomachean Ethics* 1.13. In that account, he says that the part or aspect of the soul that is the source of appetitive and spirited desires is rational in an extended sense of the word. What being rational in this extended sense comes to is being able to obey, or listen to, reason. Aristotle's claim that the source of appetitive and

spirited desires is rational in this sense, I shall suggest, requires no more than that there are certain ways in which reason can influence and affect appetite and spirit—for instance, by getting occurrent non-rational desires to subside, or to grow less intense. This may come about when reason redirects the person's attention from, say, the pleasure that seems imminent to some other prospective pleasure, or to some prospective pain. Aristotle does not have the *Timaeus*' problem about the possibility of communication between reason and the lower parts or aspects of the soul.[1] Perhaps taking his cue from the *Philebus*' simile of the illustrated book, he sees intellect and sense as integrated so that all acts of the intellect are accompanied by exercises of the sensory imagination in and through which the subject envisages the objects of thought in a sensory mode. As a result, his psychological theory can easily explain how it is that thoughts of, say, prospective pains or pleasures can get a grip on the non-rational part or aspect of a person's action-producing apparatus.

It should be clear, then, that Aristotle's claim that appetite and spirit can obey, or listen to, reason leaves plenty of room for a robust sense in which appetite and spirit are non-rational forms of motivation. That having been established, I shall turn to Aristotle's account of lack of self-control in book 7 of the *Nicomachean Ethics*. The passage I shall focus on is the comparison between appetitive and spirited lack of self-control in 7.6, with its suggestive claim that spirit follows reason in a way, while appetite does not. My discussion of that passage in its context is meant to offer a clear and detailed view of the sense in which Aristotle takes appetitive and spirited desires, in mature and ordinarily developed human beings, to be non-rational. It is also designed to show that Aristotle's moral psychology not only leaves room for, but in fact requires, a conception of non-rational cognition more or less along the lines of the conception to be presented in Chapters 8–11.

What will emerge from the overall discussion in Part 3 is a conception of the human soul that clearly and sharply distinguishes between reason and a non-rational part or aspect that is the source of appetitive and spirited desires. It sees reason, spirit, and appetite as integrated and interrelated in a number of ways. At the same time, it is part of the conception that both appetite and spirit can, and often do, generate and sustain fully formed impulses to act in specific ways without it being the case that thought or reason are active at the time *in any way at all*.

[1] For a brief statement of that problem, see Introduction to Part 2.

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8

Preliminaries

We have two discussions by Aristotle of what I shall call animal motivation—the production, that is, of the kind of locomotion that is characteristic, not only of human beings in particular, but of animals in general. It is clear from both of these discussions, the *De Motu Animalium* and *De Anima* 3.9–11, that a capacity that Aristotle calls *phantasia*—often translated as 'imagination'[1]—plays a prominent role in his account of animal motivation. He plainly takes animal motivation to presuppose desire (ὄρεξις). He appears to think, moreover, that desire, in turn, presupposes *phantasia*. To see this, consider the following passage from the *De Motu Animalium* (in what follows, the 'chain of movers' passage): 'Affections suitably prepare the organic parts, desire (ὄρεξις) [sc. suitably prepares] affections, *phantasia* [sc. suitably prepares] desire; and *phantasia* arises through thought (νόησις) or through perception' (*De Motu Animalium* 8, 702ª17–19).[2] It is clear, furthermore, that *phantasia*, as Aristotle conceives of it, has a cognitive aspect. Desires aim at objects,[3] and so the desiring subject needs to have some form of cognitive access to the object of desire. In other words, to desire is to desire *something*, and desiring something (whatever it may be) involves being aware of it, or anyhow representing it, as in some way attractive—for instance, as pleasant. *Phantasia* is cognitively rich enough to be able to account for an animal's awareness of suitable objects as in some way attractive. This is shown, for instance, by a passage in *De Anima* 3.10, where Aristotle says that objects of desire move an animal in virtue of a suitable thought or a suitable *phantasia* (τῷ νοηθῆναι ἢ φανταοθῆναι, 433ᵇ11–12).

[1] The conventional translation, as it happens, suits my interpretation remarkably well. One significant shortcoming of using 'imagination' to denote the capacity in question is that it may suggest it is limited to *visual* representations or 'visualizations'. The same, however, goes for the Greek term φαντασία, as Aristotle notes at *De Anima* 3.3, 429ª2–4. A more serious shortcoming of 'imagination' as a translation of φαντασία is that it cannot be used when the Greek word denotes, not a mental capacity, but a product of its exercise—that is, a sensory representation. I shall in what follows use the word *phantasia* to denote the capacity. I shall use the same word, and also (I regret to say) the plural *phantasiai*, to refer to sensory representations.

[2] My translations from the *De Motu Animalium* are indebted to *Aristotle's* De Motu Animalium, ed. and trans. M. Nussbaum (Princeton: Princeton University Press, 1978).

[3] Cf. *De Anima* 3.10, 433ª15–16: 'every desire is for the sake of something: for the object of desire is the starting point for the practical intellect.' Most of my translations from the *De Anima* are, to some degree or other, indebted to *Aristotle's* De Anima: *Books II and III*, trans. D. W. Hamlyn (Oxford: Oxford University Press, 1968).

Since the brute animals lack thought (νόησις, *De Anima* 3.10, 433ª11–12), they must be moved by objects of desire as presented to them by *phantasia*. Moreover, it should not be the case that *phantasia* represents to animals *just anything* as being in some way attractive. If non-human animals of some species or other are to survive and live in the way characteristic of the species, it is not enough for them to be equipped with a capacity that represents any random thing as attractive. They must have a capacity that by and large *succeeds* in representing things as (say) pleasant that in fact are pleasant to them—e.g. suitable sorts of food. Thus a lion's *phantasia* of something or other—say, a stag—as pleasant will tend to be about right: the stag typically will turn out to be pleasant to the lion much as the *phantasia* in question promises it to be.

As is well known, Aristotle denies that the brutes have reason (λόγος).[4] He therefore cannot account for the formation of *phantasiai* in non-human animals in terms of reason and its resources. Moreover, if non-human animal *phantasia* does indeed have a cognitive aspect, as one would naturally expect, the cognition in question must, on Aristotle's view, be in some sense non-rational. Now it is plain that some non-human animals have remarkable cognitive abilities. It is also plain that Aristotle is duly impressed by the cognitive abilities of non-human animals. In *Historia Animalium* 8.5, he records some relevant observations:[5]

> Among animals that are wild and quadruped the deer is held to be an intelligent (φρόνιμος) one, not least because it both gives birth alongside the roads (for the wild beasts do not approach because of the humans) and, after giving birth, first eats the membrane. Also they run for the seseli and eat it before going back to their young. Further, she leads the young to their lair, habituating (ἐθίζουσα) them to the place where they should seek refuge . . . Further, the male when it has grown fat (and it does grow very fat during the fruit season) does not show itself anywhere but keeps away because its fatness makes it easy to catch . . . And when deer have been bitten by a venom-spider or something similar, they collect crabs and eat them; this is held to make a drink that is good for man too, but it is unpleasant. (*Historia Animalium* 8.5, 611ª15–ᵇ23)[6]

The behaviour patterns that Aristotle is describing, in this passage and in many others like them, are fine examples of purposiveness in the animal kingdom. They frequently seem to exhibit some form of sensitivity to means–end relations: seseli, or hartwort, the herb said to be eaten by female deer after giving birth, is a medicinal

[4] Aristotle also denies λογισμός to the non-human animals; see, for instance, *De Anima* 3.10, 433ª10–12; *Metaphysics* 1.1, 980ᵇ25–8. For present purposes, I assume that, Aristotle uses the terms λόγος and λογισμός interchangeably, as Plato seems to do in the *Republic*. (Note the occurrences of both terms in *De Anima* 3.10–11 and in *Republic* 4: λογισμός at *De Anima* 433ª12, 24, 25 and 434ª8; λόγος at *De Anima* 433ᵇ6; λογισμός at *Republic* 4, 439 D 1, 440 B 1, 441 A 9; λόγος at *Republic* 4, 440 B 3, 5.) This, so far as Aristotle is concerned, is a slight simplification (see Ch. 12, pp. 177–8), but one which does no harm for present purposes.

[5] I follow Balme's restoration of the manuscript ordering of books 7–9 of the *Historia Animalium*. I also accept his defence of the authenticity of book 8; see his *Aristotle:* History of Animals, *Books 7–10* (Cambridge, Mass.: Harvard University Press, 1991), 1–13.

[6] Translations from the *Historia Animalium* are as in *Aristotle:* History of Animals, *Books 7–10*, ed. and trans. D. M. Balme, with occasional modifications.

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herb that was believed to soothe post-natal disorders. 'Many other animals that are quadruped act intelligently to help themselves', he adds a little later, adducing another striking report: 'In Crete they say the wild goats when struck by arrows look for dittany: this is believed to have the effect of expelling arrows in the body' (*Historia Animalium* 8.5, 612ª3–5). His general view is that some species of non-human animals have a form of practical intelligence,[7] which they manifest by exercising foresight for the sake of self-preservation.[8] He holds that although the brute animals cannot, strictly speaking, think, many of them are equipped with a capacity that in some ways is like thinking (νόησις),[9] and that can, within limits, serve the same functions as thought (νοῦς).[10] That capacity is *phantasia*.

It would be good to know how it is that *phantasia* is supposed to be like thinking, and how far the functional equivalence of thought and *phantasia* is supposed to go. It would also be good to know why Aristotle nonetheless insists on the distinction between thought and *phantasia*. Before we turn to these questions, however, it is worth indicating that he relies on *phantasia*, not only in explaining non-human animal motivation, but also in explaining the non-rational forms of human motivation. I shall in due course offer a detailed discussion of the roles of perception and *phantasia* in Aristotle's theory of human motivation.[11] For now, a somewhat rough-and-ready sketch may suffice; a number of significant details will be filled in later.

In his discussion of animal motivation in *De Anima* 3.9–11, Aristotle distinguishes between two kinds of *phantasia*: a rational or deliberative kind on the one hand and a perceptual kind on the other: 'Every *phantasia* is either such as to involve reasoning (λογιστική) or perceptual (αἰσθητική). In the latter, then, the other animals share also' (*De Anima* 3.10, 433ᵇ29–30). Perceptual *phantasia* is conceived of so as not to involve reasoning (λογισμός). As a result, it is, as he points out, available to 'the other animals' as well—by which he means the lower, non-rational, animals. Now it is important to note that he does *not* say that human *phantasia* involves reasoning, whereas *phantasia* in non-human animals,

[7] They are φρόνιμα: *Metaphysics* 1.1, 980ᵇ1–5. Cf. *Historia Animalium* 8.1, 608ª13–17. For a discussion of φρόνησις in non-human animals, see J.-L. Labarrière, 'De la *phronesis* animale', in D. Devereux and P. Pellegrin (eds.), *Biologie, Logique et Metaphysique chez Aristote* (Paris: Editions du C. N. R. S., 1990). Cf. R. Sorabji, *Animal Minds and Human Morals: The Origins of the Western Debate* (London: Duckworth, 1993), 54–5.

[8] See *Nicomachean Ethics* 6.7, 1141ª26–8. Aristotle is reporting what people say; but the passages referred to in the preceding footnote suggest that he endorses this opinion.

[9] At *De Anima* 3.10, 433ª9–10, Aristotle proposes that one might 'take *phantasia* to be like a kind of thinking (ὡς νόησίν τινα)'. Cf. J.-L. Labarrière, 'Imagination humaine et imagination animale chez Aristote', *Phronesis*, 29 (1984), 20–1.

[10] 'We see that the movers of the animal are thought (διάνοια), perception, *phantasia*, decision, wish, spirit, and appetite. And all of these can be reduced to thought (νοῦς) and desire. For *phantasia* and perception hold the same place as thought: for all of these involve discernment, while they differ in ways that have been stated elsewhere.' (*De Motu Animalium* 6, 700ᵇ17–22; for a defence of the text that my translation is based on, see Ch. 9, n. 19.) The aspect of thought (νοῦς) that is relevant to motivation is specified in *De Anima* 3.10, 433ª13–15: 'These two, then, are concerned with locomotion: thought (νοῦς) and desire, but thought which reasons for the sake of something and is practical; it differs from theoretical thought in respect of the goal.'

[11] In Ch. 13.

being merely perceptual, does not. What he says is rather that *phantasia* is either rational or perceptual, and whereas *also* non-human animals share in perceptual *phantasia*, rational *phantasia* belongs to reasoning creatures alone. As a result, *both* forms of *phantasia* are available to humans.

Nor is it difficult to see why he makes perceptual *phantasia* available to humans as well as to the brute animals. Consider his characterization of rational (or deliberative, 434ª7) *phantasia*. It occurs, he says,

> in animals capable of reasoning: for the decision whether to do this or that is already a task for reasoning; and one must measure by a single standard; for one pursues what is superior; hence one has the ability to make one out of many *phantasiai* (φαντάσματα).[12] (*De Anima* 3.11, 434ª7–10)

The passage is not as clear as one would wish it to be, and we shall return to it in a short while.[13] For now it is sufficient to point out that the activity Aristotle is describing is one that involves both *phantasia* and reasoning and that yields a reasoned assessment of what (given some standard) it is best to do in the circumstances in question, together with a *phantasia* which, I take it, represents the favoured course of action in some appropriate way. If this activity yields a desire, as one expects it might, the desire will depend either directly on the assessment of what is best or on the *phantasia* that represents the favoured option. However, since the content of the *phantasia* itself depends on the assessment, the desire will in either case depend on it, whether directly or by way of the *phantasia*.

But not all desires—not even all human desires—are, on Aristotle's view, desires of this kind. His theory of motivation allows for desires which arise independently of one's thoughts about what it is best to do. Appetitive desires (ἐπιθυμίαι) are the clearest case in point. These are desires for pleasure, or (better) desires for something or other *as* pleasant. They flow simply from beliefs or representations to the effect that something or other is a source of pleasure. They can, Aristotle thinks, motivate us to act not only independently of, but even against, our deliberations about what it is best to do.[14] He characterizes appetitive and spirited desires as non-rational (ἄλογοι ὀρέξεις), contrasting them with rational desire (λογιστικὴ ὄρεξις).[15]

[12] Aristotle is here using the word φάντασμα to refer to sensory representations. I therefore 'translate' as *phantasiai*, in accordance with my policy as stated in n. 1.

[13] In Ch. 9, p. 127.

[14] Cf. *De Anima* 3.10, 433ª25–6: 'Desire produces movement also against reasoning (λογισμός): for appetitive desire (ἐπιθυμία) is a kind of desire.' On the place of appetitive desire in Aristotle's moral psychology, see J. Cooper, 'Reason, moral virtue, and moral value', in M. Frede and G. Striker (eds.), *Rationality in Greek Thought* (Oxford: Oxford University Press, 1996), 98–102; reprinted in his *Reason and Emotion: Essays on Ancient Moral Psychology and Ethical Theory* (Princeton: Princeton University Press, 1999), 253–80.

[15] ἄλογοι ὀρέξεις: *Rhetoric* 1.10, 1369ª4; cf. 1369ª2. λογιστικὴ ὄρεξις: *Rhetoric* 1.10, 1369ª2. (Note also *De Anima* 3.9, 432ᵇ4–7.) On using Aristotle's *Rhetoric* as evidence for his moral psychology, see G. Striker, 'Emotions in context: Aristotle's treatment of the passions in the *Rhetoric* and his moral psychology', in A. Rorty (ed.), *Essays on Aristotle's* Rhetoric (Berkeley: University of California Press, 1996), 286–8.

As we have seen, he seems to think that forming a desire always involves having a *phantasia* which represents (what is to be) the object of desire in some appropriate way. We shall see in the next two chapters that this in fact is his view, except for a qualification that does not affect the present point.[16] Given that his psychological theory allows for forms of human motivation that operate independently of deliberation, he cannot consistently hold that human *phantasia* is in all cases deliberative. For if it were, human motivation, dependent as it is on *phantasia*, could not be independent of deliberation in the way Aristotle holds two of its forms to be. He therefore needs to make the non-deliberative kind of *phantasia* available to humans; and in fact he does.

[16] In Ch. 10, I shall argue that Aristotle is committed only to a qualified version of the view that desire requires *phantasia*. So far as non-rational motivation is concerned, I take Aristotle to be committed only to the view that desire requires *phantasia* if it is to lead to, and to support, the production of locomotion—that is, the production of such forms of animal movement as walking, flying, and swimming. That qualification, which will be introduced and motivated in the following two chapters, does not harm the current argument. Aristotle plainly takes it that human non-rational desire can account for locomotion without deliberation being involved (see, e.g., *De Anima* 3.10, 433ª25–6; *Nicomachean Ethics* 7.3, 1147ª34–5). So, since human non-rational desire which accounts for locomotion requires *phantasia*, and since such desire can arise independently of deliberation, humans must be capable of a kind of (desire-supporting) *phantasia* that does not involve deliberation.

9

Phantasia, Desire, and Locomotion

We saw in the preceding chapter that a number of passages in Aristotle's discussions of animal motivation (in *De Anima* 3.9–11 and in the *De Motu Animalium*) suggest a close link between desire-formation and *phantasia*. Consider, for instance, the 'chain of movers' passage: 'Affections suitably prepare the organic parts, desire (ὄρεξις) [sc. suitably prepares] affections, *phantasia* [sc. suitably prepares] desire; and *phantasia* arises through thought (νόησις) or through perception' (*De Motu Animalium* 8, 702ª17–19). According to this passage, thought and perception may be involved in some way or other in the production of movement, and in the formation of desire that results in it;[1] but whether or not thought or perception is involved, *phantasia* in any case plays a role in the process. It is not obvious, either from the passage itself or from its context, whether Aristotle intends any restriction on the scope of these claims. Some related claims are made at *De Anima* 3.10, 433ᵇ27–30:

> In general, then, as has been said, in so far as the animal is capable of desire, so far is it capable of self-movement; and it is not capable of desire without *phantasia*. And every *phantasia* is either rational or perceptual. In the latter, then, the other animals share also.[2]

The passage seems to imply that if an animal is capable of desire, it cannot be the case that it merely has (the capacity for) perception, without having (the capacity for) *phantasia*.[3] Why should this be so? One answer, which may seem less than illuminating, can be extracted from the 'chain of movers' passage: for perception (or, for that matter, thought) to yield a desire, some appropriate *phantasia* has to be present which will 'suitably prepare' desire.[4]

[1] The context of the passage makes clear that Aristotle has the production of movement in mind. Among other things, the account given in the passage is offered specifically in order to explain why it is that 'it is pretty much at the same time that a creature thinks it should walk and that it walks, unless something else impedes it' (*De Motu Animalium* 8, 702ª15–17).

[2] The translation is Hamlyn's, slightly adapted. In the next chapter, I shall propose a significantly different translation.

[3] For the possibility of an animal having perception without having *phantasia*, see *De Anima* 3.3, 428ª8–11; cf. 2.3, 415ª8–11; cf. also *Posterior Analytics* 2.19, 99ᵇ36–100ª1.

[4] An account along these lines is offered in M. Nussbaum, *Aristotle's* De Motu Animalium, Essay 5: 'The role of *phantasia* in Aristotle's explanations of action'. Nussbaum thinks Aristotle is committed to the view that '*phantasia* is a necessary condition for desire' (221, 234). She attempts to explain this by relying on the idea that 'to be moved to action an animal has to become aware of something

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The passage that follows immediately (*De Anima* 3.11, 433ᵇ31–434ª5) might seem to corroborate the view that if an animal is capable of desire, it cannot, according to Aristotle, be the case that it merely has perception, without having *phantasia*. In that passage, he is discussing the question whether certain imperfect animals have *phantasia*. He says that these animals have perception, albeit by touch only. This, incidentally, makes it plain that he takes perception to be a different capacity from the relevant kind of *phantasia*—perceptual *phantasia*, that is, as opposed to rational *phantasia*, the prerogative of animals capable of reasoning.[5] For although imperfect animals have perception (by touch), it remains an open question whether they have (perceptual) *phantasia*. Since they have appetite, a form of desire, one might expect, in view of the claim made at 3.10, 433ᵇ27–9, that they have *phantasia*, too. In fact, Aristotle does not disappoint that expectation, suggesting that the creatures in question have *phantasia* in an indeterminate way:[6] 'How could they have *phantasia*? Shall we say that just as they move indeterminately, so also they have these things [sc. *phantasia* and appetite],[7] but indeterminately?' (*De Anima* 3.11, 434ª4–5). It may seem tempting to think that Aristotle is, in the

qua what-it-is-called; he has to see the man as a man, not just as pale' (259). It is the role of *phantasia*, then, to enable the animal to pick things out under the appropriate substance terms. However, there is, as S. Everson has pointed out, no good reason to think that motivation requires the identification of something or other as falling under some substance term: 'I may well reach out for, or chew something, simply in virtue of its being, say, red or sweet, without any awareness at all of what that object is apart from its having that property' (S. Everson, *Aristotle on Perception* (Oxford: Oxford University Press, 1997), 164).

[5] Contra Everson, *Aristotle on Perception*, 184, n. 103: his view is that when Aristotle introduces perceptual *phantasia* at *De Anima* 3.10, 433ᵇ28–30, 'this must be taken to be referring to perception'.

[6] Contra M. Wedin, *Mind and Imagination in Aristotle* (New Haven, Conn.: Yale University Press, 1988), 41: 'Apparently ready to grant them [sc. the imperfect animals mentioned at 433ᵇ31–434ª5] pains and pleasures and, thus, perhaps even wants [*epithumian*], Aristotle hesitates over imagination. Perhaps, he suggests, they have no imagination, but are moved only indeterminately [*kineitai aoristos*] or have pains, pleasures and wants only indeterminately.' Wedin's construal of the argument relies on the assumption that, on Aristotle's view, the relevant animals are not capable of desire (ὄρεξις). In fact this assumption is spelled out in n. 20, 41: 'Notice that Aristotle carefully avoids saying they have desire [*orexis*]. In that case, as 433ᵇ27–9 asserts, they would have imagination and be capable of action.' It should, however, be perfectly clear that appetite (ἐπιθυμία) is, on Aristotle's view, one of the three species of desire (ὄρεξις). Thus being capable of appetite is precisely one way of being capable of desire. See *De Anima* 2.3, 414ᵇ1–6. (Cf. also 2.2, 413ᵇ21–4; 3.9, 432ᵇ3–7; 3.10, 433ª25–6; *De Motu Animalium* 6, 700ᵇ22; *Eudemian Ethics* 2.7, 1223ª26–7.) Cf. C. Freeland, 'Aristotle on perception, appetition, and self-motion', in M. Gill and J. Lennox (eds.), *Self-Motion: From Aristotle to Newton* (Princeton: Princeton University Press, 1994), 50, n. 31: 'Since the lower-level animals possess only primitive sensory capacities and have no capacity for self-motion, Aristotle himself wonders whether they have imagination (*De an.* III.11). He writes that though the lowest animals may have appetite (*epithumia*), they do not have desire (*orexis*), for they have no images.' However, in the passage Freeland refers to, Aristotle states explicitly that the animals he has in mind *move*, albeit indeterminately (434ª4, cf. 433ᵇ31). Since he evidently appeals to desire and *phantasia* to account for this movement, the movement in question must be self-movement. So it is a mistake to think that the relevant creatures (on Aristotle's view) lack the capacity for self-motion. Furthermore, Aristotle plainly does *not* write that the relevant kinds of animal do not have desire, nor that they lack *phantasia*.

[7] *Pace* Wedin, *Mind and Imagination*, 41, and Freeland, 'Aristotle on perception', 50, n. 31, the reference of 'these things' (ταῦτ') at 434ª5 certainly includes *phantasia*, back in line 4; since it is plural, it should also refer to appetitive desire in line 3, and possibly to pain and pleasure as well.

present chapters, revising an earlier claim, namely that one way in which *phantasia* and perception can be seen to be distinct is that perception is invariably present to animals of all kinds, while *phantasia* is not (*De Anima* 3.3, 428ª8–11). He thinks that all animals, having perception, also feel pleasure and pain; and he seems to think that he can infer from this that they also experience appetitive desire.[8] So if desire in fact requires *phantasia*, as it seems to do according to *De Anima* 3.10–11, then it turns out that animals of all kinds must have *phantasia*.[9]

There is a complication that should at least be noted in passing. In some passages in Aristotle's discussions of animal motivation, he mentions thought and *phantasia* as constituting alternative ways in which an animal may apprehend an object of desire, so as to be moved, or to engage in movement, in respect of place. For instance, he says that the object of desire moves without being moved, by being apprehended in thought or *phantasia* (*De Anima* 3.10, 433ᵇ11–12). Elsewhere he says that objects of pursuit and avoidance constitute the beginning of movement: 'the apprehension of these objects in thought and *phantasia* is necessarily accompanied by heating and cooling' (*De Motu Animalium* 8, 701ᵇ33–5).

So one might take it to be Aristotle's view that in some episodes of movement-production the object of desire is apprehended, not by *phantasia*, but by thought. One might then think that *phantasia* need not, according to Aristotle, be involved in every episode of movement-production, on the grounds that whatever *phantasia* may do in the production of movement can also be done by thought. It would, however, be rash to assume that in cases in which thought rouses an animal to move from one place to another, *phantasia* is not, on Aristotle's view, involved in the production of that movement. This is not the place for a detailed discussion of the roles of *phantasia* in Aristotle's conception of rational motivation. Nonetheless, it may be worthwhile and helpful to offer a few comments on the topic.

There are several passages in Aristotle's psychological writings which make it clear that, on his view, human thought in general does not function independently of *phantasia*:[10] according to the most succinct statement of this view, 'the

[8] For the claim that all animals have pleasure, pain, and appetite, see *De Anima* 2.3, 414ᵇ3–6; cf. 2.2, 413ᵇ21–4.

[9] Note the interpretation offered by Themistius, 122, 5–14: 'How do these animals [sc. e.g. flies and worms, line 6] desire, without *phantasia*, which we said they do not have? Pain and pleasure can be seen to be in such animals; but where there is pleasure, by all means there is also appetite (ἐπιθυμία); and where there is appetite, by all means there is also desire (ὄρεξις); and where there is desire, there is also *phantasia*; but the previous account denied *phantasia* to such animals. Shall we say that as they move indeterminately, so also they engage in *phantasia* (φαντάζεται) indeterminately? So that they have *phantasia*, but in an inarticulate and confused form, just as they have perception: for perception too they have in an incomplete and indeterminate form. Let this question then be investigated and resolved in this way.' Cf. D. Frede, 'The cognitive role of *phantasia* in Aristotle', in M. Nussbaum and A. Rorty (eds.), *Essays on Aristotle's* De Anima (Oxford: Oxford University Press, 1992), 281; and V. Caston, 'Why Aristotle needs imagination', *Phronesis*, 41 (1996), 23, n. 9.

[10] It is not, however, part of Aristotle's psychological theory that thought quite generally involves *phantasia*. He wants to say that there are beings which think without being capable of *phantasia*, for instance the prime mover (see e. g. *Metaphysics* Λ 7, 1072ᵇ19–21). What he seems to think, then, is that the involvement of *phantasia* in thinking is not a feature of thought quite generally, but of the

soul never thinks without a *phantasia* (φάντασμα)' (*De Anima* 3.7, 431ª16–17).[11] It is, unfortunately, far from clear what Aristotle takes *phantasia* to contribute to human thought in general, and why he thinks some contribution from *phantasia* is required for any thought. However, a *De Anima* passage at which we have already taken a brief look suggests a relatively detailed view of how he takes *phantasia* to be involved specifically in practical reasoning:

> Deliberative *phantasia* occurs in animals capable of reasoning: for the decision whether to do this or that is already a task for reasoning; and one must measure by a single standard; for one pursues what is superior; hence one has the ability to make one out of many *phantasiai*. (*De Anima* 3.11, 434ª7–10)

The passage suggests that there are at least two ways in which *phantasia* is involved in practical reasoning. First, the 'many *phantasiai*' mentioned in the last clause are involved in the subject's thinking about a number of alternative courses of action, in the process of reaching a decision 'whether to do this or that'. Presumably the thought is that *phantasiai* support the subject's activity of concretely envisaging candidate courses of action. Moreover, *phantasia* seems to play a further role when a person arrives at a decision to do one thing in preference to another on the basis of deliberation. This seems to involve the production (ποιεῖν) of 'one out of many *phantasiai*'. The thought would seem to be that rational motivation tends to involve, not only a decision to prefer one course of action over others, but also the formation of a *phantasia* that represents in an integrated way both the favoured course of action and others that were thought worthy of consideration. However that may be, it is in any case clear, from the passages we have just now looked at, that Aristotle takes *phantasia* to be involved, and involved in more ways than one, when someone is roused by thought to move from one place to another.

I return to non-rational motivation. We have noted the following appearances that may arise from Aristotle's discussions of animal motivation.

(1) According to the 'chain of movers' passage, forming a desire requires having some suitable *phantasia*.
(2) The discussion at *De Anima* 3.10–11, 433ᵇ27–434ª5, commits Aristotle to the following view: if an animal is capable of desire, it must be capable, not only of perception, but of *phantasia* as well.

An interpretation of Aristotle's conception of animal motivation should aim to accommodate or at least explain these appearances. In this chapter and the next, I shall attempt to do precisely that.

occurrence of thought in mortal or perishable beings. It may be relevant that Aristotle in the *De Anima* occasionally restricts the validity of claims to mortal or perishable beings: for instance, at *De Anima* 2.2, 413ª32 and at 2.3, 415ª9.

[11] Cf. *De Anima* 3.7, 431ᵇ2–3; 3.8, 432ª3–10; *De Memoria* 449ᵇ30–450ª9. For a discussion of these passages and their relevance to action contexts, cf. Wedin, *Mind and Imagination*, 109–113.

It should be noted right away that Aristotle does not offer a discussion that clarifies fully or satisfactorily just what role, or roles, *phantasia* is supposed to play in the formation of desire and production of movement, whether or not thought is involved.[12] As a result, any interpretation that attempts to clarify Aristotle's conception must, at some point, resort to speculation. Fortunately, there is a good deal of relevant material that can guide and constrain such speculation.

A few general remarks may be helpful. I begin with a point that may appear trivial, but that nonetheless seems to me both important and easy to miss. Aristotle's topic in his discussions of animal motivation (in *De Anima* 3.9–11 and in the *De Motu Animalium*) is, not the formation of desire quite generally, nor the production of action or behaviour in general,[13] but the production of animal locomotion. This is made very clear in *De Anima* 3.9, which begins with Aristotle announcing that he has now completed his account of the soul's discernment-involving capacities, perception and thought, and is about to turn to the capacity for locomotion (432^{a}15–18).[14] In the course of the same chapter, he makes it plain that he conceives of animal locomotion as always being for the sake of something (ἕνεκά του, 432^{b}13–17). In other words, in writing of animal locomotion Aristotle has in mind goal-directed locomotion.

We might compare the following programmatic statement at the beginning of the *De Motu Animalium*: 'But now we must consider in general the common explanation for moving with any kind of movement (for some animals move by flying, some by swimming, some by walking, some in other comparable ways)' (*De Motu Animalium* 1, 698^{a}4–7). And as in the related discussion in *De Anima* 3.9–11, also in the *De Motu Animalium* Aristotle conceives of animal locomotion as being goal-directed: 'All animals effect movement and are moved for the sake of something, so that this is the limit (πέρας) to all their movement: the thing for the sake of which (τὸ οὗ ἕνεκα)' (*De Motu Animalium* 6, 701^{a}15–16). In the two discussions of animal motivation that we are concerned with, then, Aristotle is discussing the formation of desire as part of a larger context which deals with goal-directed animal locomotion. What he has to say, in that larger context, about the formation of desire may not be meant to apply to all cases of desire-formation. It may be meant to apply only to the formation of desires that impel an animal to engage in locomotion—for instance, a hungry lion's desire to eat a stag that it has just spotted somewhere at some distance in its environment.[15] I shall return to this point in the next chapter.

[12] Cf. M. Schofield, 'Aristotle on the imagination', in M. Nussbaum and A. Rorty (eds.), *Essays on Aristotle's* De Anima, 260, n. 35: 'Aristotle's whole treatment of *phantasia* in the non-rational animals is puzzling.'

[13] Note the pervasive assumption in Nussbaum's book on the *De Motu Animalium* that Aristotle's topic in *De Anima* 3.9–11 and in the *De Motu* is how and why it is that animals are moved to *act*, or moved to *action*.

[14] Cf. the programmatic statement at *De Anima* 1.2, 403^{b}24–8: 'The beginning of our enquiry is to present what are most of all thought to be the natural attributes of soul. The ensouled is thought most of all to differ from the unensouled in two respects, movement and perceiving. Roughly speaking, these two points about the soul have been handed down to us by our predecessors.'

[15] Cf. *Nicomachean Ethics* 3.10, 1118^{a}20–3.

In the remainder of the present chapter, I shall first attempt to identify a cognitive task that animals must perform if they are to engage in goal-directed locomotion. I shall then offer reasons for thinking that, within Aristotle's psychological theory, it is specifically the capacity for *phantasia* that accomplishes that task for subjects that either are unequipped with the resources of reason or at the time fail to employ those resources appropriately.

We should begin by attending to a number of features of Aristotle's general discussion, in *De Motu Animalium* 6, of animal locomotion:

> all animals effect movement and move themselves for the sake of something, so that this is the limit to all their movement: the thing for the sake of which (τὸ οὗ ἕνεκα)... So that the object of desire and thought is the first mover; not every object of thought, but the goal (τέλος) of things that can be done. Therefore the mover is a good of this kind, but not every good; for it is a mover in so far as something else is for the sake of it, and in so far as it is the goal of things that are for the sake of something else. And it is necessary to suppose that also the apparent good holds the place of the good (ἀγαθόν), and also the pleasant: for it is an apparent good. (*De Motu Animalium* 6, 700^{b}15–29)

The identification of the goal (τέλος), the 'thing for the sake of which' (τὸ οὗ ἕνεκα), and the good (ἀγαθόν) is introduced in *Physics* 2, in the context of a discussion of the final cause. It might be useful briefly to have a look at the discussion in *Physics* 2, so as to see what Aristotle has in mind when he mentions goals, or 'things for the sake of which'. Here is how he introduces the final cause:

> Again, [sc. something is called a cause] in the sense of the goal (τὸ τέλος): this is the thing for the sake of which (τὸ οὗ ἕνεκα), as health is that for the sake of which there is walking about. 'Why is he walking about?' We say: 'In order to be healthy.' And having said that, we think that we have given the cause. (*Physics* 2.3, 194^{b}32–5)[16]

In general, a goal or thing for the sake of which is something that can be achieved or attained—for instance, the well balanced state of an organism or a worthwhile activity.[17] In cases of agency, someone does something or other for the sake of a goal (for instance, being healthy), and in this case the goal is a project or purpose that she wants to achieve.[18] The goal the person in question wants to achieve, Aristotle thinks, accounts for why she does whatever she does, if indeed she does what she does for the sake of the goal. For instance, Jones' purpose of being healthy accounts for his walking about, if it is the case that he is walking about for

[16] Cf. *Physics* 2.3, 195^{a}23–6, for the identification of the good (τὸ ἀγαθόν) with the goal (τέλος).

[17] For more detailed analysis, see D. Charles, 'Teleological causation in the *Physics*', in L. Judson (ed.), *Aristotle's* Physics: *A Collection of Essays* (Oxford: Oxford University Press, 1991), esp. 101–11.

[18] For the notion that goals are things to be *achieved*, cf. *Physics* 2.6, 197^{b}22–6: '[the expression "in vain"] is used when the thing for the sake of which does not come about through the thing which is for its sake—for instance, if walking is for the sake of emptying the bowels, and if emptying of the bowels does not follow after walking, we say that we walked in vain, and that the walking was in vain. For that is "in vain": whenever something which is naturally for the sake of something else does not achieve (περαίνειν) that for the sake of which it is.'

the sake of health. Both in *De Anima* 3.9–11 and in the *De Motu Animalium*, Aristotle applies this style of account to the production of animal locomotion.

The animal's goal, according to *De Motu Animalium* 6, is an object of thought (διανοητόν), a good of a certain kind, or an apparent good—for instance, something pleasant. This of course raises the question: what about animals that lack the capacity for thought (διάνοια)? Given that Aristotle is evidently meaning to offer a general discussion of animal locomotion (cf. *De Motu Animalium* 1, 698ª4–7), he had better have an answer to that question. And of course he does: he has said already that non-intellectual capacities (perception and *phantasia*) 'hold the same place', within his explanatory framework, as the capacity for thought (νοῦς):

> We see that the movers of the animal are thought, perception, *phantasia*, decision, wish, spirit, and appetite.[19] And all of these can be reduced to thought (νοῦς) and desire. For *phantasia* and perception hold the same place as thought: for all of these involve discernment (κριτικά), while they differ in ways that have been stated elsewhere. (*De Motu Animalium* 6, 700ᵇ17–22)

We may take it, then, that when Aristotle goes on to refer to the animal's goal as an object of thought (διανοητόν), this is a shorthand expression for the idea that the animal's goal is something it picks out in virtue of some discernment-involving capacity or other, the relevant capacities being thought, perception, and *phantasia*.

There is good reason to think, then, that Aristotle is meaning to account for the locomotion of animals by appealing to purposes that they want to achieve. His list of animal movers includes, not only thought, but also other discernment-involving capacities, namely perception and *phantasia*. By including discernment-involving capacities other than thought, he makes available cognitive resources that non-human animals can rely on in forming purposes. Given that it is animal locomotion that he is meaning to explain, he must have in mind the formation of

[19] I follow Torraca's *De Motu Animalium* edition in reading the full list of movers found in the group of manuscripts Nussbaum refers to as the b_2 sub-family; cf. also J. Barnes' review of Nussbaum's edition in *Classical Review*, 30 (1980), 224–5. Nussbaum's edition follows the other manuscripts, which mention neither perception at 700ᵇ17 nor spirited desire in line 18. However, if perception and spirited desire are not included in the list, it is hard to see why they show up in lines 20 and 22. If, on the other hand, they are included, we can read 19–23 as clarifying how the movers mentioned in the list are related to thought and desire: *phantasia* and perception, being discernment-involving capacities, can (within appropriate limits) occupy the same place as thought in Aristotle's explanatory framework; wish, spirit, and appetite are the forms of desire; and decision involves both thought and desire. Nussbaum defends the shorter list in 'The "common explanation" of animal motion', in P. Moraux and J. Wiesner (eds.), *Zweifelhaftes im Corpus Aristotelicum* (Berlin: Walter de Gruyter, 1983). The other members of the *b* family, she points out, agree with all of the *a* family in offering the shorter list; and it is improbable that the same shortening of the list should independently have occurred twice or several times over. However, the b_2 group evidently has a number of superior readings—which *are* accepted by Nussbaum—where all members of *a* and several other members of *b* are in agreement in offering the same inferior reading: 700ª8; 701ª19; 702ª20; cf. also 700ª26. It is, I think, difficult to account for this fact without assuming that the members of b_2 are influenced by a source that is independent of the archetype common to *a* and *b*. Once this assumption is in place, however, there is no good reason *not* to add b_2's clearly superior list of movers to the list of b_2's readings that seem to draw on that independent tradition.

purposes that motivate animals to engage in locomotion, as when a lion forms the purpose of eating a stag that it sees somewhere in its environment. Forming *such* purposes always, or at least typically, involves accomplishing the cognitive task of envisaging a prospective situation, one that does not currently obtain and that may, as a matter of fact, never come to obtain. I shall refer to this task as envisaging prospects.[20]

It should be acknowledged at once that, unfortunately, Aristotle does not say, in the *De Motu Animalium* or anywhere else, that animal locomotion always or typically involves envisaging prospects, or that animals can envisage prospects in virtue of having the discernment-involving capacities of perception and *phantasia*. He may well think, I suggest, that this goes without saying, perhaps relying on the *Philebus*' discussions of desire and anticipatory pleasure.[21] There is, however, a relevant and valuable passage in the *Nicomachean Ethics*, where Aristotle plainly does attribute the ability to envisage prospects to non-human animals, not directly in connection with purposive locomotion and desire-formation, but, rather intriguingly, in connection with pleasures of anticipation. In *Nicomachean Ethics* 3.10, his task is to identify the sorts of pleasure that the virtue of temperance and the vice of self-indulgence are concerned with. These are, he says, 'the kind of pleasures that the other animals share in, which therefore appear slavish and brutish; these are [sc. the pleasures to do with] touch and taste' (*Nicomachean Ethics* 3.10, 1118ª23–6).[22] He holds that sights, sounds, and smells are at best incidental sources of pleasure to the brute animals:

> Nor is there in non-human animals any pleasure connected with these senses [sc. sight, hearing, smell], except incidentally. For dogs do not take pleasure in the scent of hares, but in the eating of them, but the scent told them that the hares were there; nor does the lion take pleasure in the lowing of the ox, but in eating it, but it perceived by the lowing that the ox was near, and it appears to take pleasure in the lowing; and similarly what pleases the lion is not the sight of 'a stag or a wild goat', but that he is going to get a meal. (*Nicomachean Ethics* 3.10, 1118ª18–23)

He accepts that animals like dogs and lions may show signs of pleasure, and in fact may experience pleasure, when they see, hear, or smell suitable things located in their environment—for instance, hares, oxen, stags, or wild goats. But he insists that in such cases they take pleasure, not in the relevant sights, sounds, and smells, but *in the prospect of eating*. The lion is pleased right away when it sees a stag,

[20] Could there be locomotion-effecting purposes that do not involve the apprehension of a prospect? Perhaps: your recoiling from the oven when you inadvertently put your hand on a hot surface may be driven simply by your aversion to an intensely painful experience, without any apprehension of a prospect being involved or required in addition; and it may be appropriate to say that your locomotion has a purpose, which is to avoid or stop the painful experience. However, this is hardly a standard or typical example of purposive locomotion. Moreover, it plainly does not provide a model that could serve to explain the variety of forms of animal motivation.

[21] See Chapter 7, pp. 102–4.

[22] Translations from the *Nicomachean Ethics* are indebted to those in J. Barnes (ed.), *The Complete Works of Aristotle* (Princeton: Princeton University Press, 1984), as well as to C. Rowe's translation in S. Broadie and C. Rowe, *Aristotle*: Nicomachean Ethics (Oxford: Oxford University Press, 2002).

before it hunts it down and gets its teeth into it.[23] What pleases it, though, is not the look of the stag, Aristotle thinks, but the prospect of making a meal of it. Presumably Aristotle does not think that envisaging this prospect is simply something that gives the lion pleasure. It seems safe to assume that if a lion envisages such a prospect and is pleased by it, it will also be motivated to hunt down the stag, so as to get its teeth into it. In other words, the lion will want to eat the stag, and it will engage in vigorous locomotion for the sake of this goal. What I am suggesting is simply that Aristotle recognizes, and in fact takes it to go without saying, that the purposive locomotion of animals involves and requires envisaging prospects like the one that pleases the lion in the example.

Now, envisaging prospects is, of course, a task that perception by itself cannot account for—even on Aristotle's notion of perception, which, as is well known, is remarkably generous. 'By perception', he remarks in the *De Memoria et Reminiscentia* (449^{b}13–15), 'we apprehend (γνωρίζομεν) neither what is future nor what is past, but only what is present.' Creatures endowed with perception, but no other cognitive capacity, could apprehend perceptibles presently located in their environment, but could not envisage prospects. It may come as a surprise, but there is in fact reason to think that, on Aristotle's view, there are such animals. Consider the following passage from the last chapter of the *Posterior Analytics:*

> Given that perception is in them, in some animals the sensory impression persists (ἐγγίγνεται μονὴ τοῦ αἰσθήματος), in others it does not. If it does not, then the animal has no cognition (γνῶσις) apart from perceiving (either in general or with regard to the items which do not persist). But other animals can still hold sensory impressions in their soul after perceiving.[24] (*Posterior Analytics* 2.19, 99^{b}36–100^{a}1)

The passage suggests that Aristotle takes the view that there are animal species whose members can apprehend nothing other than perceptibles presently located in their environment. Such animals will not be able to envisage prospects. It is hard to see how they could form purposes that might motivate them to engage in locomotion. This, however, may be just as it should be: some kinds of animals, after all, are stationary. They lack the capacity for purposive locomotion.[25] I shall turn to them in the next chapter.

[23] The Homeric passage to which Aristotle is alluding in lines 22–3 is well chosen. In that passage Menelaus, who is delighted to see Paris, is compared to a hungry lion who has come across the carcass of a stag or a wild goat. Menelaus has just seen Paris, and is pleased already; likewise, the lion has just come across the carcass, and is pleased already. The Homeric passage runs as follows: 'Menelaus saw Paris thus stride out before the ranks, and was pleased as a hungry lion that lights on the carcass of a stag or a wild goat, and devours it there and then, though dogs and youths set upon him. Even thus was Menelaus pleased when his eyes caught sight of Paris, for he deemed that now he should be revenged' (*Iliad* 3, 21–9, based on Samuel Butler's translation).

[24] Cf. Plato, *Philebus* 21 C 1–8, on certain creatures of the sea (for instance, testaceans) which have perception, but retain no memory of any kind. Interestingly, Alexander of Aphrodisias mentions testaceans as animals which (like all animals) have perception, but lack *phantasia* (*De Anima* 67, 2–3).

[25] See, for instance, *De Anima* 3.9, 432^{b}19–21: 'For there are many animals that have perception, but are stationary (μόνιμα) and unmoving throughout their lives (ἀκίνητα διὰ τέλους).' Cf. *De*

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I have argued that if an animal's purpose is to motivate it to engage in locomotion, forming that purpose will, at least typically, involve envisaging a prospect. So far as rational motivation is concerned, the purpose in question is an object of thought. There is nothing mysterious about a thinking subject's ability to envisage situations that do not currently obtain: thought ranges freely over past, present, and future, and over what is actual as well as what is merely possible. Non-human animals, by contrast, are not in a position to avail themselves of the capacity for thought, so as to form purposes that may motivate them to engage in locomotion. Moreover, even human behaviour, Aristotle holds, is not always guided by thought. At the same time, he indicates that, within his explanatory framework, perception and *phantasia* 'hold the same place' as thought. This means, I assume, that perception and *phantasia* can, within appropriate limits, serve the same functions as thought. So we expect that while rational subjects can rely on thought in framing goals for action, non-rational subjects, and rational subjects who fail to make suitable use of the capacity for thought, are limited to perception and *phantasia* in forming whatever purposes they may form. Accordingly, we expect that perception and *phantasia*, jointly or individually, are cognitively powerful enough to enable subjects to form purposes that, if all goes well, get the animal in question to fly, swim, run, or otherwise travel from one place to another. Forming such purposes, however, is a task that perception by itself cannot accomplish. I shall now argue that *phantasia* can.[26]

In *Posterior Analytics* 2.19, as we have seen already, Aristotle distinguishes between animals that have perception without being able to retain sensory impressions, and animals that, apart from having perception, also have the capacity for retaining sensory impressions.[27] This distinction made, he says that animals that lack retention have no cognition apart from perceiving, either in general or with regard to the items that they do not retain. This suggests clearly and strongly that animals that have the capacity for retention have cognition apart from perceiving. It is reasonable to assume, then, that, on Aristotle's view, animals capable of retention can apprehend appropriate sorts of things that they do not at present perceive, provided that they retain suitable sensory impressions.

It is, moreover, clear that the capacity for *phantasia*, as Aristotle conceives of it, involves the capacity for retaining sensory impressions. He thinks of *phantasiai* as changes or affections (κινήσεις) that occur as a result of the activity of perception,

Anima 2.2, 413[b]2–4: 'for also living things which do not move or change in respect of place, but have perception, we call animals'; *De Anima* 2.3, 414[b]14–17: 'let this much be said, that those living things which have the sense of touch also have desire. As for *phantasia*, we have not yet achieved clarity, and we must look into this later. Some animals, in addition to these [sc. capacities], also have the capacity for locomotion'; *Physics* 8.7, 261[a]15–7; *Parts of Animals* 4.7, 683[b]9–10: 'Some species of testaceans are absolutely unmoving (ἀκίνητα πάμπαν), and others not quite but nearly so.'

[26] In Ch. 11, I shall supplement the present chapter's argument by discussing the interaction between perception and *phantasia* in enabling the formation of desires that are sensitive and suitable to the subject's situation-specific circumstances.

[27] μονὴ τοῦ αἰσθήματος, 99[b]36–7; αἰσθομένοις ἔχειν ἔτι ἐν τῇ ψυχῇ, 99[b]39–100[a]1.

and he takes such changes both to occur simultaneously with the activity of perception, and to be retained beyond the relevant episode of perceptual activity.[28] *Phantasiai* are like perceptions, Aristotle says, and they are able to *persist* (ἐμμένειν, *De Anima* 3.3, 429ª4) beyond the activity of perception.[29]

On the basis of *Posterior Analytics* 2.19, then, we may assume that, on Aristotle's view, animals that have the capacity for retaining sensory impressions can apprehend appropriate items that they cannot currently see, hear, or otherwise perceive, provided that they retain suitable sensory impressions. We can now add a second point, namely that the capacity for *phantasia* in fact involves the capacity for retaining sensory impressions. These two views, taken together, suggest a cognitive role for *phantasia*. Animals that are capable of *phantasia* have cognition apart from perceiving: they can apprehend appropriate items that they do not currently perceive by way of their senses, provided that they retain suitable sensory impressions.

A number of passages in the *De Motu Animalium* corroborate the view that *phantasia*, as Aristotle conceives of it, enables subjects to apprehend appropriate items that are not currently present to their senses. Here is one:

> In the animal the same part can become larger and smaller and change its shape, as the parts expand on account of heat and contract again on account of cooling, and undergo qualitative changes. Qualitative changes are produced by *phantasiai*, perceptions, and thoughts. For perceptions are at once a kind of qualitative change, and *phantasia* and thought have the power of the actual things: for in a way the form, apprehended by thought, of something hot, cold, pleasant, or terrible happens to be such as each of the things themselves, and this is why we shudder and are agitated just thinking of something. All these are affections and qualitative changes. (*De Motu Animalium* 7, 701ᵇ13–22)

Aristotle takes it that *phantasiai*, perceptions, and thoughts are capable of bringing about qualitative changes in parts of the body which may result in large-scale changes like blushing, pallor, shuddering, trembling, and the like. He is remarkably brief about why perceptions can bring about such qualitative changes: perceptions, he says, are *already* qualitative changes of a kind, and he seems to think that once this is understood, there is no difficulty in seeing how they can

[28] According to *De Anima* 3.3, 428ᵇ25–30, *phantasia* with respect to proper sensibles is true while perception is present, *phantasiai* with respect to common and accidental sensibles may be false (which suggests that they may also be true), both while perception is present and *while it is absent* (καὶ [sc. τῆς αἰσθήσεως] παρούσης καὶ ἀπούσης).

[29] For the connection between *phantasia* and the retention of sensory impressions, see also *De Anima* 1.4, 408ᵇ15–18, where Aristotle says that recollection is a change or motion that issues from the soul and extends to the 'changes' or 'states of rest' (μονάς) in the sense-organs. In the *De Memoria*, Aristotle picks out changes of this kind by using the term *phantasia* (φάντασμα, 450ᵇ10–11), and likens them to paintings (οἷον ζωγράφημά τι, 450ª29–30) and imprints (οἷον τύπον τινὰ, 450ª31). Note moreover *De Anima* 3.2, 425ᵇ24–5, with discussion in J. Freudenthal, *Über den Begriff des Wortes* phantasia *bei Aristoteles* (Göttingen: Rente, 1863), 6–8. Aristotle's discussion of dreaming is another context in which he makes explanatory use of the retention of sensory impressions: see *De Insomniis* 2, 459ª24–8 and 460ª32–ᵇ3.

bring about changes of the relevant kind in parts of the body.[30] The ability of *phantasiai* and thoughts to bring about such changes seems to stand in need of more explanation than perception's ability to do so. In providing this explanation, Aristotle relies on the idea that *phantasia* and thinking reproduce, or retain, something of the character of their objects. Thinking of yesterday's delicious meal can be pleasant in much the way having the actual meal was; and Aristotle wants to explain this fact by saying that thought can apprehend suitable perceptual forms and, in doing so, generate an experience that is much like the experience of having the actual meal. By generating such experiences, thought can bring about affections such as shuddering and being agitated. These are, or involve, qualitative changes in parts of the body. Aristotle thinks he can show, then, that thought has the power to bring about qualitative changes in the body: it has the power to bring about affections like shuddering and being agitated, and such affections are, or involve, qualitative changes in appropriate parts of the body.

Although Aristotle's examples concern perceptual forms being apprehended by *thought*, there is no reason at all to think that, on his view, such forms can be apprehended by thought only, and not also by *phantasia*. Rather, he is appealing to thought in order to illustrate a point that he takes to apply to *phantasia* no less than to thought. He is, after all, arguing for the claim that *phantasiai* and thoughts, no less than perceptions, can bring about qualitative changes in the body. Moreover, a later passage, which is presented as a restatement of the account offered in *De Motu* 7 and 8, confirms that the notion of forms being apprehended by a subject (for instance, the forms of something hot, cold, and the like) is meant to be applicable to the functioning, not only of thought, but also of *phantasia*. *Phantasia* as well as thought can, Aristotle holds, present such forms to the subject: 'For thinking and *phantasia*, as has been said before, present the things that are productive of affections: for they present the forms of the things that are productive [sc. of the affections]' (*De Motu Animalium* 11, 703^{b}18–20). So while perception enables an animal to apprehend things that are present to its senses, Aristotle takes both thought and *phantasia* to enable their possessors to go beyond that range.

Aristotle takes *phantasiai* to be like perceptions (*De Anima* 3.3, 428^{b}10–7; 429^{a}4–8), and he takes *phantasia* and perception to have the same range of objects.[31] As a result, *phantasia* benefits from his generous notion of what can be perceived through the senses.[32] *Phantasia* can thus apprehend, not only perceptual

[30] We may note in passing that this text suggests rather strongly that Aristotle conceives of perceptions as being realized in qualitative changes in appropriate parts of the body (presumably the sense-organs, including the central organ of perception). This view has been forcefully challenged in a series of articles by M. Burnyeat, beginning with 'Is an Aristotelian philosophy of mind still credible? A draft', in M. Nussbaum and A. Rorty (eds.), *Essays on Aristotle's* De Anima, 15–26. According to Burnyeat, perception as Aristotle conceives of it is a strictly immaterial activity, such that there is precisely nothing that stands to it as matter to form.

[31] *De Anima* 3.3, 428^{b}12–3: '*phantasia* is of that of which there is perception'.

[32] Sorabji, *Animal Minds and Human Morals*, 17–20, discusses Aristotle's rich notion of perception. Some passages that may serve as examples are *De Insomniis* 3, 462^{a}3 (perceiving that one is

features, but also objects like stags or humans. It should also be possible to have *phantasiai* (for instance) of being in some state or other, of performing some action, and of enjoying an experience.[33] There is, then, good reason to accept that Aristotle conceives of *phantasia* so that it is cognitively powerful enough to enable a subject to apprehend what one might, speaking loosely, refer to as *situations*—performing an action, say, or enjoying an experience. It is, of course, a further step to accept that *phantasia*, on Aristotle's view, also enables subjects to apprehend *prospective* situations (e.g. eating the stag over there). In fact, one might wonder how *phantasia*, given the way Aristotle conceives of it, can possibly account for the apprehension of prospective situations.[34] Now it should be noted that the same question arises for Socrates' accounts of desire and anticipatory pleasure at *Philebus* 32 B 9–36 C 2.[35] There it is memory, the preservation of perception, that accounts for the apprehension of objects of desire, and of prospective bodily replenishments or restorations. One might think that since sensory impressions derive from particulars—say, from a particular episode of eating a particular stag—their retention can only explain the apprehension of particular episodes that occurred in the past, but neither of types of actions (e.g. 'stag-eating'), nor of prospective actions (say, making a meal of the stag over there).

It is, however, a mistake to think that because what perceivers perceive are particular items of some sort or other, it follows that what sensory impressions represent, and what they enable a subject to apprehend, is limited to particular items of some sort or other. A perceiving subject may see Socrates, but a sensory impression that originates and derives from the encounter may represent, not Socrates, but (say) 'snub-nosed man'. Sensory impressions of this sort may not enable their subject reliably to pick out some individual or other in future

asleep); *Nicomachean Ethics* 9.9, 1170^{a}25–^{b}8 (perceiving that one is walking); and *Rhetoric* 1.11, 1370^{a}27–8 (perceiving an affection that one is undergoing). There are, of course, questions about how perception can account for a subject's awareness of (e.g.) being in some state or other, being engaged in some course of action, or having something happen to one. But such questions pertain to Aristotle's conception of perception, which this is not the place to discuss and elucidate.

[33] J. Cooper's review of R. Sorabji's *Aristotle on Memory*, *Archiv für Geschichte der Philosophie*, 57 (1975), 68–9, includes some pertinent remarks on *De Anima* 3.3, 428^{b}10–17: 'an act of imaging is here described as a "motion" that *resembles* an act of seeing or hearing or whatever. Of course, the resemblance between the two acts will be partly due to the fact that the act of imaging has for its content an image that resembles the thing originally perceived; but it is the resemblance between the two *acts* that Aristotle emphasizes in the first instance.... on Aristotle's theory one can explain, say, remembering how to do something as the ability to run through in one's mind the process of doing it'. According to the interpretation offered in Sorabji, *Aristotle on Memory* (London: Duckworth, 1972), 97–8, Aristotelian *phantasiai* may represent (for instance) what someone did last Monday, or the action of putting away a chisel. Cf. *De Memoria* 2, 452^{b}30–453^{a}2, about a person who remembers 'that he did something or other the day before yesterday'.

[34] Note, for instance, the question raised in D. Gallop, *Aristotle on Sleep and Dreams* (Peterborough, Ont.: Broadview Press, 1991), 160–2, about how *phantasia* can represent an action the subject is *going to* carry out, as Aristotle's discussion of divination through dreams seems to require: 'If anyone has a dream of an action that he merely intends to carry out, such a dream could hardly be due to a residue of waking perception. There could be no such residue from perception of an event that has, *ex hypothesi*, not yet occurred.'

[35] Ch. 7, pp. 102–4.

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encounters.[36] However, they could support more modest, but in fact crucially important, cognitive achievements. Suitable sensory impressions of, say, some sort of food may enable a subject to represent and apprehend, not indeed some particular instance of it, but simply food of this sort. The same goes for actions. While it is of course true that lions perceive particular episodes of, say, eating stags, the sensory impressions that originate and derive from such episodes may well represent, not particular episodes, but patterns or configurations of appropriate sensory characteristics. Retaining such configurations could enable a lion to envisage the prospect of 'stag-eating' (or whatever), in a way that supports anticipatory pleasure as well as the formation of desire and the production of purposive locomotion.

[36] Note Aristotle's remark that 'a child begins by calling all men father, and all women mother, but later on distinguishes each of these' (*Physics* 1.1, 184^{a}21–^{b}14). Cf. D. Scott, *Recollection and Experience: Plato's Theory of Learning and its Successors* (Cambridge: Cambridge University Press, 1995), 124, on this passage: 'As far as the perception of particulars is concerned, we should not assume that because particulars are what we perceive, we perceive them merely as particulars, i.e., we perceive them in all their particularity.'

10

Desire without *phantasia*

In the preceding chapter, I pointed out that Aristotle's discussions of animal motivation, in *De Anima* 3.9–11 and in the *De Motu Animalium*, are concerned, not with the formation of desire or with the production of behaviour in general, but specifically with the production of animal locomotion. As a result, when Aristotle, in the context of these discussions, presents desire as being preceded and prepared by some suitable *phantasia*, as he does in the *De Motu*'s 'chain of movers' passage, this is not by itself a good reason to commit him to the view that forming any desire always requires some exercise or other of the capacity for *phantasia*. In the present chapter, I intend to show that there is in fact good reason to think that he does *not* take the view that desire always requires some suitable *phantasia*. I trust that showing this is worthwhile in its own right. It will also complete my argument for the view that, so far as non-rational motivation is concerned, he takes *phantasia* to be required specifically for the formation of desires that are such as to motivate an animal to engage in locomotion.

A number of texts in the *De Anima* commit Aristotle to the view that it is possible for an animal to be capable of desire without being capable of *phantasia*. In *De Anima* 2.3, he links the capacity for desire to the capacity for perception:

> If a living thing has the capacity for perception, it also has the capacity for desire. For desire comprises appetitive desire, spirited desire, and wish. And all animals have at least one of the senses, touch. For that which has perception, there is both pleasure and pain, and both the pleasant and the painful; and where there are these, there also is appetitive desire: for this is desire for the pleasant. (*De Anima* 2.3, 414^{b}1–6)[1]

According to *De Anima* 2.3, then, an animal is capable of desire if it is capable of perception. In *De Anima* 3.3, Aristotle points out that there are animals that have the capacity for perception without having the capacity for *phantasia*.[2]

[1] A shorter version of this argument is at *De Somno* 1, 454^{b}29–31. Cf. *De Anima* 2.3, 414^{b}15–17.

[2] Cf. *Posterior Analytics* 2.19, 99^{b}36–100^{a}1. Note also the claim, at *De Anima* 3.3, 428^{a}19–24, that *many* animals have *phantasia*. There is a problematic passage in *De Anima* 2.2, namely 413^{b}21–4, where Aristotle claims that when certain insects are cut in two, each of the parts has perception and locomotion, 'and if they have perception, they also have *phantasia* and desire: for where there is perception, there is pain and pleasure, and where these are, there is necessarily also appetitive desire'. If so, all animals have *phantasia*, given that they have perception. Freudenthal, *Über den Begriff des Wortes* phantasia, 8, proposes to delete καὶ φαντασίαν in line 22, partly for the following

In fact, this is one of his arguments for the distinctness of *phantasia* from perception:

> Furthermore, perception is invariably present [sc. in animals], but not *phantasia*.[3] If they were the same in actuality, then it would be possible for all animals to have *phantasia*; but it does not seem to be so: ants and bees, for instance, have *phantasia*, while grubs do not.[4] (*De Anima* 3.3, 428ª8–11)

It is clear, then, that Aristotle says both that (1) if an animal is capable of perception, then it is capable of desire, and that (2) some animals have the capacity for perception, but lack, or anyhow seem to lack, the capacity for *phantasia*. From (1) and (2), it follows that some animals have the capacity for desire, but lack, or anyhow seem to lack, the capacity for *phantasia*. Now, since this is Aristotle's view, he had better conceive of desire and of what is required for it in such a way that an animal can be capable of desire whether or not it is capable of *phantasia*. It seems that a fragment contained in *De Anima* 3.7 offers an outline of such a conception:

> (1) Perceiving, then, is like mere utterance and thought; but when something is pleasant or painful, [sc. the soul] pursues or avoids it, as it were affirming or denying it; (2) and the pleasure and pain in question are activities of the soul with the perceptual mean in relation to the good or bad as such. And this is also what the actual avoidance and desire in question are;[5]

reasons, which seem to me cogent. First, it interrupts the train of thought, since Aristotle goes on to argue for the link between perception and desire, but has nothing to say about a link between perception and *phantasia*. Secondly, the view that any animal has *phantasia*, given that it has perception, is contradicted at *De Anima* 2.3, 415ª10–11, and at *De Anima* 3.3, 428ª8–11.

[3] I translate ἀεί in line 8 as 'invariably', in agreement with the interpretation of the passage offered in R. D. Hicks, *Aristotle:* De Anima (Cambridge: Cambridge University Press, 1907), 461–2.

[4] All our manuscripts read οἷον μύρμηκι ἢ μελίττῃ, καὶ σκώληκι. I accept Torstrik's conjecture οἷον μύρμηκι μὲν ἢ μελίττῃ, σκώληκι δ' οὔ, and translate accordingly. Ants and bees should plainly *not* be included in a list of animals that may not be capable of *phantasia*. First, Aristotle is in fact committed to the view that bees have *phantasia*, as Hicks, on p. 462, points out: he attributes memory to them (in *Metaphysics* 1.1, 980ª27–980ᵇ25), and his account of memory in the *De Memoria* makes clear that having the capacity for memory requires having the capacity for *phantasia*. Secondly, Themistius (writing in the fourth century AD) seems to have read something rather different from what our manuscripts say: 'Some animals', he writes, 'have *phantasia*, others do not: perhaps the ant and the bee, much more so the dog, the horse, and whatever animals have perception [sc. have *phantasia*], while the grub does not' (90, 6). Alexander of Aphrodisias (second–third centuries AD) mentions testaceans and grubs as examples of animals which have perception without having *phantasia* (no mention of ants and bees); *De Anima* 67.2–3. Cf. also Philoponus on *De Anima* 2.2, 413ᵇ22 (240, 11–5): ants have *phantasia*; 'but grubs, as he will say in what follows, are not seen to have *phantasia*'. (Simplicius, writing in the sixth century AD, appears to have read the text as our manuscripts have it.)

[5] At 431ª12, the manuscripts are divided between τοῦτο on the one hand, and τὸ αὐτό or ταὐτόν on the other; so are the ancient commentators, with Philoponus reading τοῦτο and Simplicius reading ταὐτόν; and so are modern scholars, with Torstrik (1862) and Hicks (1907) reading τοῦτο and Ross (1961) and Hamlyn (1968) reading ταὐτό. I much prefer τοῦτο—first, because in this way we avoid what Hamlyn concedes is a 'hard saying', namely that 'actual avoidance and actual desire are the same'; and secondly because it enables us to construe the passage as expressing what seems to me a rather clear and attractive train of thought, with section (2) clarifying the relations holding among the items which figure in section (1), i.e. perception, pleasure, pain, pursuit (or desire), and avoidance (or aversion). Section (2) asserts constitutive connections both between perception and certain forms of pleasure and pain, and between those forms of pleasure and pain and

and the desiderative part or aspect (τὸ ὀρεκτικόν) is not different from the part to do with avoidance (τὸ φευκτικόν), nor either from the perceptual part (τὸ αἰσθητικόν); they are, however, different in being. (3) But to the thinking soul (τῇ διανοητικῇ ψυχῇ), *phantasiai* serve as percepts (αἰσθήματα). And when it affirms or denies good or bad, it avoids or pursues. (*De Anima* 3.7, 431ª8–16)[6]

In the section marked as (1), certain forms of pursuit and avoidance are presented as arising from perceptions of something pleasant or painful.[7] In section (2), Aristotle seems to identify the relevant forms of desire and avoidance with perceptual activities that involve pleasure or pain. It thus seems that he envisages a direct link between perceptual activity on the one hand and activity of desire or avoidance on the other. Certain forms of perceptual activity either result in, or constitute, certain forms of desiderative activity. There is no mention, in sections (1) or (2), of any contribution from *phantasia* to the formation of desire. *Phantasiai* only come in later, in section (3), when Aristotle turns to thought, apparently intending a contrast to what precedes: 'But to the thinking soul, *phantasiai* serve as percepts.'

It seems to me very much worth noting that in this whole passage, locomotion is not mentioned. By contrast, locomotion is, as we have seen, at the centre of Aristotle's attention in *De Anima* 3.9–11, and in the *De Motu Animalium*. In the preceding chapter, I argued that Aristotle assigns to *phantasia* a distinctive role in the formation of desires that account for purposive locomotion. At the same time, he may have reasons for leaving open the possibility of desires that can be explained, without appealing to *phantasia*, but simply in terms of perception, pleasure, and pain. He may also have reasons for leaving open the possibility of animals that are capable of desire, without being capable of *phantasia*. After all, there may be kinds of animals that show no sign of purposive locomotion, but that do engage in behaviour that he will want to explain in terms of cognition and desire. If so, he will be inclined to attribute to such animals the capacities for perception (minimally, touch) and desire, whereas he

certain forms of desire and avoidance. Certain forms of feeling pleasure and pain *are* forms of perceptual activity, and these forms of perceptual activity at the same time constitute desiderative states or activities. If so, perceptual activity of these forms is at once cognitive and desiderative. We might compare Aristotle's conception of decision (προαίρεσις), which similarly shares in both cognition and desire (see, for instance, *De Motu Animalium* 6, 700ᵇ23; *Nicomachean Ethics* 6.2, 1139ᵇ4–5), although the cognitive element involved in decision is intellectual, rather than (merely) perceptual.

[6] I am grateful to David Charles for drawing my attention to this passage.

[7] The relevant forms of pursuit and avoidance, I assume, are ones which spring specifically from appetitive desire or aversion. These, after all, are the motivating conditions which arise from awareness, or from the representation, specifically of pleasant or painful things. Accordingly, I take it that what Aristotle has in mind in section (2) are, not desire/pursuit and aversion/avoidance in general, but the particular forms of motivation that feature in section (1). One good reason for reading the passage in this restricted way is that Aristotle in section (3) turns to forms of pursuit and avoidance that arise, not from pleasant or painful perceptions, but from thoughts that affirm or deny goodness or badness.

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may not see any need to attribute to them the capacity for *phantasia*. Take, for instance, sponges:[8]

> It is said that sponges have perception. And there is an indication of this: for if a sponge becomes aware of an attempt being made to detach it, it contracts and it becomes difficult to remove it. It does the same thing in conditions of strong wind and waves, so that it does not get detached. Some people express doubts as to the truth of this assertion; as, for instance, the people of Torone. (*Historia Animalium* 5.16, 548^{b}10–15)[9]

The sponge's contracting is not, we may safely assume, a matter of locomotion. Sponges no doubt are animals that Aristotle classifies as stationary, which is to say that they do not engage in locomotion.[10] So far as sponges are concerned, then, there is no locomotion that needs to be explained. Nonetheless, they are reported to engage in behaviour that Aristotle may wish to explain in terms of cognition and desire. In fact he is inclined to attribute perception to them. Given the links between perception, pleasure, pain, and desire that we find, for instance, at *De Anima* 2.3, 414^{b}1–6, it is reasonable to think that he is also inclined to attribute pleasure, pain, desire, and aversion to them,[11] and generally to animals that manifest behaviour of the kind that, at least according to some reports, sponges manifest. If so, it is open to him to explain the contracting of a sponge, when an attempt is made to detach it from its rock, simply in terms of (say) perception, pain, and aversion. He can say that the sponge perceives the occurrent process of gradually being detached as being intensely painful; that it is therefore strongly averse to it; and that this aversion expresses itself in avoidance behaviour, which involves contraction.[12] We might think that in cases such as this one there is no need to attribute to the creature in question any ability to envisage prospective situations, situations that do not currently obtain. For behaviour of the kind reportedly manifested by sponges could, it seems reasonable to think, be explained just in terms of perception and what we might call pro-attitudes or contra-attitudes to items that the animal apprehends in acts of perception—for instance, occurrent states or processes.[13]

[8] Philoponus (240, 22–5) suggests that sponges have tactile perception and appetitive desire, without having *phantasia*.

[9] Cf. *Historia Animalium* 1.1, 487^{b}10–12.

[10] Cf. De *Partibus Animalium* 4.5, 681^{a}16–18: 'A sponge, then, as already said, in these respects completely resembles a plant, that throughout its life it is attached to a rock, and that when separated from this it dies.' Translations from the *De Partibus Animalium* are as in J. Barnes (ed.), *Complete Works*. Cf. *Historia Animalium* 1.1, 487^{b}6–12.

[11] Aristotle thinks, I assume, that all creatures capable of desire are also capable of aversion. That he takes all creatures capable of perception to be capable, not only of appetitive desire, but also of appetitive aversion, is suggested by the inclusion of pain in the argument at *De Anima* 2.3, 414^{b}1–6. As we have seen, a form of avoidance is characterized as a perceptual activity at *De Anima* 3.7, 431^{a}8–14; Aristotle there adds that 'the desiderative part or aspect is not different from the part to do with avoidance'. Note also the remark, at *De Anima* 3.12, 434^{b}11–18, that for an animal to be preserved, it must have the sense of touch, or else it could not avoid some things and take others.

[12] As Christof Rapp pointed out to me, the explanation of the sponge's contracting may have much the same structure as the explanation of what happens when you accidentally put your hand on a very hot object.

[13] Given that sponges are not capable of *locomotion*, how should their behaviour be classified? Aristotle's discussions of animal motivation in *De Anima* 3.9–11 and in the *De Motu Animalium*

What, then, of the appearance that, according to the 'chain of movers' passage, forming a desire requires having some suitable *phantasia*? As we have seen already, that passage has its place in the context of a discussion of animal locomotion. In fact what it says is specifically meant to explain why it is that 'it is pretty much at the same time that a creature thinks it should walk (ὅτι πορευτέον) and that it walks, unless something else impedes it' (702ª15–17). We may, then, record a qualified version of the claim that the 'chain of movers' passage at first sight appeared to imply:

(1′) Forming a desire that can support, and account for, goal-directed locomotion requires having some suitable *phantasia*.[14]

So far as non-rational motivation is concerned, we can explain Aristotle's commitment to claim (1′) in the following way. If a desire is to support, and account for, purposive locomotion, forming it involves envisaging a prospective situation. Envisaging a prospect, then, is a cognitive task that a subject must actually perform if it is to engage in purposive locomotion. Now, Aristotle takes it that there are three cognitive capacities that may be involved in the production of animal locomotion: thought, perception, and *phantasia*. Perception by itself plainly does not enable an animal to envisage prospects. At the same time, Aristotle denies the capacity for thought to non-human animals. He also holds that humans can be motivated to act, and no doubt to engage in purposive locomotion, without thought being active at the time.[15] Thus we expect that *phantasia*, as Aristotle

focus (reasonably enough, I think) on forms of animal movement such as flying, swimming, walking, and the like—forms of movement, that is, which involve movement of the *whole* animate organism from one place to another. Note the identification of locomotion with *progressive* motion (πορευτικὴ κίνησις) at *De Anima* 3.9, 432ᵇ13–14; cf. πορεία ('progression') at 25–6. This leaves it somewhat unclear what Aristotle wants to say about forms of behaviour which involve locomotion only of *parts* of an organism, or only changes other than locomotion. It is worth pointing out that the former case does not, for Aristotle, count as a case of movement of an organism 'in its own right' or 'as such' (καθ' αὑτό); an animal which engages in movement only with regard to some part of itself engages in movement only incidentally (κατὰ συμβεβηκός). See *Physics* 8.4, 254ᵇ7–14, and p. 27, n. 9. Aristotle's general idea is, I suggest, that if a theory can explain the complex and demanding achievement of purposive animal *locomotion*, it can surely explain the more primitive forms of animal behaviour, such as reactions to perceptual stimuli as displayed by stationary animals of various kinds.

[14] It is perhaps worth noting that Aristotle does not, either in *De Motu Animalium* 8 or anywhere else, assert in so many words that if an animal forms a desire which results in locomotion, the animal in question necessarily or invariably has some suitable *phantasia*. However, the *De Motu Animalium* is aiming to offer a general account of animal locomotion, as its second sentence makes clear (*De Motu Animalium* 1, 698ª4–7). And in that general account of animal locomotion, *phantasia* is envisaged, in the 'chain of movers' passage, as playing the role of 'suitably preparing' desire. So we have good reason to assume that, on Aristotle's view, *phantasia* is involved in the production of animal locomotion either invariably or at least so far as cases are concerned which he takes to be sufficiently central to focus on them. For the sake of simplicity, I retain (1′) as formulated above.

[15] *De Anima* 3.3, 429ª4–8: 'Because *phantasiai* persist in the animal and are like perceptions, animals do many things in ways that depend on them [sc. rather than on thought]. As for the brute animals, this is because they do not have an intellect (νοῦς). With humans, it is because their intellects are sometimes covered over by passion, disease, or sleep.' I offer a suggestion about what precisely the last sentence may mean in Ch. 13, n. 29.

conceives of it, enables an animal to envisage prospects. In Chapter 9, I offered what seem to me good reasons for thinking that, in fact, it does.

Aristotle thinks, moreover, that when thought rouses an animal to travel from one place to another, this too involves the formation, or anyhow the active occurrence, of some suitable *phantasia*.[16] He may well think that, in that, in this case too, the occurrence of some *phantasia* is required for the formation of the desire in question. In fact he may take it to be required for the very possibility of rational motivation.[17] At least for present purposes, then, we have arrived at a sufficiently clear and detailed view of why Aristotle thinks that, in general, forming a desire that impels an animal to engage in goal-directed locomotion requires the occurrence of some suitable *phantasia*.

I turn to appearance (2):

(2) The discussion at *De Anima* 3.10–11, 433^{b}27–434^{a}5, commits Aristotle to the following view: if an animal is capable of desire, it must be capable, not only of perception, but of *phantasia* as well.

It is worth noting that at *De Anima* 3.10, 433^{b}27–9, Aristotle appears to connect the capacity for desire, not only with the capacity for *phantasia*, but also with the capacity for self-movement: 'In general, then, as has been said, in so far as the animal is capable of desire, so far is it capable of self-movement (αὐτοῦ κινητικόν); and it is not capable of desire without *phantasia*.'[18] In this passage, he appears to assert general connections between the capacities for desire, for self-movement, and for *phantasia*. As we have seen, he has already noted a connection between the capacities for perception and for desire:

> If a living thing has the capacity for perception, it also has the capacity for desire. For desire comprises appetitive desire, spirited desire, and wish. And all animals have at least one of the senses, touch. For that which has perception, there is both pleasure and pain, and both the pleasant and the painful; and where there are these, there also is appetitive desire: for this is desire for the pleasant. (*De Anima* 2.3, 414^{b}1–6)

We have now come close to having to diagnose an inconsistency within the *De Anima*. Aristotle asserts, or appears to assert, that all animals have perception, minimally in the form of touch; that whatever has perception also has desire; and that whatever has desire also has the capacities for locomotion and for *phantasia*.[19] If we take him to make these claims, we have to commit him to the view that all animals are capable of locomotion and of *phantasia*. However, he states in *De Anima* 3.9 that 'there are many animals which have perception, but are stationary

[16] This is clear from the 'chain of movers' passage. Note also *De Anima* 3.11, 434^{a}7–10.

[17] I give more content to this suggestion in the Conclusion, pp. 205–6.

[18] This is Hamlyn's translation, slightly modified. I should reiterate that this is not how I think the passage is best understood. I shall shortly propose an alternative translation.

[19] T. Irwin, *Aristotle's First Principles* (Oxford: Oxford University Press, 1988), 304–5: 'Since perception requires desire, and desire requires appearance, perception requires appearance.' Similarly V. Caston, 'Why Aristotle needs imagination', 23, n. 9.

and unmoving throughout their lives' (*De Anima* 3.9, 432^{b}19–21).[20] He also claims, as we have seen, that there are kinds of animals which have the capacity for perception, but lack, or anyhow seem to lack, the capacity for *phantasia* (*De Anima* 3.3, 428^{a}8–11). One way of responding to these difficulties is to offer a developmental interpretation—for instance, something like this. There was a time in Aristotle's intellectual career when he believed that there are some animal species which lack the capacities for locomotion and *phantasia*. Some traces of this view can be detected in the *De Anima* and other texts. At a later stage in his development, Aristotle (for some reason or other) came to think that all animals are capable of locomotion and *phantasia*, at least in rudimentary and indeterminate ways. According to this developmental interpretation, Aristotle in *De Anima* 3.10–11 revises views that he committed himself to in some earlier passages of the *De Anima*.[21]

Another prima facie possibility is to take a developmental view of *phantasia*, but to insist that, so far as locomotion is concerned, what Aristotle says in the *De Anima* is consistent. One way in which this might be done is by assuming that the capacity for *self-motion*, which is mentioned at 3.10, 433^{b}27–9, is more broadly conceived than the capacity for *locomotion*, which is denied to some animals in several places of the *De Anima* (for instance, at 3.9, 432^{b}19–21). For there may be animals which do not move from place to place, but which are nonetheless capable of moving parts of their bodies: such animals could be regarded as being capable of self-motion, without having the capacity for locomotion.[22]

However, Aristotle does not give any indication, in the discussion in *De Anima* 3.9–11, that he intends there to be a difference between (self-) locomotion and self-motion, let alone that he intends to exploit such a difference.[23] On the contrary, he makes clear, at the beginning of 3.9, that the topic to be discussed in

[20] Note also *De Partibus Animalium* 4.7, 683^{b}9–10: 'Some species of testaceans are absolutely unmoving (ἀκίνητα πάμπαν), and others not quite but nearly so.' Also *Physics* 8.7, 261^{a}15–17: 'some living things are completely unmoving (ὅλως ἀκίνητα) due to lack of an appropriate organ—viz., plants and many kinds of animal.' Note furthermore the restriction 'as far as animals are concerned that engage in self-motion (ὅσα κινεῖται αὐτὰ αὑτά)' at *De Motu Animalium* 4, 700^{a}7–11, and 700^{a}21–5. Cf. *De Anima* 2.3, 414^{b}14–19. For a discussion of Aristotle's views on the lowest forms of animal life, see G. Lloyd, *Aristotelian Explorations* (Cambridge: Cambridge University Press, 1996), 67–82.

[21] A developmental interpretation is suggested by (for instance) Irwin, *Aristotle's First Principles*, 587, n. 3. On his view, *De Anima* 3.11, 433^{b}31–434^{a}7, revises the earlier view expressed at *De Anima* 3.3, 428^{a}9–11: 'These later thoughts seem to be the best.' Similarly D. Frede, 'The cognitive role of *phantasia*', in M. Nussbaum and A. Rorty (eds.), *Essays on Aristotle's* De Anima, 281, who suggests 'modification' on Aristotle's part.

[22] Cf. Irwin, *Aristotle's First Principles*, 587, n. 2, about stationary animals: 'Even though they do not move from place to place, they move parts of themselves; a sea-anemone or a shellfish, e.g., may close up and protect itself if it is poked, *HA* 487^{b}7–11.'

[23] Note the frequent shifts, in *De Anima* 3.9–10, between 'motion' expressions (κινεῖν, κίνησις) and 'locomotion' expressions (κινεῖν κατὰ τόπον, κίνησις κατὰ τόπον), with no suggestion at all that such shifts involve a broadening or narrowing of scope: locomotion at 432^{a}17, motion at 432^{a}18, locomotion at 432^{b}8, motion at 432^{b}28, 433^{a}7, 433^{a}9, locomotion at 433^{a}13, motion at 433^{a}18, and so forth.

what follows is the self-locomotion of animals (3.9, 432ª7–8; ᵇ7–8; ᵇ13–4; 3.10, 433ª9–13). The question of what in the soul it is that *moves* the animal (432ª18–19) is restated a little later on as 'the question which has now arisen', namely, 'what is it that moves the animal *in respect of place*' (432ᵇ7–8). Thus the text suggests very strongly that the topic Aristotle is proposing to discuss is precisely one kind of motion: the self-locomotion of animals. So if, within this discussion, he denies or attributes to certain animals the capacity for the relevant kind of motion, he should be understood as denying or attributing to them the capacity for locomotion. As a result, if we read the discussion in such a way as to commit him to the view that all animals are capable of the relevant kind of movement—locomotion, that is—we cannot avoid diagnosing an inconsistency, given that he denies the capacity for locomotion to some animals (for instance, within the very discussion we are concerned with).

Can we resolve this problem of consistency? It seems to me that we can, and also that we can make sense of Aristotle's overall position without having to resort to developmental assumptions of the kind I have sketched. I think that we can interpret *De Anima* 3.10–11, 433ᵇ27–434ª5, so that it is compatible with the view that some animals are not capable of locomotion, and may not be capable of *phantasia*. To see that this is possible, we should note that the assertion at *De Anima* 3.10, 433ᵇ27–8, is offered as a *restatement* of something that has been said before ('as has been said', 433ᵇ27). There is no need to stress that Aristotle has not asserted anything like a necessary link between desire and locomotion, such that if an animal is capable of desire, it must be capable of locomotion as well. Something that has been said, by contrast, is that it is the capacity for desire that produces locomotion (*De Anima* 3.10, 433ª31–ᵇ1). This statement, I take it, answers the question that 3.9 begins by asking: what in the soul is it that moves the animal in respect of place?[24] The question applies only to animals which are capable of locomotion. And the answer is that it is the capacity for desire that moves *them* in respect of place. I suggest that at *De Anima* 3.10, 433ᵇ27–8, Aristotle is meaning to do no more and no less than to restate this point: for all animals that are capable of locomotion, it is in so far as they are capable of desire that they are capable of locomotion—which, of course, is not to say that all animals are capable of locomotion. In light of the interpretation that I am suggesting, Aristotle's Greek should be translated in something like the following way: 'In general, then, as has been said, it is in so far as the animal has the capacity for desire that it has the capacity for self-motion'.[25]

Moreover, the link between desire and *phantasia* that Aristotle describes at 433ᵇ28–9 may, and I think should, be understood as restricted in scope by the

[24] *De Anima* 3.9, 432ª15–22; cf. 432ᵇ7–8, 13–14.

[25] Cf. Hicks's translation: 'Thus, then, in general terms, as already stated, the animal is capable of moving itself just in so far as it is appetitive'. Similarly, Ross' paraphrase (in his *De Anima* commentary, Oxford: Oxford University Press, 1961, 315): 'To state the matter generally, it is by virtue of having desire that an animal moves itself'.

context, which is a discussion of what it is that moves the animal in respect of place. For animals which are capable of locomotion, what imparts locomotion to *them* is the capacity for desire acting in concert with the capacity for *phantasia*.[26] This, of course, is not to say that all animals are capable of *phantasia*, or that all animals which are capable of desire are also capable of *phantasia*. I propose to translate the passage as a whole in the following way: 'In general, then, as has been said, it is in so far as the animal has the capacity for desire that it has the capacity for self-motion, but in so far as it has the capacity for desire not without the capacity for *phantasia*.'

Given the interpretation that I have offered, the following problem may be raised. Aristotle asserts that it is the capacity for desire that produces locomotion (3.10, $433^{a}31$–$^{b}1$). He also wants to say that some animal species have the capacity for desire, but lack the capacity for locomotion (3.9, $432^{b}19$–21, together with 2.3, $414^{b}1$–6). But then his position may seem to be vulnerable to a form of argument that he himself employs so as to counter the view that it is the capacity for perception that produces locomotion (3.9, $432^{b}19$–26).[27] The argument in 3.9 runs as follows. Many animals have the capacity for perception, without having the capacity for locomotion; and nature does nothing in vain. If it were the capacity for perception that produced locomotion, then having the capacity for perception would involve being capable of locomotion. If so, some animals would, surprisingly, have the capacity for locomotion, although their bodies do not have suitable parts to enable them actually to engage in locomotion. Nature would have endowed them with a capacity that they could never exercise; which violates the principle that nature does nothing in vain.

It appears, however, that Aristotle wants to attribute to stationary animals not only the capacity for perception, but also the capacity for desire. And if it is the capacity for desire that produces locomotion, then (Aristotle is bound to think) being capable of desire involves being capable of locomotion. Once more we arrive at the result that some animals are naturally endowed with a capacity that, naturally, they can never exercise.

One way in which Aristotle can respond to this problem is as follows. Strictly speaking, it is not the capacity for desire *as such* that produces locomotion, but that capacity as supported by a system of cognitive capacities which includes either *phantasia* or thought (or both, as in the human case). In fact, this may well be exactly what Aristotle has in mind. The primary mover of the animal is not, he holds, the capacity for desire, but the object of desire; and the object of desire produces motion by being grasped in thought or *phantasia* (3.10, $433^{b}11$–12).[28]

[26] Grammatically speaking, the clause ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας at $433^{b}28$–9 may be taken as an apposition to the clause ἢ ὀρεκτικὸν τὸ ζῷον at $433^{b}27$–8, amplifying and, I shall suggest presently, qualifying the content of the earlier clause. Reading the passage in this way, I propose to put a comma between κινητικόν and ὀρεκτικόν at $433^{b}28$, departing from the punctuation adopted by (for instance) Hicks and Ross, who both print a colon.

[27] Cf. Irwin, *Aristotle's First Principles*, 595, n. 1.

[28] πρῶτον δὲ πάντων τὸ ὀρεκτόν· τοῦτο γὰρ κινεῖ οὐ κινούμενον, τῷ νοηθῆναι ἢ φαντασθῆναι.

Thus the production of the relevant kind of motion—locomotion, that is—presupposes that the subject is capable of thought or at least of *phantasia*. It is tempting to think, then, that the clause 'having the capacity for desire not without *phantasia*' (ὀρεκτικὸν δὲ οὐκ ἄνευ φαντασίας) at 3.10, 433^{b}28–9, is meant to place a restriction on the connection between the capacity for desire and the capacity for locomotion: the capacity for desire produces locomotion *only if* it is supported by a suitably powerful cognitive apparatus—one, that is, which minimally includes the capacity for *phantasia*.

At the beginning of *De Anima* 3.11, Aristotle raises the question of what it is that moves imperfect animals, which have perception only in the form of touch. Presumably he has not changed the subject: he is still discussing movement in respect of place, and he is wondering whether the indeterminate kind of locomotion of the relevant animal species should be explained in terms of desire and *phantasia*. As we have seen, part of his answer is that they must have appetitive desire. Moreover, he suggests that as they engage in movement in an indeterminate way, so they have *phantasia* in an indeterminate way. Aristotle is not here committing himself to the view that all animals are capable of locomotion, indeterminate or otherwise. He is discussing the question of how to explain the indeterminate form of purposive locomotion that he takes some low-level animals to exhibit. None of what he says in this context implies that all animals exhibit at least such an indeterminate form of purposive locomotion.

We may conclude that when a species of animal shows signs of purposive locomotion, even of a rudimentary and indeterminate kind, Aristotle is inclined to attribute the capacity for *phantasia* to the relevant species. At the same time, looking at species that represent the lowest forms of animal life, Aristotle may want to attribute the capacities for perception and desire to some kinds of animals which show no sign of having the capacity for locomotion. Given the connection between locomotion and *phantasia* that I argued for in Chapter 9, he may well be inclined to deny the capacity for *phantasia* to such animals.

11

The Workings of *phantasia*

It may be helpful to begin by recalling the roles perception and *phantasia* are presented as playing in the conceptual framework that Aristotle employs in his discussions of animal locomotion, in *De Anima* 3.9–11 and in the *De Motu Animalium*. Much of this conceptual framework is on display in two rather similar passages, one from *De Motu Animalium* 6, the other from *De Anima* 3.10:

> We see that the movers of the animal are thought (διάνοια), perception, *phantasia*, decision, wish, spirit, and appetite. And all of these can be reduced to thought (νοῦς) and desire. For *phantasia* and perception hold the same place as thought: for all of these involve discernment, while they differ in ways that have been stated elsewhere. (*De Motu Animalium* 6, 700^{b}17–22)

> These two are seen to produce movement, either desire or thought (νοῦς), if one were to take *phantasia* to be like a kind of thinking (ὡς νόησίν τινα): for many follow *phantasiai* against knowledge, and in the other animals there is neither thinking (νόησις) nor reasoning (λογισμός), but there is *phantasia*. Both of these, then, can produce movement in respect of place, thought and desire—but thought which reasons for the sake of something and is practical. (*De Anima* 3.10, 433^{a}9–14)

In both passages, Aristotle proposes to account for animal locomotion in terms of cognition and desire. He also makes clear, in these passages and in their respective contexts, that there are, on his view, different kinds of cognition, and different kinds of desire. The relevant kinds of cognition are thought or thinking (διάνοια, νόησις) on the one hand and *phantasia* and perception on the other. In the passage from *De Anima* 3.10, Aristotle suggests that we take *phantasia* to be 'like a kind of thinking'. He nevertheless implicitly insists, in the same passage, on the distinction between *phantasia* and thinking: he credits all or almost all non-human animals with *phantasia* and at the same time denies them the capacity for thinking. In the present chapter, I shall discuss some points of contact between *phantasia* and thought, hoping to shed light on what Aristotle may have in mind in suggesting that *phantasia* can be taken to be 'like a kind of thinking'. In the next chapter, I shall turn to the question of why Aristotle, in spite of whatever similarities there may be between the two, nevertheless insists on their distinctness.

Given that the forms of cognition that Aristotle makes available for the explanation of animal movement are thought, *phantasia*, and perception, the cognition

involved in the purposive movement of non-human animals must on his view be explicable in terms of *phantasia* and perception alone. What I intend to do in what follows is to consider some forms of non-human animal behaviour that Aristotle observes and discusses, and to reflect on the question of how it might be that the cognition involved in such forms of behaviour can be explained simply in terms of *phantasia* and perception, as he conceives of them. My main objective will be to bring out the remarkably powerful notion of *phantasia* with which Aristotle operates. For this purpose, it will not be necessary to provide a comprehensive or exhaustive survey of the forms of behaviour that he observes and discusses. Rather, I shall focus on a few cases that seem especially helpful in showing the remarkable power of *phantasia*, as he conceives of it.

In the present chapter, as well as in the next one, I shall focus on non-human animal motivation as providing the clearest case of non-rational motivation, as Aristotle conceives of it. What I intend to bring to light is a rich and, I think, rather attractive conception of non-rational motivation that is in principle applicable both to non-human animal behaviour and to human behaviour that fails to manifest reason. In Chapter 13, I shall turn to the question of the extent to which Aristotle takes that conception to be applicable to the behaviour of adult, ordinarily developed humans.

In a passage from *Nicomachean Ethics* 3.10 that we had a look at in Chapter 9, Aristotle discusses a situation in which a predatory animal notices some suitable prey somewhere in its environment. In that passage, he is interested in the pleasure that the predator takes in such circumstances. 'What pleases the lion', he insists, 'is not the sight of "a stag or a wild goat", but that he is going to get a meal.'[1] The lion's pleasure, Aristotle thinks, is a pleasure of anticipation, and so he must take it to involve apprehending the prospect of having a meal. This makes clear that he thinks non-human animals can, in some way or other, anticipate or envisage prospects. Independently of this, it seems to be an implication of his account of animal locomotion, in *De Anima* 3.9–11 and in the *De Motu Animalium*, that non-human animals can envisage prospects. He evidently thinks that they are capable of locomotion for the sake of goals, and this capacity seems to presuppose the capacity for envisaging prospects.

It is fairly easy to see at least some ways in which perception and *phantasia* may enter into accounts of the types of animal response and behaviour that Aristotle notes in *Nicomachean Ethics* 3.10. Perception supplies the predator with the information that some suitable prey is located nearby in its environment. A *phantasia* which, in some way or other, presents the prospect of having a meal will play a role in the explanation both of the lion's pleasure of anticipation, and of its purposive locomotion towards its prey.

If Aristotle has in mind an account along these lines, as it seems clear that he does, he must assume, not only that non-human animals can envisage prospects,

[1] [sc. χαίρει] ὅτι βορὰν ἕξει: *Nicomachean Ethics* 3.10, 1118ª18–23.

but also that there is some mechanism which brings it about that in cases of the kind described in *Nicomachean Ethics* 3.10, animals envisage prospects that are *suitable* to the circumstances they find themselves in, whatever these may be. It is plain, after all, that there is a rather tight fit between the prospect the animal apprehends by way of *phantasia* and its current situation, which is presented to it by way of its senses. What a lion typically anticipates on seeing (say) a stag is having a meal, rather than, for instance, copulating. This fit between prospective and present situations cannot be a mere coincidence. It must stem from an ability that lions and many other kinds of animals have as a matter of being naturally constituted the way they are, namely to envisage prospects that are, more often than not, suitable to their present circumstances.

These points may be made in another way. The suggestion so far has been that, on Aristotle's view, animals with the capacity for retaining sensory impressions are capable of envisaging prospective situations, with the latter capacity playing a crucial role in purposive locomotion. However, one deficiency of the account so far offered on Aristotle's behalf is that it fails to explain the fact that non-human animals can, in appropriate circumstances, be *relied on* to behave in rather specific ways. There are circumstances in which a lion, when presented with a stag, will hunt it down and sink its teeth into it.[2] According to Aristotle's account, the lion's behaviour expresses and realizes a purpose. Forming that purpose, I have suggested, requires rather specific exercises of the capacity for *phantasia*. Thus Aristotle must, I take it, assume that there are circumstances in which lions can be relied on, when presented with some prey, to have some suitable *phantasia* that will in some way or other represent eating the prey, rather than having no *phantasia* at all, or having some quite different *phantasia*.

A theory which, like Aristotle's, proposes to account for the cognitive achievements involved in the purposive behaviour of non-human animals in terms of perception and *phantasia* should then be able to account, in these terms, not only for their ability to envisage prospective situations, but also for the fact that, given certain conditions, they can be relied on to envisage prospects that are suitable to the circumstances they find themselves in. Otherwise there would be an important gap in Aristotle's account. Now, Aristotle does not explicitly confront the question why it is that some of the brute animals can, given certain circumstances, be relied on to envisage rather specific prospects. It is nevertheless possible to make a detailed and, I hope, persuasive case for the view that perception and, in particular, *phantasia*, as he conceives of them, can, or anyhow are meant to be able to, account for an animal's ability to envisage prospects that are suitable to its

[2] These circumstances include, for instance, that the lion is in reasonably good health and not completely sated, and perhaps also that it has acquired appropriate levels of relevant experience and skill of the sorts that lions naturally acquire in their habitat. The difference between a healthy, hungry lion and a sick or sated one will not lie in what prospects they can envisage, but presumably in which ones they find pleasurable and thus desirable.

circumstances. Making this case will be my task in the remainder of the present chapter.

According to Aristotle's psychological theory, for any animal capable of perception and *phantasia*, it is the same part or aspect of its soul that accounts for its being capable both of perceiving and of having *phantasiai*.[3] We can see this in the first chapter of the *De Insomniis*. Aristotle begins that treatise by asking in virtue of what part or aspect of the soul it is that we have dreams and, specifically, whether dreams are affections of the part or aspect of the soul that is concerned with thinking (τὸ νοητικόν), or the one concerned with perceiving (τὸ αἰσθητικόν) (458ª33–ᵇ2).[4] At the end of the chapter, the question is answered: dreaming belongs to the part or aspect of the soul that is concerned with perceiving, in so far as it is concerned with *phantasia* (459ª21–2); for a dream appears to be a kind of *phantasia* (φάνταsμα), hence to belong to the part or aspect concerned with *phantasia* (τὸ φανταστικόν), and that part or aspect is in fact the same as the part or aspect concerned with perceiving (τὸ αἰσθητικόν) (459ª14–22). It is Aristotle's view, then, that there is a part or aspect of the soul, which may be referred to as the perceptual part, that enables certain living things both to perceive and to have *phantasiai*.[5] It turns out that

[3] There are several passages in Aristotle's psychological writings in which he mentions μόρια τῆς ψυχῆς, a notion which I intend to capture by writing of parts or aspects of the soul. Although Aristotle is not very specific about what he has in mind in mentioning these items, a number of points are nevertheless clear. Being *a part* of the soul is contrasted with being *a soul* (*De Anima* 2.2, 413ᵇ11–16); as a result, conceiving of (for instance) whatever it is that is concerned with perceiving (αἰσθητικόν) as a part or aspect of the soul enables Aristotle to resist the view that an animal may have more souls than one, since it has something concerned with perceiving, something concerned with nutrition, and so forth. At the same time, he evidently finds the notion that the soul is a thing of parts—a composite object, that is—to be deeply and seriously problematic, as we saw in Chapter 3. The *aporia* for soul partition that is articulated at *De Anima* 1.5, 411ᵇ5–14, is never, in fact, resolved. Thus Aristotle may well have in mind a notion as weak as 'aspect'. Claims about parts or aspects of the soul may simply be claims about how the various capacities which constitute the soul are related to one another, and about which 'psychic' capacities are needed to account for a given activity or operation which living things perform in virtue of being ensouled.

[4] I assume that the expression τὸ αἰσθητικὸν at 458ᵇ2 refers to a part or aspect of the soul, just as the expression τὸ νοητικόν in the same sentence. Thus the second question seems to me to be a specification of the first one, narrowing down the range of candidates to two. τὸ αἰσθητικόν has been introduced as a part or aspect of the soul in the preceding treatise, *De Somno* (which, at 453ᵇ17–20, announces the *De Insomniis*): at 454ª11–19, Aristotle mentions τὸ αἰσθητικόν as one of the items that are spoken of as parts or aspects of the soul (μόρια τῆς ψυχῆς), and later in the same chapter he refers to it as the part or aspect concerned with perceiving (τὸ αἰσθητικὸν μόριον): 'Sleep is an affection of the part or aspect concerned with perceiving, a kind of fetter and lack of movement; so that it is necessary that everything that sleeps has a part or aspect concerned with perceiving' (454ᵇ9–12). This result is assumed in the *De Insomniis*: 'Let us assume what is quite obvious, that dreaming is an affection of that which is concerned with perceiving (τὸ αἰσθητικόν), just as sleep is: for dreaming does not belong to another part or aspect of animals than sleep' (459ª11–14).

[5] It is with, or in virtue of, the αἰσθητικόν that *we* have certain cognitions: see *De Insomniis* 1, 458ᵇ2–3. In other words, the αἰσθητικόν, rather than itself doing the perceiving, enables *us* to perceive. This form of expression reflects Aristotle's view that it is 'perhaps better' to say that *we* pity, learn, or think with, or in virtue of, the soul, than to say that the soul pities, learns, or thinks (*De Anima* 1.4, 408ᵇ13–18). For more on this view, see Conclusion, pp. 203–4.

this part or aspect is, on Aristotle's view, also responsible for dreaming, and for remembering.[6]

The perceptual part of the soul is meant to account for a variety of interrelated activities in which animals engage, much as the soul as a whole, according to Aristotle's psychological theory, accounts for an even wider variety of interrelated activities. And as the perceptual part is conceived of as a part or aspect of the soul as a whole, so the activities it accounts for form a subset of the set of interrelated activities that the soul as a whole accounts for. Activities that Aristotle takes to belong to the soul, but not to its perceptual part, include digestion and thought.[7]

Now, an ordinarily developed living thing that is equipped with a perceptual soul-part is an organism with a certain structure. This will typically involve having a variety of sense-organs and a central organ of perception; I shall refer to that configuration of organs as the animal's perceptual apparatus. For animals capable of *phantasia*, this apparatus will be complex enough to support, not only the reception of sensory impressions when appropriate objects are present to its senses, but also the retention of such impressions when the objects in question are no longer present. It is part of Aristotle's psychological theory, I suggested, that the ability to retain sensory impressions enables animals to envisage prospects, and to form purposes that may impel them to engage in movement from one place to another.

There is, moreover, good reason to think that, on Aristotle's view, the perceptual part of a suitable animal's soul can account for the fact that, given certain conditions, it can be relied on to envisage prospects that are suitable to the circumstances in which it finds itself. As is clear from a number of texts in the *Parva*

[6] 'Memory also of intelligibles does not occur without a *phantasia*. Hence it would seem to belong incidentally to that which is concerned with thought, but in itself to the primary part or aspect concerned with perceiving (τὸ πρῶτον αἰσθητικόν)' (*De Memoria et Reminiscentia* 1, 450ª12–14). This suggestion answers one of the questions posed in the first sentence of the *De Memoria et Reminiscentia*, namely 'to which of the parts or aspects of the soul does this affection [sc. remembering] occur?'

[7] I reject J. Whiting's suggestion, argued for in 'Locomotive soul: the parts of soul in Aristotle's scientific works', *Oxford Studies in Ancient Philosophy*, 22 (2002), 192–200, that thought, or at least practical thought, belongs to the αἰσθητικόν. Aristotle never says or implies that a person thinks or deliberates in virtue of the part of their soul that is concerned with *perceiving*. Nor does he ever identify the αἰσθητικόν with the νοητικόν, or its practical aspect. If thought belonged to the αἰσθητικόν, then 'αἰσθητικόν' and 'νοητικόν' would be two designations for one subject, in precisely the way Aristotle in fact takes 'αἰσθητικόν' and 'φανταστικόν' to be. That this is *not* his view is clear from the *De Insomniis* and the *De Memoria*. He begins the *De Insomniis* by asking, as we have seen, whether dreaming belongs to the part concerned with thinking (νοητικόν) or to the αἰσθητικόν. His answer is that it does *not* belong to the part responsible for belief and thought (*De Insomniis* 1, 459ª8–9)—the νοητικόν, that is—but in fact to the perceiving part, with the qualification that it belongs to it in so far as it is concerned with *phantasia* (459ª10–11, 21–2). In *De Memoria* 1, he notes that he is assigning memory, specifically *not* to either one of the intellectual parts (450ª16–17), but to the part or aspect to which *phantasia* belongs (450ª22–5). (For the moment, I am leaving aside the complication that since objects of thought are incidental objects of memory, memory belongs incidentally or derivatively also to the intellect. I shall shortly offer some comments on the role of the intellect in Aristotle's account of memory.)

Naturalia, Aristotle takes it to be part of the functioning of the perceptual part of the soul that connections or associations between sensory impressions are formed and maintained in the perceptual apparatus of suitably constituted animals.[8] As a result, he is in a position to explain an animal's ability to envisage prospects that are suitable to its present circumstances in terms of associations between sensory impressions. He may, for instance, hold that a suitably conditioned animal associates eating, presented to it by way of *phantasia*, with the look and the smell of animals of certain kinds, as presented to it by way of its senses.

In order to support, and give more content to, this suggestion, I shall discuss two texts from the *Parva Naturalia* in which Aristotle presents and employs a rather elaborate theory of ordered sequences of sensory impressions. These passages are chapter 3 of the *De Insomniis* and chapter 2 of the *De Memoria et Reminiscentia*. Both texts rely explicitly on the account of *phantasia* offered in *De Anima* 3.3.[9] According to that account, a *phantasia* is a change (κίνησις) which arises from the activity of perception; it is like the perception that produced it; and it can persist beyond the activity of perception that produced it (*De Anima* 3.3, 429ª1–5). As we shall see, both texts make clear that Aristotle takes the changes or, as I shall call them in what follows, affections[10] that constitute *phantasiai* to be in some way or other retained or preserved in the animal's perceptual apparatus.[11]

Both texts, moreover, present theories according to which it is, in suitably constituted animals, part of the functioning of the perceptual part of their souls that sensory affections are preserved in their perceptual apparatus in an orderly way, with dispositions obtaining among them to the effect that specific representations tend to become active together with, or to be followed by, other specific representations. As a result, Aristotle can account for a remarkable degree of order in the mental lives of non-human animals. Perceptual experience, he is in a position to hold, can bring it about that *phantasiai* are activated in an animal's perceptual apparatus when and as appropriate, and that *phantasiai* form ordered sequences of indeterminate duration and complexity. All of this may happen, he can add, without thought being involved *in any way at all*. The two texts present a coherent and relatively detailed view of the affections that constitute *phantasiai*, and of what accounts for the order which sequences of such affections may

[8] As Beare saw, the texts in question contain Aristotle's version of the 'association of ideas': *Greek Theories of Elementary Cognition from Alcmaeon to Aristotle* (Oxford: Oxford University Press, 1906), 306, 318.

[9] References to *De Anima* 3.3 are at *De Insomniis* 1, 459ª14–18, and at *De Memoria et Reminiscentia* 1, 449ᵇ30–1.

[10] Aristotle speaks both of changes and of affections (πάθος): *De Insomniis* 2, 459ª26, ᵇ5; *De Memoria* 1, 450ᵇ5, 12, 18.

[11] *De Insomniis* 2, 459ª26–7; ᵇ5–7; 3, 462ª9: ἐν τοῖς αἰσθητηρίοις ('in the sense-organs'). Cf. *De Memoria* 1, 450ª28–9: ἐν τῇ ψυχῇ καὶ τῷ μορίῳ τοῦ σώματος τῷ ἔχοντι αὐτήν ('in the soul and in the ensouled part of the body'); 2, 453ª24: περὶ τὸν αἰσθητικὸν τόπον ('around the place concerned with perception'). Note also *De Anima* 1.4, 408ᵇ17–18: recollection involves changes and 'states of rest' (μονάς) in the sense-organs (ἐν τοῖς αἰσθητηρίοις).

exhibit. For our purposes, the two texts complement each other rather nicely. In the *De Insomniis*, Aristotle goes into considerable detail concerning the material basis and underlying physiology of *phantasia*. In the *De Memoria et Reminiscentia*, he makes some very interesting remarks about what accounts for the order which sequences of sensory affections tend to exhibit.

I shall begin with chapter 3 of the *De Insomniis*. By the time we get to that chapter, Aristotle has answered the question which the *De Insomniis* begins by asking, namely what part of the soul it is to which dreams belong. His answer, as we have seen already, is that they belong to the perceptual part, in so far as it is responsible for *phantasiai*. For dreams, he holds, are *phantasiai* of a certain kind. He has also restated, and in fact amplified somewhat, the account of *phantasia* offered in *De Anima* 3.3. He has added to that account that the affections that constitute *phantasiai* are *qualitative* changes, caused by the qualitative changes that constitute perceptions (459^{b}1–7). Moreover, in chapter 3 itself he adds that these affections, or at least the active ones among them, are ongoing disturbances in the animal's perceptual apparatus: 'We must suppose that like the little eddies that form in rivers, so each of the changes [sc. sensory affections] occurs continuously (γίνεσθαι συνεχῶς). Often they remain in the same way. Often they are broken down into other shapes because of collisions' (*De Insomniis* 3, 461^{a}8–11). We should note that the retention of such affections requires that disturbances created by acts of perception are in some way or other preserved in the animal's perceptual apparatus.[12] These disturbances, moreover, are contentful. As they arrive at the central organ of perception—the heart, that is (*De Iuventute* 3, 469^{a}5–7)—they generate sensory experiences:

> In blooded animals, as the blood becomes calm and separated out, the change belonging to percepts[13] from each sense-organ is preserved (σῳζομένη). This makes dreams connected (εἰρόμενα),[14] makes things appear to the dreamer, and brings it about that they seem to see on account of the changes descending from sight, to hear on account of those coming from hearing, and so on with those that proceed from the other organs. For also when one is awake, it is because of the change from there arriving at the starting point [sc. the central organ of perception] that one seems to be seeing, hearing, and perceiving. (*De Insomniis* 3, 461^{a}25–^{b}1)[15]

[12] It is worth pointing out the striking closeness in conception between Aristotle's *phantasiai* and memory in Plato's *Philebus*. According to the *Philebus*, perceptions are contentful disturbances (σεισμοί) undergone jointly by body and soul (*Philebus* 33 D 5, E 11; note also πάθος at 34 A 3 and κίνησις at 34 A 4); and memory is the preservation (σωτηρία) of such disturbances (34 A 10–11).

[13] τῶν αἰσθημάτων ἡ κίνησις at 461^{a}26 is, I take it, a shorter expression for αἱ ὑπόλοιποι κινήσεις αἱ συμβαίνουσαι ἀπὸ τῶν αἰσθημάτων at 461^{a}18–19. What Aristotle has in mind is something that can be thought of either as one complex disturbance or as any number of interrelated disturbances that jointly travel from the peripheral sense-organs to the central organ of perception.

[14] Like Ross, Beare in J. Barnes (ed.), *The Complete Works of Aristotle*, and Gallop, I accept Lulofs's conjecture εἰρόμενά at 461^{a}27.

[15] My translations from the *De Insomniis* are indebted to those by Beare, in Barnes (ed.), *The Complete Works of Aristotle*, and by Gallop, in *Aristotle on Sleep and Dreams*. .

One phenomenon in which Aristotle is interested is the contrast between unconnected, disorderly dreams and dreams that are well connected and life-like. His explanation of that contrast is that the heat associated with the activity of digestion generates large-scale disturbances in the relevant parts of the body, which can interfere with the more delicate disturbances that carry the contents of dreams (461ª14–25). It is in the blood of suitably constituted animals, he holds, that contentful affections originally created by acts of perception are preserved.[16] What he says suggests that he takes such affections to be preserved primarily in the blood located in the peripheral sense-organs.[17] In sleep, much of that blood travels to the heart, carrying with it affections that are contained in it. When the blood around the heart is agitated by the large-scale disturbances of digestion, the contentful affections travelling from the peripheral sense-organs to the heart may be altogether destroyed, or they may be thrown into disarray—for instance, by being broken up in collisions—so that disorderly and unconnected dreams ensue. By contrast, when the blood around the heart is relatively calm, the affections travelling to the heart may be preserved in their order and complexity, in which case they generate dreams that are coherent and life-like. Such dreams may present to the dreamer, not monstrosities, but people he or she knows,[18] or the actions and pursuits of their waking lives.[19] 'When someone is asleep', Aristotle adds,

> as most of the blood travels down to its source, the changes present within it—some potentially, some actively—travel down with it. They are so disposed that in *this* change, *that* one will emerge from the blood, and as *this* one perishes, *that* one.[20] They are disposed towards one another (καὶ πρὸς ἀλλήλας δὴ ἔχουσιν) like the artificial frogs that rise to the surface of water as salt is being dissolved.[21] In a similar way, these changes are in us potentially, and become active when what arrests them is relaxed. And as they are released, they are active in the little blood that remains in the sense-organs, taking on a resemblance, as cloud-shapes do, which in their rapid changes we liken to humans and centaurs. Each of them is, as has been said, a remnant of a percept in activity (ὑπόλειμμα τοῦ ἐν τῇ

[16] This is not to say that on Aristotle's view the blood itself receives and preserves the affections in question. His view rather seems to be that it is *pneuma* contained in the blood that is the bearer of sensory affections. F. Solmsen, 'Greek philosophy and the discovery of the nerves', *Museum Helveticum*, 18 (1961), 172–8, and G. Freudenthal, *Aristotle's Theory of Material Substance: Heat and Pneuma, Form and Soul* (Oxford: Clarendon Press, 1995), 130–4, offer detailed discussions of this point.

[17] Note *De Insomniis* 2, 459ª24–8; ἐν τοῖς ὄμμασιν ('in the eyes'), 459ᵇ10–11; 3, 461ᵇ16–21.

[18] Coriscus, for example: 462ª2–8.

[19] *De Divinatione per Somnum* 1, 463ª23–7: 'when we are about to do something, or are in the middle of doing something, or have done something, it often happens that in dreams we find ourselves with these acts and find ourselves doing them—the reason being that the change [sc. the sensory affection that constitutes the *phantasia* in question] happens to have its path prepared (προωδοποιημένη) as a result of our daytime beginnings.'

[20] οὕτω δ' ἔχουσιν ὥστε ἐν τῇ κωήσει τῇδὶ ἥδε ἐπιπολάσει ἐξ αὐτοῦ ἡ κίνησις, ἂν δ' αὕτη φθαρῇ, ἥδε.

[21] According to Sophonias, 37, 12–24, and Michael of Ephesus, 72, 8–19, Aristotle has in mind a number of wooden frogs that are buried in layers of salt one on top of the other. As water is added and the salt dissolves, one frog after another rises and, in rising, becomes visible.

ἐνεργείᾳ αἰσθήματος); and when the real percept has departed, it persists, and it is true that it is like Coriscus, but is not Coriscus. (*De Insomniis* 3, 461^{b}11–24)

The passage presents a remarkably elaborate theory of sensory affections. They are in the perceptual apparatus either potentially or actively. Active affections, I take it, are ongoing contentful disturbances. Potential affections are potentialities for such disturbances. They are arrested in some way or other, and they become active when what arrests them is removed or relaxed. Moreover, Aristotle plainly thinks that sensory affections are, or tend to be, *ordered* in certain ways, so that the activity of one particular affection is followed by the activity of another particular affection, which is followed by the activity of yet another one, and so forth.[22] This is important for his account of dreaming, I suggest, because he wants to explain why dreams can represent, in a well-connected and life-like manner, complex events and processes that unfold over considerable periods of time, as when a builder dreams of building a house, or a sculptor of making a statue (cf. *De Divinatione per Somnum* 1, 463^{a}21–30). If Aristotle's account is to be able to explain the occurrence of *such* dreams, he plainly needs to allow, not only that affections produced by acts of perception can be preserved and re-enacted, but also that the order in which such affections are received can be preserved and re-enacted. This, I submit, is exactly what he does allow in our passage.

Now, it is worth emphasizing that having dreams, no matter how complex and elaborate they may be, is not, according to Aristotle's theory, an exercise of the capacity for thinking. Nor does he think that dreams are limited to humans. He evidently thinks that some of the brute animals have dreams.[23] In fact, his explanation of connected dreams is meant to apply, not only to humans, but to blooded animals in general,[24] or anyhow to those among them which are capable of dreaming. Aristotle's account distinguishes sharply between dreams themselves and thoughts about dreams that a dreaming person may have—for example, the thought that the experience in question is a dream (*De Insomniis* 3, 462^{a}28–9; 462^{a}5–7; cf. 1, 458^{b}15–20; ^{b}25). Such thoughts, if and when they occur, belong

[22] The sentence in which this becomes clear (461^{b}13–15) is, I think, often under-translated. Consider, for instance, Gallop's translation in *Aristotle: On Sleep and Dreams*: 'They are so disposed that in any given movement, one movement will rise from it to the surface; and if that one perishes, then another will do so.' (Similarly Hett's Loeb translation, and Beare in *The Complete Works of Aristotle*.) According to this translation, Aristotle's point is that there is a steady flow of sensory affections in the perceptual apparatus, such that for any given one, there is another that follows it. However, this interpretation fails to give force to the demonstrative pronouns in Aristotle's Greek. (After all, he could have written, say, ἄλλη τις κίνησις instead of ἥδε ἡ κίνησις in line 14, and ἄλλη τις instead of ἥδε in line 15.) The present sentence should be compared with a passage from the *De Memoria* which, I take it, expresses the same idea of order obtaining among sensory affections: 'Acts of recollection happen because, naturally, *this* change (ἡ κίνησις ἥδε) occurs after *that* one (τήνδε). If this is so by necessity, then plainly whenever one undergoes the earlier one, one will undergo the later one. If it is not by necessity but by habit, one will for the most part undergo the one after the other' (*De Memoria* 2, 451^{b}10–14).

[23] *De Divinatione per Somnum* 2, 463^{b}12–13; note also *De Insomniis* 1, 459^{a}13–15.

[24] ἐν τοῖς ἐναίμοις ('in blooded animals'), *De Insomniis* 3, 461^{a}25–6.

to the intellectual part of the soul. Dreams themselves, by contrast, Aristotle assigns to the perceptual part of the soul, in so far as it is concerned with *phantasia*. What this means is that having dreams, no matter how elaborate and 'connected' they may be, is on Aristotle's view an activity that, in and of itself, involves no more than suitable exercises of the capacity for *phantasia*. That capacity, moreover, belongs to the system of capacities that he refers to as the perceptual part of the soul.

Let me recapitulate. Aristotle thinks, I take it, that the *phantasiai* that constitute dreams can exhibit order, in that they can represent complex events and processes in a connected and life-like manner. He wants to explain the possibility of such order by appealing to dispositions among sensory affections which are in some way or other preserved in the animal's perceptual apparatus. Sensory affections, he holds, are preserved in the perceptual apparatus either as active, contentful disturbances or as potentialities for such disturbances. He takes it that such affections can, in suitable organisms, be preserved *in an orderly way*, so that the activity of one particular contentful disturbance in the animal's perceptual apparatus is, or tends to be, followed by the activity of another particular disturbance, which is or tends to be followed by the activity of another particular disturbance, and so forth. It must then be part of his psychological theory that animals capable of preserving sensory affections in an orderly way are constituted so that appropriate dispositions can be formed among sensory affections that may be preserved in their perceptual apparatus. Moreover, since at least some of the brute animals are, on his view, capable of having 'connected' dreams, his theory must make the preservation of order among sensory affections available to suitable kinds of non-human animals as well as to human beings.

We should now attempt to get a clearer view of the dispositions which Aristotle thinks can come to obtain among sensory affections in the perceptual apparatus of suitable kinds of animals. Does he offer an account of how it is that such dispositions are formed and maintained? It seems to me that we can extract at least some crucial parts of such an account from a few passages in the second chapter of the *De Memoria*.

The main topic of *De Memoria* 2 is recollecting (ἀνάμνησις, ἀναμιμνήσκεσθαι). This follows a discussion of remembering (μνήμη, μνημονεύειν, μεμνῆσθαι) in the first chapter. It is in discussing recollecting that Aristotle makes especially prominent use of his theory of ordered sequences of sensory affections. However, he also relies on that theory in specifying what is involved in remembering something. As we shall see, this turns out to be rather important for our purposes. Now it is not immediately obvious what Aristotle means either by remembering or by recollecting. Before we turn to chapter 2 and its discussion of recollection, then, I want to make some remarks about Aristotle's conception of remembering, and to draw attention to some aspects of the discussion in chapter 1 that it will be important to bear in mind as we approach chapter 2.

The objects of memory, Aristotle holds, are things that lie in the past.[25] More precisely, what can be remembered, he takes it, are things that one perceived or thought of in the past. And remembering something, he thinks, is not just a matter of having in mind something that you perceived or thought of in the past. It also involves being aware that you perceived or thought of this thing in the past (*De Memoria* 1, 449^{b}18–23; 450^{a}19–21). As a result, he takes it that when you are remembering, say, a forest fire, this involves not just the retrieval and re-enactment of sensory affections that were actively present in your perceptual apparatus at the time. It also involves your being aware, perhaps in a certain distinctive way, that you did perceive what is now being represented to you at some more or less specific time in the past, or at the very least at some time or other in the past (*De Memoria* 2, 452^{b}23–453^{a}4).

It is worth noting that this conception of memory is cognitively more demanding than Plato's in the *Philebus*, even just so far as perceptual memory is concerned. In the *Philebus*, memory (μνήμη, μεμνῆσθαι) is defined simply as the preservation of perception (34 A 10–11). One way in which memory, so understood, is employed is in putting a thirsty or otherwise depleted animal in cognitive contact with the appropriate type of replenishment, so as to enable the animal to form a desire. Socrates offers no indication that such exercises of memory as are required for the formation of desire must involve not only a re-enactment of a previously received sensory affection, but also some kind of awareness of having had past dealings with the thing in question. Plato, in the *Philebus*, seems to regard the mere re-enactment of a sensory affection preserved by the soul as an exercise of memory. Aristotle distinguishes between such mere re-enactment and re-enactment accompanied by awareness of past interaction with the thing in question. He regards only the latter as amounting to an act of remembering. The former he treats as a case of *phantasia*.

This distinction is made close to the end of chapter 1, where Aristotle responds to the difficulty of how it can be that what is remembered is not a sensory affection or appearance that, at the time, is actively present to the animal,[26] but the absent object from which that affection or appearance derives (450^{a}25–7; 450^{b}11–15). A picture of, say, the Eiffel Tower is both a picture in its own right and a representation, or 'likeness', of the Eiffel Tower. You can observe it all by itself and

[25] ἡ δὲ μνήμη τοῦ γενομένου ('memory is of the past'): 449^{b}15, 27–8.

[26] That what one remembers might be sensory affections preserved in one's perceptual apparatus is so abstruse a thought that I hesitate to attribute it to Aristotle even for purposes of articulating an *aporia*. Aristotle plainly uses the word φάντασμα ('*phantasia*') to refer both to sensory affections preserved in an animal's perceptual apparatus (e.g. at *De Memoria* 1, 450^{b}10) and to appearances which he takes to be involved in the active occurrence of such affections (e.g. ibid., 449^{b}31–450^{a}1, 451^{a}10). I am inclined to think, partly on the basis of the present passage, that he uses the related terminology of πάθος ('affection'), τύπος ('impression'), and the like, in the same twofold way. If so, it is open to us to interpret the difficulty discussed at 450^{b}11–451^{a}17 as dealing with the question of whether one remembers appearances that are present to one's mind at the time, or absent objects from which such appearances derive. This is a good question to ask, and Aristotle's subsequent discussion seems to me to offer a plausible and interesting answer to it.

simply as the picture it is. But you can also look at it as a representation of the Eiffel Tower. Likewise, Aristotle suggests, a *phantasia* that is involved in an act of remembering is something all by itself (αὐτό τι καθ' αὑτό), and it is at the same time a representation of the thing, now absent, from which it derives (450^{b}20–7). Correspondingly, he distinguishes between two ways of employing a *phantasia*. The soul, he thinks, can attend to the appearance involved in a given *phantasia* all by itself and simply as the appearance it is; but it can also employ a suitable *phantasia* as a representation, or 'likeness', of the particular thing from which it derives (450^{b}27–451^{a}2). Aristotle regards what occurs in the former case as merely an act of *phantasia*, and only what occurs in the latter case as an act of remembering.

Now, it should be clear that both ways of employing a *phantasia* involve having experiences with representational content.[27] Even to have an ordinary *phantasia* of, say, a forest fire is to have a forest fire represented to one in some way or other. *Remembering* some forest fire, as Aristotle thinks of it, goes beyond such representation. It is not just a matter of having a forest fire represented to one. It also involves being aware, perhaps in a certain distinctive way, that what is represented to one is something that one did perceive at some time in the past. Having articulated the notion of employing a *phantasia* as a representation of what it derives from, Aristotle is ready to say what he takes remembering to be: the having of a *phantasia* as a representation of the thing it derives from (φαντάσματος, ὡς εἰκονος οὗ φάντασμα, ἕξις).[28] That is to say I take it, that remembering something is a matter of having a *phantasia* in a way that involves being aware, perhaps in a certain way, that what is represented to one is something that one perceived or otherwise experienced at some more or less specific time in the past, or at least at some time or other in the past.

Remembering, Aristotle holds, belongs to the perceptual part of the soul, in so far as it is responsible for *phantasia*.[29] This answers the last one of the three questions about remembering that the *De Memoria* begins by asking: in virtue of what part of the soul does remembering occur (449^{b}4–5)? What it means is that remembering is, like dreaming, an exercise of the capacity for *phantasia*, which, as we have seen already, is part of the system of capacities that is the perceptual part of the soul. Given that Aristotle takes remembering to be a matter of utilizing sensory impressions in a certain way, one can readily see why he assigns the activity of remembering, via the capacity for *phantasia*, to the perceptual part of the soul. However, although the *phantasiai* that Aristotle takes to be involved in remembering

[27] I agree here with S. Everson, *Aristotle on Perception*, 196.

[28] I assume that what Aristotle is meaning to define is the *activity* of remembering (ἐνεργεῖν κατὰ τὸ μνημονεύειν, ἐνεργεῖν τῇ μνήμῃ), since activities are definitionally prior to capacities (*De Anima* 2.4, 415^{a}18–20). In his definition of remembering, Aristotle may be using the word ἕξις in precisely the way Plato uses the same word in the *Theaetetus*' aviary simile. There, ἕξις is contrasted with κτῆσις (*Theaetetus* 197 B 1–4). The latter denotes possession; the former is illustrated by having a cloak on, and by holding a bird in one's hand. Note also the aorists σχῇ at *De Memoria* 1, 449^{b}19, and σχεῖν at *Theaetetus* 197 C 9; this means something like 'to get hold of'.

[29] *De Memoria* 1, 450^{a}22–3: τίνος μὲν οὖν τῶν τῆς ψυχῆς ἐστι μνήμη, φανερόν, ὅτι οὗπερ καὶ ἡ φαντασία ('it is clear then which part of the soul memory belongs to: the part that *phantasia* belongs to as well'). Cf. 451^{a}16–17.

can represent an enormous variety of things, they nonetheless are subject to the limitation that they are *sensory* representations. They cannot in themselves provide cognitive contact with intelligibles such as, for instance, essences or natures.[30] At the same time, Aristotle's discussion from the start includes references to remembering, not only perceptibles, but intelligibles as well—for example, remembering some object of study (*De Memoria* 1, 449^{b}15–23). However, if remembering in general is a matter of utilizing sensory impressions in a certain way, it is not clear how anyone can possibly remember, say, what it is to be a human being. Somewhat surprisingly, Aristotle does not explicitly flag this as a difficulty, but he does attempt to answer the question.

Every act of the human intellect, he holds, involves and requires representing features such as magnitude and time, features whose representation involves and requires suitable exercises of the capacity for *phantasia*. It is at least part of the idea that thinking anything at all, anyhow for thinkers like us, requires visualizing the objects of thought by means of the sensory imagination.[31] The visualizations in question are *phantasiai*. Aristotle rather naturally extends this idea and claims that visualizing is required, not only for grasping an object of thought in the first place, but also for subsequent acts of remembering the thing in question: 'memory also of intelligibles', he says, 'does not occur without a *phantasia*' (450^{a}12–13). This makes acts of *phantasia* necessary for remembering intelligibles. Aristotle seems to think, however, that it also establishes that remembering in general belongs in its own right (καθ' αὑτό) to the perceptual part of the soul, in so far as it is responsible for *phantasia*, and at best incidentally to the intellect (450^{a}13–14). In any case, Aristotle plainly does hold that remembering in general belongs in its own right to the perceptual part of the soul, and incidentally to the intellect. He also holds, relatedly, that the proper objects of memory are, as he puts it, things of which there is *phantasia*[32]—by which, I take it, he means things that *phantasia* can represent.[33] Things that cannot be grasped without *phantasia*, he adds, are incidental objects of memory. In the context, it is clear that the latter items are meant to be intelligibles. They cannot themselves be represented by the sensory affections that constitute *phantasiai*, but their grasp by the intellect requires appropriate acts of *phantasia*.

[30] This is because they are in themselves simply exercises of sensory capacities. They belong to the perceptual part of the soul, after all. Only acts of the intellect can provide cognitive contact with intelligibles.

[31] Cf. *De Memoria* 1, 450^{a}4–5: καὶ ὁ νοῶν ὡσαύτως, κἂν μὴ ποσὸν νοῇ, τίθεται πρὸ ὀμμάτων ποσόν ('in the same way a person who is thinking, even if he is not thinking of something with a size, places something with a size before his eyes').

[32] 450^{a}23–5: ἐστι μνημονευτὰ καθ' αὑτὰ μὲν ὧν ἐστι φαντασία, κατὰ συμβεβηκὸς δὲ ὅσα μὴ ἄνευ φαντασίας ('things of which there is *phantasia* are objects of memory in their own right; things which are not grasped without *phantasia* are incidental objects of memory').

[33] I should perhaps note that in writing of *phantasia* being able or unable to represent something or other, I am meaning to convey the idea that it is able or unable to provide cognitive contact with the item in question, the way sight, for instance, is able to provide cognitive contact with colours but not with flavours.

What Aristotle appears to have in mind, then, is something like this. It is after all possible to remember intelligibles, such as, for instance, what it is to be a human being. Intelligibles, however, are not remembered in their own right. Remembering intelligibles is always parasitic on remembering things that are remembered in their own right, and these are things that are represented by *phantasia*. If this is Aristotle's view, as it seems to be, he will say that what actually happens whenever someone remembers an intelligible object is that he or she in the first place remembers something that is represented by *phantasia*, and that memory *happens to be accompanied* by an act of the intellect that is the thought of the object in question, perhaps in that this act of the intellect is prompted by the relevant exercise of *phantasia*. The upshot is that things that can be represented by *phantasia* can be remembered directly and immediately, whereas intelligibles can only be remembered indirectly, in a way that is mediated by remembering things that are represented by *phantasia*. If that is Aristotle's picture, this makes at least some sense of his view that intelligibles are incidental objects of memory, and that remembering belongs to the intellect incidentally. For on that picture remembering intelligibles will always accompany, and depend on, remembering things that are represented by *phantasia*, and such acts of the intellect as may be involved in remembering will always accompany, and depend on, appropriate acts of *phantasia*.

The question remains, of course, why Aristotle adopts a picture along these lines. His adoption of some such picture is motivated, I suggest, by his acceptance of the following premisses.

(1) The proper objects of memory are things which are capable of being represented by representational items (states, processes, or whatever) which can be preserved in the animal's organism.
(2) Sensory affections are the only sort of representational items that can be preserved in an animal's organism.
(3) Sensory affections cannot represent intelligibles.

These premisses entail the conclusion that intelligibles are not among the proper objects of memory. To accept premiss (1) is to adopt a rather natural view of the functioning of memory as a matter of storing and retrieving representational items of some sort or other. Committing something to memory, on that view, crucially involves forming and retaining some sort of representation of it, and remembering it involves retrieving that representation and employing it in a certain way. As we have seen, Aristotle does embrace a view of memory along these lines.[34]

[34] The view he adopts is, incidentally, indebted to Platonic antecedents. In writing, at 450ª29–32, of 'something like a painting' (οἷον ζωγράφημά τι) being retained in the living organism, and of 'something like an imprint' (οἷον τύπον τινά) being stamped in the organism (ἐνσημαίνεται), the way seals are imprinted with signet rings (καθάπερ οἱ σφραγιζόμενοι τοῖς δακτυλίοις), Aristotle is echoing not only the *Philebus*' simile of the painter in the soul, but also the *Theaetetus*' wax block model of memory and knowledge. According to the latter, we have in our souls a block of wax, and 'we make impressions (ἀποτυποῦσθαι) upon this of everything

Given Aristotle's psychological theory, moreover, the representational items in question could either be thoughts or sensory affections. Now, we have seen that Aristotle takes sensory affections to be contentful modifications in the hylomorphic structure that is the animal's perceptual apparatus. There is nothing mysterious about how such modifications can be preserved indefinitely in the animal's perceptual apparatus. By contrast, Aristotle holds that there is no such thing as a bodily organ or apparatus of thought (*De Anima* 3.4, 429ª22–7). Thoughts are not, on his view, modifications of any kind in a bodily structure, nor are they constituted by such modifications. Since he does not take them to reside in a bodily structure in the first place, he cannot make sense of their *preservation* in a bodily structure.

On Aristotle's view, then, sensory affections are the only sort of representational item that can be preserved in the animal's organism. However, since sensory affections cannot represent intelligibles, Aristotle is compelled to accept that intelligibles are not among the proper objects of memory. He does want to say, though, that it is in a way possible to remember intelligibles. To show how, he resorts to the rather ingenious idea that intelligibles are incidental objects of memory. When you remember, say, the proof of a geometrical theorem which you studied the day before yesterday, what actually happens, Aristotle might say, is that you remember how you visualized the items mentioned in the proof (as being extended objects of such-and-such sizes and shapes) as well as how you visualized the operations performed on them (cutting them in halves, and the like). These memories are not memories *of the proof itself*. But they are, or may well be, accompanied by the thought of the proof itself, perhaps in that they may prompt an intellectual act that is the thought of the proof. If so, Aristotle can say that in a way you are remembering the proof. You are remembering it incidentally, because you are remembering how you visualized it, and that memory happens to be accompanied by the thought of the proof itself.

We should now turn to chapter 2 and its discussion of recollecting (τὸ ἀναμιμνήσκεσθαι). I begin with some linguistic points. *Anamimnēskein* is a transitive verb, meaning 'to remind'. The present infinitive *anamimnēskesthai* can be construed either as middle, 'to remind oneself, to recollect', or as passive, 'to be reminded'. Now, if one looks at the passages in the *Meno* and the *Phaedo* in which Plato presents and discusses his so-called theory of recollection,[35] it becomes clear that he strongly tends to use the infinitive form *anamimnēskesthai* in contexts in which someone actively sets out to call something to mind (middle rather than

we wish to remember among the things we have seen or heard or thought of ourselves; we hold the wax under our perceptions and thoughts and take a stamp from them, in the way we take the imprints of signet rings (ὥσπερ δακτυλίων σημεῖα ἐνσημαινομένους)' (*Theaetetus* 191 D 4–8). Aristotle adopts Plato's picture with two significant modifications. First, the generation of imprints does not depend on what one wishes to remember, but occurs simply as a matter of the ordinary functioning of the animal's cognitive apparatus. Secondly, there are, for Aristotle, no imprints of *thoughts* (450ª27–32).

[35] *Meno* 81 C 5–86 C 2; *Phaedo* 72 E 1–77 A 5.

passive construal),[36] rather than contexts in which it just so happens that someone is reminded of something without having tried to call the thing in question to mind.[37] For the latter type of case, Plato uses expressions that are unambiguously passive, like *anamnēsthēnai*, whenever such expressions are available.[38] At the same time, it is noteworthy that Plato uses the noun *anamnēsis* both in the middle sense of recollecting and in the passive sense of being reminded.[39] Against that background and in light of the fact that Aristotle is echoing Plato's characterization of recollection,[40] it is reasonable to expect that when Aristotle proposes to discuss *to anamimnēskesthai*, he has in mind deliberately recollecting something, as opposed to cases in which it just so happens that something reminds someone of something else. This expectation is in fact fully borne out by the discussion in *De Memoria* 2.

Here is Aristotle's statement of what he takes recollecting to be: 'When someone recovers (ἀναλαμβάνῃ) a piece of knowledge, a perception, or that thing the having of which we said is memory, that recovery, when it occurs, is recollecting one of the things mentioned; and it turns out that this is followed by remembering and memory'[41] (*De Memoria* 2, 451^{b}2–6). This is a preliminary statement only, because he takes it to be true only with a qualification that he is not yet in a position to articulate fully. Not every case of recovering a piece of knowledge, a perception, or a *phantasia* is, he thinks, a case of recollecting. For someone can, for instance, recover a piece of knowledge, not by recollecting it, but by learning the thing in question all

[36] Note, for example, *Meno* 85 D 6–7, where Socrates asks: τὸ δὲ ἀναλαμβάνειν αὐτὸν ἐν αὑτῷ ἐπιστήμην οὐκ ἀναμιμνήσκεσθαι ἐστιν; ('Is not one's own recovery of knowledge in oneself recollection?') Also 86 B 4: ἐπιχειρεῖν ζητεῖν καὶ ἀναμιμνήσκεσθαι ('try to seek out and recollect'). Cf. *Phaedo* 75 E 2–7.

[37] This point is missed entirely by Sorabji, *Aristotle on Memory*, 40–1.

[38] For example, *Phaedo* 73 D 10–11: Σιμμίαν τις ἰδὼν πολλάκις Κέβητος ἀνεμνήσθη ('on seeing Simmias, one is often put in mind of Cebes'); E 6–7: καὶ Σιμμίαν ἰδόντα γεγραμμένον Κέβητος ἀναμνησθῆναι ('on seeing a picture of Simmias, [someone may] be reminded of Cebes'). At *Phaedo* 73 C 6–74 A 7, Socrates discusses cases of one thing reminding someone of another thing, in order to make certain points that he takes to apply to every case of ἀνάμνησις, crucially including active, deliberate recollection. At that stage of the discussion, Socrates is notably careful in using unambiguously passive forms of ἀναμιμνήσκειν whenever they are available. The only ambiguous form is ἀναμιμνήσκεται at 74 A 5. This is present tense indicative, where no unambiguously passive form is available. Cf. Aristotle, *Nicomachean Ethics* 9.4, 1166^{b}15 (a passage mentioned by Sorabji, *Aristotle on Memory*, 99), where Aristotle says that bad people avoid being alone, because while alone they are reminded of many distressing things (ἀναμιμνήσκονται γὰρ πολλῶν καὶ δυσχερῶν).

[39] The noun is to be construed in the middle sense in the slogan that learning is recollection. Passive uses are in evidence at *Phaedo* 73 D 10, E 1, and 74 A 2. The noun is clearly used in the middle sense at *De Memoria* 2, 453^{a}15. There is an interesting passive use at *Nicomachean Ethics* 3.10, 1118^{a}12–13: self-indulgent people take pleasure in the smells of perfumes and tasty dishes, because 'through these they are reminded of the objects of their appetites' (διὰ τούτων ἀνάμνησις γίνεται αὐτοῖς τῶν ἐπιθυμημάτων).

[40] To recollect is to recover knowledge (ἀναλαμβάνειν . . . ἐπιστήμην): *Meno* 85 D 6–7; *Phaedo* 75 E 4; *De Memoria* 2, 451^{b}2–3. Cf. also *Philebus* 34 B 6–8.

[41] With all extant manuscripts, I read τὸ rather than τῷ at 451^{b}5. Ross and Sorabji follow Michael (*c.* AD 1090) and Sophonias (*c.* AD 1300) in reading the latter. Ross's reason for rejecting the reading of the manuscripts is that it makes μνήμην 'a mere repetition' of μνημονεύειν. This is true, but in view of the same kind of repetition at 449^{b}4, 451^{a}14–15, and 453^{b}8–9, it is no good reason to abandon the reading of all manuscripts.

over again. Recollecting, Aristotle says somewhat obscurely, requires the presence within of a principle over and above that required for learning (451^{b}9–10).

Before he can offer his full statement of what distinguishes recollecting from relearning, he must first present his theory of ordered sequences of sensory affections. Recollecting occurs, he holds, because sensory affections form ordered sequences, so that the active occurrence of some particular contentful disturbance in one's perceptual apparatus tends to be followed by the active occurrence of another such disturbance:

> Acts of recollection (αἱ ἀναμνήσεις) happen because, naturally, *this* change [sc. sensory affection] occurs after *that* one (ἐπειδὴ πέφυκεν ἡ κίνησις ἥδε γενέσθαι μετὰ τήνδε). If this is so by necessity, then plainly whenever one undergoes the earlier one, one will undergo the later one. If it is not by necessity but by habit, one will for the most part undergo the one after the other. (It is a fact that some changes become more habitual with just one occurrence than others that have occurred many times. And this is why after seeing some things once, we remember better than we do after seeing other things many times.) In recollecting, then, we undergo some one or other of the earlier changes, until we undergo the one that is habitually followed by the change in question. It is for this reason also that we hunt for (θηρεύομεν)[42] that which follows in the sequence (τὸ ἐφεξῆς), beginning in thought (νοήσαντες) with the now or with something else, and with something similar to the thing in question, something opposite to it, or something proximate to it (τοῦ σύνεγγυς). Recollection occurs for this reason: for the changes that belong to these things are in some cases the same ones, in other cases they occur together, in yet other cases the one change contains part of the other, so that after the earlier one only a little remains to be undergone. It is in this way, then, that people search, but also without searching, they are reminded in this way,[43] when the change in question occurs after some other one. And for the most part the change in question does occur after the occurrence of other changes of the kinds we mentioned [sc. affections belonging to items similar, opposite, or proximate to the item represented or called to mind by the affection in question]. (*De Memoria* 2, 451^{b}10–25)[44]

[42] This is another Platonic echo, this time from the *Theaetetus*' aviary model: 197 D 1, 198 A 2, A 7.

[43] ζητοῦσι μὲν οὖν οὕτω, καὶ μὴ ζητοῦντες δ' οὕτως ἀναμιμνήσκονται. The word order suggests strongly that Aristotle intends a contrast between ζητοῦσι ('people search') and μὴ ζητοῦντες ('without searching') rather than, as Sorabji takes it, between 'people search in this way' and 'without searching *in this way*'. (See Kühner–Gerth, *Ausführliche Grammatik der Griechischen Sprache, Zweiter Teil: Satzlehre* (Hannover: Hahnsche Buchandlung, 1904), §528.). Beare takes the sentence the way I do; Sorabji, 99, admits that his reading strains the Greek. Sorabji's problem is that if the text is read in the way it is most natural to read it, Aristotle seems to speak of *recollecting without searching*. But he repeatedly characterizes recollecting as a matter of searching (esp. 453^{a}15–16; cf. 451^{b}30, 452^{a}8, and 453^{a}12). However, ἀναμιμνήσκονται need not be construed as middle; it can just as naturally be read as passive. Sophonias (10, 1–2), for what it is worth, takes the second clause to describe a case of *being reminded* without having searched: ὅταν δὲ μὴ ζητοῦσιν ἀναμνησθῆναι του γένηται (note the passive!). The idea, I take it, is this. People search *in this way*: namely by thinking of something or other that is somehow related to the thing they are searching for—for example, something similar, opposite, or proximate to it. *In this way*, too, people, may be reminded of something without searching for it: by thinking of something or other that is somehow related to the thing in question—for example, by being similar, opposite, or proximate to it.

[44] My translations from the *De Memoria* are indebted to those by Beare, in Barnes (ed.), *The Complete Works of Aristotle*, and by Sorabji, *Aristotle on Memory*.

As we have seen, Aristotle's main topic in the chapter is recollecting, which is a matter of deliberately recalling something or other. In the passage just quoted, he is focusing on recollecting, but he also addresses being reminded of something without seeking to recall it. His theory of ordered sequences of sensory affections is, I take it, meant to explain both the fact that one thing frequently reminds us of another, and the fact that by means of suitable mental activity we sometimes manage to recollect things that we perceived or thought of in the past, but that do not now come to mind right away or without effort.

Aristotle begins by saying that the order that obtains among sensory affections is either necessary or habitual. In the subsequent discussion only habit recurs (at 451^{b}28–30 and at 452^{b}26–8). Necessity seems to drop out of consideration. It is, in any case, not easy to see how necessity might be relevant.[45] Aristotle takes it, moreover, that we tend to associate things with one another on the basis of such relations as similarity, opposition, and proximity (by which he probably means both spatial and temporal proximity). He does not address the question of how habituation and such patterns of association are interrelated. He may well think that such patterns are themselves at least in part due to habituation, in that we are used to thinking of opposites together, or to hearing thunder after seeing lightning. But he may also think that relations that obtain between suitable things can facilitate, or even bring about, the formation of habits of association, as when one comes to associate toads with frogs because they are rather similar. However that may be, it is clear that Aristotle is meaning to account for recollecting and being reminded by appealing to ordered sequences of sensory affections.[46] These are affections of the same kind as the ones that he mentions in *De Insomniis* 3. For the purposes of that text, he assumes that dispositions among sensory affections can be formed in the perceptual apparatus of suitable kinds of animals, so that active sensory affections can come to follow each other in orderly ways.[47] As we saw, he relies on that assumption in explaining how their dreams can be 'connected'. The present text adds significant detail to that picture. It says that the dispositions among sensory affections obtain either by necessity or as a result of habituation; and that sensory affections typically are so disposed that, at any rate so far as humans are concerned, things that are similar, opposite, and proximate to one another tend to be represented, or called to mind, together or in immediate succession.

[45] I shall offer a suggestion at the end of the chapter.

[46] This claim ought to be acceptable independently of my view that Aristotle is explicitly talking about being reminded at 451^{b}23–4. For also the series of associations employed in recollection will typically involve multiple cases of being reminded by something of something else (e.g. 452^{a}13–16).

[47] The *De Insomniis* comes after the *De Memoria* in Bekker's edition of Aristotle's works. This may well be in line with Aristotle's view about the order in which the two texts should be studied. The *De Sensu*, at 436^{a}5–17, sets out a programme of topics to be discussed which the *Parva Naturalia* follows loosely. In that order, memory comes right after sense-perception and precedes, among other things, sleep and waking. Dreaming, moreover, is announced as a topic to be discussed at the beginning of the *De Somno* (453^{b}17–20). There is some reason for thinking, then, that the *De Insomniis* takes as read the *De Memoria*'s rather more detailed statement of Aristotle's theory of orderly sequences of sensory affections.

A slightly later passage seems to offer a little more detail as to how things that are proximate to each other come to be associated with one another:

> It is by habit that changes follow one another, *this* one after *that* one. And so when someone wants to recollect (ἀναμιμνήσκεσθαι), he will do this: he will seek to get hold of a starting point, after which the change in question will occur. And it is for this reason that from some starting point acts of recollection occur most swiftly and finely. For just as the things in question are related to one another in terms of one thing after another (ὡς γὰρ ἔχουσι τὰ πράγματα πρὸς ἄλληλα τῷ ἐφεξῆς), so also are the changes. (*De Memoria* 2, 451^{b}28–452^{a}2)

Aristotle thinks that we obtain sensory affections from interacting with perceptible and intelligible objects. These objects themselves exhibit order in various ways. Thunder comes after lightning, the sea after the sandy beach, the conclusion of an argument after its premisses. It is a fact about some kinds of animals, Aristotle holds, that they are able, not only to preserve sensory affections that they obtain from interacting with perceptible or intelligible objects, but also to retain these sensory affections in an orderly way, a way that reflects the order of the objects they derive from.

He is now ready to revisit the difference between recollecting and relearning:

> Recollecting differs from relearning in that the person in question will be able in a certain way to be conveyed through himself (δυνήσεταί πως δι' αὑτοῦ κινηθῆναι) to what follows the starting point. When this ability is absent, and the person depends on someone or something else, he no longer remembers (οὐκέτι μέμνηται). It often happens that one is unable to be reminded, but with some searching one is able to, and finds what one is looking for. This occurs when one initiates many changes (κινοῦντι πολλὰ), until one initiates one that is such as to be followed by the thing in question. (*De Memoria* 2, 452^{a}4–10)

Having presented his theory of ordered sequences of sensory affections, he can now give more content to his earlier remark that recollecting requires the presence within of a principle over and above that required for learning. What it requires, he takes it, is the presence in the person's perceptual apparatus of suitable sensory affections, and the existence of suitable dispositions among them, so that he or she will be able, by selecting an appropriate starting-point, to set off a sensory affection, or a series of such affections, so that the object in question will come to be present to his or her mind. I take it to be Aristotle's view, moreover, that where the object of recollection is intelligible rather than perceptible—say, a theorem or a definition—it will not itself be represented by the sensory affections that the person manages to excite, but those sensory affections will be accompanied by an intellectual act that is the thought of the relevant intelligible object.

It is worth pointing out that Aristotle's account contains the resources needed to distinguish recollecting, not only from relearning by being instructed, but also

from relearning by rediscovering for oneself.[48] Suppose you once knew the proof of a geometrical theorem, but you subsequently forgot it. It so happens that you are unable to recollect it, but by utilizing your general knowledge of geometry you manage to work the proof out by yourself. In a way, you have recovered a piece of knowledge through yourself rather than through someone or something else. Aristotle can say, however, that you nonetheless did not *recollect* the proof because you were not 'conveyed' to it in the way that is distinctive of recollecting. For you were not conveyed all the way to it by a series of sensory affections preserved within you, so that some, or one, of these affections turned out to be accompanied by the intellectual grasp of the proof. Instead, you had to work the proof out by exercising other pieces of knowledge and hence by employing your intellect in ways other than the identification of an appropriate starting-point for recollection and the subsequent grasp of the proof itself.

Furthermore, it is important to note that, in distinguishing recollecting from relearning, Aristotle is making a fresh point about what is involved in remembering something. He says that when someone has lost the ability to be appropriately 'conveyed' to the active cognition of something or other, he or she no longer remembers the thing in question (452ª6–7). Now, what he has in mind in saying this is plainly not that in this case the person in question is not at that time performing an *act* of remembering. His point is rather that in this case the person has lost the acquired ability to remember the thing in question.[49] He also spells out what he takes to be involved in *having* the ability that we deny to someone when we say that he or she no longer remembers something or other: 'Remembering (τὸ μεμνῆσθαι) is the presence within one of the power that conveys one [sc. to the thing in question], so that one is conveyed to it from oneself *and from the changes one has within oneself, in the way described*'[50] (*De Memoria* 2, 452ª10–12). This characterization of what may be called dispositional memory[51] applies Aristotle's theory of ordered sequences of affections to memory and remembering. It is a rather complicated characterization, and it deserves careful attention. It characterizes the acquired ability to remember something as the presence within one of a power to bring about some change, or some changes. The exercise of that power results in one's being affected so that the object of memory is represented to one or is called to one's mind.

[48] Sorabji, *Aristotle on Memory*, 38–9, claims that Aristotle goes wrong in failing to recognize that one can relearn something through one's own efforts, 'and without depending on someone else'. On my view, that objection misfires. Aristotle does not, and need not, deny that one can relearn by oneself. He can gladly accept this, since he has the resources needed to distinguish recollecting from that kind of relearning, too.

[49] This acquired ability corresponds to the second potentiality, or first actuality, that is knowing something without contemplating it: *De Anima* 2.5, 417ª21–417ᵇ2; 2.1, 412ª22–3.

[50] τὸ γὰρ μεμνῆσθαί ἐστι τὸ ἐνεῖναι δύναμιν τὴν κινοῦσαν τοῦτο δέ, ὥστ' ἐξ αὐτοῦ καὶ ὧν ἔχει κινήσεων κινηθῆναι, ὥσπερ εἴρηται.

[51] The formulation is due to Sorabji, *Aristotle on Memory*, 1.

Now, Aristotle evidently does not think that having the acquired ability to remember, say, what Cebes looks like entails being able to perform a suitable act of remembering *whenever one pleases*. He thinks it happens frequently that one does not manage to activate dispositional memory. One might suppose that the case of a person who has dispositional memory but does not manage to activate it is a counterexample to Aristotle's chararacterization of dispositional memory. But this would be mistaken. His characterization of dispositional memory requires only that there is in fact some way in which it could be activated; it may be difficult for its bearer to identify that way. What he has in mind in the context is that there is some affection or other, say one that represents Cebes' companion Simmias, such that the active occurrence of *that* affection would be followed, or anyhow would tend to be followed, by the active occurrence of an affection that represents what Cebes looks like. The upshot is that Aristotle takes dispositional memory not only to involve sensory affections that are retained or preserved in the organism. He also takes it to involve—in many cases and perhaps in general—the existence of dispositions that obtain among those sensory affections, such that one specific sensory affection tends to become active together with, or in succession to, the activity of another specific sensory affection.

This, I submit, is a significant addition to the account of memory and remembering offered in chapter 1 of the *De Memoria*. In that chapter, Aristotle concentrates on the act of remembering, having little or nothing to say about dispositional memory. That chapter, moreover, has nothing to say about the question of how it is that representations that are retained in an organism are accessed and recalled. In other words, chapter 1 has nothing to say about the *transition* from having dispositional memory to the act of remembering. According to Aristotle's account, the perceptual apparatus of a suitably constituted and ordinarily developed animal will retain countless sensory affections. He tells us nothing, in *De Memoria* 1, about how and why it is that sometimes some of these countless affections come to be active in the animal's perceptual apparatus, so that the animal is remembering this or that particular thing.

Now, one might think that he takes it to be specifically by way of recollecting, as that is discussed in *De Memoria* 2, that representations retained in an organism are accessed and recalled. This, however, cannot be the whole story. First, recollecting, as he thinks of it, is a matter of deliberately recalling, and there obviously are many acts of remembering that do not involve deliberately recalling whatever the thing in question may be, as when you are remembering something because it just so happens that you are reminded of it by something else. Secondly, recollecting, as Aristotle thinks of it, is a matter of deliberately recalling in a rather specific way, namely by thinking of something else that, with some luck, puts one in mind of the thing in question.[52] So if you manage to call something to mind directly and

[52] Aristotle makes it very clear, throughout *De Memoria* 2, that what he thinks of as recollecting is always a matter of mentally proceeding *from something else* to the object of recollection: see, e.g., 451^{b}16–18, 18–22, 29–31, 452^{a}4–6, 8–10, 12–16, etc.

without first thinking of something else, as no doubt you sometimes do, this will not be a case of recollecting, as Aristotle thinks of it, at any rate for the purposes of *De Memoria* 2. In fact, his account of recollecting presupposes the ability to call something to mind directly, since the starting-points of many acts of recollection will be thoughts of things that one manages to call to mind directly.[53] Presumably, calling something to mind directly is supposed to be a matter simply of thinking of it, rather than of recollecting it. Thirdly, while Aristotle evidently attributes the ability to remember to some of the brute animals, he denies the ability to recollect to all of them:

> Recollecting differs from remembering not only with regard to time,[54] but also in that many of the other animals, too, have a share in remembering, whereas it may be said that, apart from humans, none of the known animals has a share in recollecting.[55] The reason is that recollecting is rather like a kind of reasoning (οἷον συλλογισμός τις). For the person who is recollecting reasons (συλλογίζεται) that he saw or heard the thing in question before, or that he was affected by it in some other such way, and recollecting is rather like conducting a search of some kind (οἷον ζήτησίς τις). To do that, however, naturally belongs only to creatures whose soul has a deliberative part as well. (And indeed deliberation, too, is a kind of reasoning.) (453ª4–14)

Given how Aristotle conceives of recollecting, and how he discusses it throughout *De Memoria* 2, it is not difficult to see why he holds it to be limited to reasoning creatures. He seems to think that reason is involved in recollecting in at least two ways. First, anyone who sets out to recollect something or other believes that he or she did at some stage perceive or think of the thing in question, and Aristotle takes that belief to depend on some kind of grasp of reason. Thus I may believe that I went through Plato's argument for the tripartition of the soul, because I know that I studied book 4 of the *Republic*, and I also know that this is the text which contains that argument. Or I may believe that I heard Cebes' name at a dinner party last week, because I know that I was introduced to him by his companion Simmias. Aristotle's thought might simply be that while you are not actually remembering the thing in question, it could only be by way of some appropriate bit of reasoning that you are aware of having perceived or thought of it at some time in the past.

Secondly, once you start recollecting, you are, according to Aristotle's theory, conducting a search, or something rather like a search, for a representation that will represent the thing in question, or call it to mind (453ª15–16). This will

[53] *De Memoria* 2, 451ᵇ18–19: διὸ καὶ τὸ ἐφεξῆς θηρεύομεν νοήσαντες ἀπὸ τοῦ νῦν ἢ ἄλλου τινός, καὶ ἀφ' ὁμοίου ἢ ἐναντίου ἢ τοῦ σύνεγγυς ('it is for this reason that we hunt for that which follows in the sequence, beginning in *thought* with the now or with something else, and with something similar to the thing in question, something opposite to it, or something proximate to it').

[54] What Aristotle has in mind, I take it, is that recollecting typically occurs some time after memory has first been established. This is because recollecting requires that the item in question has, so to speak, absented itself from one's mind, for example in that it has been forgotten, or simply in that one has not thought of it in a while. Cf. *De Memoria* 2, 451ª31–ᵇ2.

[55] Aristotle offers a more confident statement of this view at *Historia Animalium* 1.1, 488ᵇ26.

require finding a suitable starting-point,[56] a thought that involves the occurrence of an active sensory affection, so that this affection is followed by another such affection that will represent or call to mind the object of recollection. Aristotle, naturally enough, associates this search for a starting-point with deliberation (453ª12–14). Like deliberation, it is a matter of having a goal and of identifying a suitable starting-point, something that one is now in a position to do with a view to achieving one's goal.

It is plain, then, that recollection, as Aristotle thinks of it, is a rather special way in which representations retained in an organism may become active, and one that, moreover, he takes to be unavailable to the brute animals. If Aristotle's account of memory is to be anything like tolerably complete, he must at least indicate how representations can become active independently of recollection, as he characterizes it in *De Memoria* 2. Furthermore, it will not do simply to point to the fact that one can sometimes call something to mind directly and without first thinking of something else, as when you exercise some piece of knowledge,[57] or when you think of the colour of your own eyes. For this would still not do justice to the fact that memory often becomes active without anything being deliberately called to mind, as when it just so happens that the scent of some flower reminds you of a walk you took during last year's summer vacation. It is, moreover, doubtful whether Aristotle is prepared to attribute to any non-human animal the ability deliberately to call something to mind, directly or otherwise. It seems that he regards directly calling something to mind as a case of thinking (*De Memoria* 2, 451ᵇ18–20), and hence as an act of the intellect. If so, it too is unavailable to the brutes. One thing that Aristotle does need to do, in any case, is to indicate a way for representations to become active which does not involve deliberately recalling the thing in question, directly or otherwise. I submit that he does precisely that when he characterizes dispositional memory as involving—in many cases and perhaps in general—the existence of dispositions among sensory affections to become active together or in succession in ways that are determined, at least in large part, by past sensory experience and habituation.

In characterizing dispositional memory in this way, Aristotle makes it clear that he takes acquiring the ability to remember, say, what Cebes looks like not simply to be a matter of retaining an appropriate sensory affection somewhere or other in one's perceptual apparatus. He also takes acquiring such an ability—in many cases and perhaps in general—to involve retaining the relevant sensory affection in a way that relates it to other such affections by way of appropriate dispositions to become active together, or in immediate succession. As a result, we can see how,

[56] Cf. 451ᵇ29–31: ὅταν τοίνυν ἀναμιμνήσκεσθαι βούληται, τοῦτο ποιήσει· ζητήσει λαβεῖν ἀρχὴν κινήσεως, μεθ' ἣν ἐκείνη ἔσται ('when someone wants to recollect, he will do this: he will seek to get hold of a starting-point, after which the change in question will occur').

[57] Cf. *De Anima* 2.5, 417ᵇ22–4: 'Knowledge is of universals, and these in a way are in the soul itself. For this reason thinking is up to the person, and he can think whenever he wishes to (διὸ νοῆσαι μὲν ἐπ' αὐτῷ, ὁπόταν βούληται).'

according to his account of memory, sensory affections can become active in a way that does not involve deliberately recalling the thing in question. This can happen when one type of sensory affection 'triggers' another type. For example, your dispositional memory of what Cebes looks like may be activated by sensory affections that actively occur in your perceptual apparatus as you see Simmias.

Moreover, Aristotle evidently holds, as we have seen, that memory and remembering belong to the perceptual part of the soul.[58] On the basis of this assignment, it is, I think, reasonable to attribute to him the view that all activities and operations that form part of the ordinary functioning of memory are exercises of capacities that belong to the perceptual part of the soul, or are exercises of one such capacity. In fact, I take this to be no more than a fuller statement of his claim that memory belongs to the perceptual part of the soul. Now, we have seen that he takes it to be part of acquiring and maintaining dispositional memory that sensory affections are retained in ways which relate them to other such affections by way of appropriate dispositions to become active together or in succession. He must take it, moreover, that acquiring and maintaining dispositional memory is part of the ordinary functioning of memory. If this is along the right lines, then it is in fact clear that Aristotle is committed to the view that preserving sensory affections in a suitably structured way is a matter of exercising capacities that belong to the perceptual part of the soul, or of exercising one such capacity. The most plausible candidate for this task is, of course, the capacity for *phantasia*. This, after all, is the capacity that accounts for the preservation of sensory affections. Moreover, Aristotle indicates a special connection between memory and *phantasia* when he says that memory belongs to the part of the soul to which *phantasia* belongs as well (*De Memoria* 1, 450^{a}22–3).

As Aristotle is quick to point out, by assigning memory to the perceptual part rather than the intellect, he is making memory available to at least some of the non-human animals (*De Memoria* 1, 450^{a}15–16).[59] Moreover, we have now seen that he takes it to be part of the functioning of memory, anyhow in suitably constituted animals, that sensory affections are preserved in their perceptual apparatus in a structured way, with dispositions obtaining among them to co-occur or follow one another in certain ways. By assigning memory to the perceptual part of the soul, he therefore makes the formation and maintenance of such dispositions among sensory affections available, at least in principle, to suitably constituted non-human animals. In virtue of the perceptual part of their souls,

[58] *De Memoria* 1, 450^{a}22–3; 451^{a}16–17; this is confirmed at the end of the treatise, 453^{b}8–10. To do justice to the complexity of Aristotle's position, we should add that he takes the simple statement that memory belongs to the perceptual part of the soul to be appropriate so far as the proper objects of memory are concerned. As we saw earlier, he takes the intellect to be involved in remembering intelligibles. For present purposes, however, I can afford to limit myself to Aristotle's views on remembering the proper objects of memory; and so I disregard the complications introduced into his theory of memory by remembering intelligibles.

[59] Other texts in which Aristotle attributes memory to non-human animals include *Historia Animalium* 1.1, 488^{b}25–6, and *Metaphysics* A 1, 980^{b}21–7.

Aristotle is in a position to hold, such animals can preserve sensory affections in suitably interrelated ways. This may enable them, for instance, to associate one thing with another, to be reminded by something of something else, and to have ongoing representations of indeterminate duration and complexity.

This position, it should be noted, is not only one for which his psychological theory fully provides the resources. It is also one that he needs to adopt if he is to be able to account for the cognitive achievements involved in forms of non-human animal behaviour that he describes in considerable detail. Consider, for instance, his report of adult deer leading their young to their lair, habituating (ἐθίζειν) them to the place where they should seek refuge (*Historia Animalium* 8.5, 611ª20–1). From the point of view of Aristotle's psychological theory, such behaviour plainly needs to be accounted for in terms of the preservation of sensory affections in orderly ways, so that the habituation of juvenile deer can be seen to equip them with appropriately complex representations that are preserved in their perceptual apparatus, so as to guide their speedy return to the lair in moments of peril.

Moreover, we saw earlier in the present chapter that Aristotle's psychological theory needs to be able to account for the suitability of a non-human animal's *phantasiai* to its current circumstances, which Aristotle must think is manifested in anticipatory pleasure as well as in purposive locomotion. What is minimally required for explaining such phenomena is what Aristotle's account of memory in fact makes available: namely, that brute animals of many kinds can form and maintain appropriate dispositions among sensory affections retained in their perceptual apparatus, so that they may associate one thing with another, or be reminded by something of something else. Thus when a lion notices a stag in its environment, its current perceptual experience may put it in mind of what it is like to eat a stag, and that representation may both occasion anticipatory pleasure and play a crucial role in impelling the lion to go after its prey.

The interpretation that I have presented and argued for gives Aristotle no more than the bare bones of an account of non-human animal cognition in terms of connections or associations between sensory impressions. To do justice to the cognitive achievements of non-human animals, such an account would no doubt require extensive supplementation and refinement. Something would, for instance, have to be said about how it is that among all the countless possible connections or associations between impressions that might be formed, such connections as are required for the animal to survive, and to get around in the world, actually get formed. Such an account might appeal to a mechanism which privileges sequences of impressions that lead to, or involve, pleasurable experiences, e.g. 'stag-eating'. But we should also bear in mind that Aristotle leaves open the possibility that at least some sequences of representations may be a matter, not of habit, but of necessity:

> Acts of recollection happen because, naturally, *this* sensory affection occurs after *that* one. If this is so by necessity, then plainly whenever one undergoes the earlier one, one will

undergo the later one. If it is not by necessity but by habit, one will for the most part undergo the one after the other. (*De Memoria* 2, 451^{b}10–14)

The underlying idea might well be that the perceptual apparatus of some kinds of animals is constituted so that they are predisposed to proceed from one specific type of representation to another, provided that the animal in question actually receives sensory affections of the relevant types. In other words, the idea might be that some kinds of animals are 'wired up' in such a way that their perceptual apparatus contains, as it were, 'slots' specifically for certain types of affections, in which affections of these types are stored as soon as they are received. Affections of one type will then be linked to affections of some other type, with the effect that the animal in question invariably proceeds from representations of one type to representations of another. In this way, Aristotle's Empiricism[60] about *phantasia* could turn out to be a less extreme position than it may appear to be: although an animal has to acquire by experience whatever sensory affections it needs, its nature might be such as to facilitate—or even, given a suitably conducive environment, to predetermine—the formation of such connections or associations between impressions as are required for it to be able to live in the way that is characteristic of its species.

[60] For a brief account of Empiricism, see Introduction, pp. 4–6.

12

Phantasia and Practical Thought

One of my central purposes in the preceding chapters was to bring out and emphasize the remarkable cognitive power of *phantasia*, as Aristotle conceives of it. After some preliminary remarks in Chapter 8, I argued in Chapter 9 that *phantasia* enables animals to envisage prospects without having to depend on thought or reason. It is important that *phantasia* can do this, given that Aristotle conceives of animal locomotion as purposive in a way that seems to require that animals, including many kinds which he takes to be non-rational, are capable of envisaging prospects. It is not just, however, that many kinds of animals exhibit purposive behaviour. They also form purposes that are, by and large, suitable to the circumstances they find themselves in. When a lion notices a stag, it will typically want to make a meal of it. If forming purposes of this kind involves envisaging prospects, animals (including many kinds of non-human ones) must not only be able to envisage prospects quite generally. They also must be cognitively equipped so that, given certain circumstances, they can be relied on to envisage a prospect of a certain kind, rather than not envisaging any prospect at all, or envisaging one of an altogether different kind.

In Chapter 11, I argued that, on Aristotle's view, perception and *phantasia* can account for the way in which non-rational subjects can, given certain conditions, be relied on to envisage prospects that are suitable to their circumstances. According to Aristotle's psychological theory, to be a living thing capable of perception and *phantasia* involves having a soul that includes a perceptual part—a part or aspect of the soul which, I argued, is meant to account for a broad variety of operations and activities, such as perceiving, retaining sensory impressions, envisaging prospects, having dispositional memory, remembering something, and being reminded of something by something else. Aristotle is thus in a position to accept that some kinds of non-human animals can, given certain conditions, be relied on to envisage prospects that are suitable to their circumstances; and he can account for this in terms of associations of sensory impressions, with the perceptual soul-part of suitably constituted animals enabling them to form such associations. An account along some such lines seems to me to be required by Aristotle's theory of animal motivation. A number of texts in the *Parva Naturalia*, moreover, both provide the resources needed for such an account, and suggest rather strongly that Aristotle has in mind a picture of non-human animal cognition along these lines. In the

De Memoria, he indicates that he takes the ability to be reminded of one thing by another to be part of having dispositional memory, and he assigns memory to the perceptual part of the soul, noting that in doing so he is making memory available to suitably constituted non-human animals. In the *De Insomniis*, he proposes to account for 'well-connected' representations occurring in dreams in terms of the idea that some blooded animals, including humans but not limited to them, are constituted so that sensory affections may be preserved in their perceptual apparatus in orderly ways, with dispositions obtaining among them such that appropriate sensory representations tend to follow one another in orderly sequences.

In view of the overall interpretation that I have argued for, the question arises why the cognitive achievements of which non-human animals are capable, remarkable though they are, nonetheless do not, according to Aristotle, involve, or amount to, exercises of thought or reason. It may be instructive briefly to consider the contrasting view of David Hume, who adduces instances of cognitive achievements of non-human animals so as to support his claim that 'beasts are endow'd with thought and reason as well as men'.[1] Hume's examples include that of 'a dog, that avoids fire and precipices, that shuns strangers, and caresses his master' (177). With regard to such forms of behaviour, Hume asserts that 'they proceed from a reasoning, that is not in itself different, nor founded on different principles, from that which appears in human nature' (177). He explains the dog's cognitive achievements in terms of sensory impressions and inferences drawn from such impressions: for example, 'from the tone of voice the dog infers his master's anger, and foresees his own punishment' (178). To draw an inference of this kind, according to Hume, is to engage in reasoning. There is no reason to think that Aristotle and Hume disagree about the details of non-human animal behaviour as they are evident to observation. In fact, the examples that Hume offers feature rather modest achievements, especially in comparison to some of the more remarkable feats that Aristotle reports in book 8 of the *Historia Animalium*.[2] Rather, the disagreement between Aristotle and Hume is about the terms in which such and other instances of non-human animal behaviour should be explained. Hume attributes thought and reason to non-human animals so as to be able to explain their cognitive achievements in terms of inferences and exercises of reason. Aristotle, by contrast, takes it that non-human animal behaviour can be quite adequately explained without crediting the brute animals with thought or reason.[3]

[1] David Hume, *A Treatise of Human Nature*, 2nd edn., ed. P. H. Nidditch (Oxford: Oxford University Press, 1978), 176.

[2] Note, in particular, the reports concerning wild goats curing themselves (8.6, 612ª2–5), the Egyptian grey mongoose taking precautions against snakebite (8.6, 612ª16–21), cranes giving signals to one another (8.10, 614ᵇ18–27), lions punishing offenders (8.44, 629ᵇ24–7), and the quasi-calculations of dolphins (8.48, 631ª27–31).

[3] I am not meaning to suggest that the disagreement between Aristotle and Hume reflects a difference between ancient and modern conceptions of thought and reason. Already in antiquity there were thinkers who, like Hume, credited non-human animals with thought and reason, taking it that one could not adequately explain the cognitive achievements of many non-human animals without

Now, Aristotle's denial of thought and reason to non-human animals is controversial, and may seem problematic. For one might think that in order to offer an adequate account of the achievements of at least some non-human animals, one has to attribute thought and reason to them. Aristotle plainly takes the view that such an account can be provided without crediting non-human animals with thought or reason, and indeed he offers, or provides the resources for, an account along these lines which is relatively detailed and, I think, rather attractive. However, a critic might suggest that at least some of the cognitive achievements which Aristotle attributes to non-human animals, and which he treats as cases of perception and *phantasia*, really are manifestations of thought, or exercises of reason. To see whether Aristotle has an answer to that suggestion, and (if so) what it is, we should, I propose, attend to Aristotle's notions of thought and reason. More precisely, we should examine the roles which thought and reason, according to Aristotle, play in the production of action. On any tolerably clear view of Aristotle's conceptions of thought and reason, and of the roles he takes them to play in the production of action, it will, I think, be clear why he holds that the cognitive achievements of non-human animals, remarkable though they are, nonetheless do not amount to, or involve, exercises of thought or reason.

Let us, to begin with, return for one last time to the list of movers in *De Motu Animalium* 6: 'We see that the movers of the animal are thought (διάνοια), perception, *phantasia*, decision (προαίρεσις), wish (βούλησις), spirit, and appetite' (*De Motu Animalium* 6, 700^{b}17–18). Although this is not made explicit in the *De Motu Animalium* itself, it is nonetheless plain from the context of Aristotle's psychological writings that non-human animals have, on his view, no share in thought, decision, or wish.[4] Thus in their case the list of movers is limited to

attributing thought and reason to them. Consider, for instance, the following passage from a speech by Autobulus, in Plutarch's *De Sollertia Animalium*: '(we think) that there is no animal that does not, according to nature, have a kind of belief (δόξα τις) and reasoning (λογισμός), just as it has perception and impulse. For nature, which, as they rightly say, does everything for the sake of, and with a view to, something, did not make the animal capable of perception just to perceive when something is happening to it. Rather, there being many things that are friendly to it, and many that are hostile, it could not survive for a moment, if it had not learned to guard itself against the one, and to mix with the other. Now, perception provides to each animal cognition of both in the same way; but the acts of taking and pursuing that follow the perception of beneficial things, and the acts of fleeing and avoiding that follow the perception of destructive and painful things, could by no means occur in creatures not naturally constituted so as to reason to some extent (λογίζεσθαί τι), to discern, to remember and to pay attention' (960 D–F). Cf. also Porphyry, *De Abstinentia*, esp. book 3, which seems to be indebted to Plutarch's dialogue (but perhaps they use a common source): for instance, chapter 21 of book 3 contains a nearly identical version of the passage just quoted. While Plutarch and Porphyry supply the most prominent ancient texts concerning non-human animal rationality, they are not isolated figures in this regard: for further material and discussion, see Sorabji, *Animal Minds and Human Morals*, esp. 78–96.

[4] Aristotle denies thought to non-human animals at *De Anima* 3.3, 429^{a}4–8; 3.10, 433^{a}11–12. Decision involves thought, according to *De Motu Animalium* 6, 700^{b}23 (cf. *Nicomachean Ethics* 6.2, 1139^{b}4–5); so since non-human animals lack thought, they must lack decision as well (see also *Nicomachean Ethics* 3.2, 1111^{b}6–9; ^{b}12–13).

perception, *phantasia*, appetite, and spirit.[5] I shall concentrate on the question whether the denial to non-human animals of thought and decision is well-grounded. It will become clear that in answering that question we shall also be answering the question whether Aristotle's denial of reason to non-human animals is well-grounded.

At the beginning of his positive account of animal locomotion, Aristotle distinguishes between practical and theoretical or contemplative thought: 'These two, then, are concerned with locomotion: thought and desire, but thought which reasons for the sake of something and is practical; it differs from theoretical thought in respect of the goal' (*De Anima* 3.10, 433ª13–15).[6] It is specifically practical thought, rather than thought in general, that, Aristotle thinks, is responsible for the production of locomotion and action. What I propose to do in what follows is to draw attention to a number of features of practical thought, as Aristotle conceives of it, and then to compare practical thought, so conceived, with the practical cognition of non-human animals, as it has emerged in preceding chapters. It will become clear that there is a very considerable gap between practical thought and non-human animal cognition, so conceived. And so Aristotle's denial of practical thought to non-human animals, remarkable though their cognitive abilities may be, will turn out to be conceptually coherent.

Where will this leave us as far as the denial of reason to non-human animals is concerned? Before this question can be adequately answered, we must confront a complication. Two Greek words which are commonly translated as 'reason', 'rationality', or the like—*logos* and *logismos*—are used by Aristotle to capture related, but nevertheless distinct, notions.[7]

The word *logos* (in the relevant sense) is used by Aristotle interchangeably with the word *nous*, where the latter denotes the capacity for thought.[8] Correspondingly, the part or aspect of the soul that has *logos* (τὸ λόγον ἔχον) is the intellect *as a whole*, including the part or aspect concerned with theoretical understanding (τὸ ἐπιστημονικόν) (*Nicomachean Ethics* 6.2, 1139ª3–15). Staying close to Aristotle's usage, I shall be using the words 'reason' and 'thought' to capture this notion of *logos*.[9] As we have seen already, moreover, practical thought (πρακτικὸς νοῦς) is the

[5] For the attribution of spirited desire to non-human animals, see *Nicomachean Ethics* 3.2, 1111ᵇ12–13; *Eudemian Ethics* 2.10, 1225ᵇ26–7.

[6] Practical thought (πρακτικὸς νοῦς, διάνοια πρακτική) is also mentioned at *De Anima* 3.10, 433ª16 and 18; cf. also *Nicomachean Ethics* 6.2, 1139ª35–6. The latter passage indicates that the qualification 'practical', after 'reasoning for the sake of something', is not otiose: according to *Nicomachean Ethics* 6.2, 1139ᵇ1–2, thought for the sake of something is in charge, not only of action (πρᾶξις), but also of production (ποίησις).

[7] Socrates in the *Republic* seems to treat the terms λογισμός and λόγος (in the relevant sense) as synonymous. See, for instance, *Republic* 4, 440 A 9–B 7, with λογισμός at B 1 and λόγος at B 3 and B 5.

[8] *De Anima* 3.10, 433ᵇ5–10 provides a clear example.

[9] For the connection between reason (λόγος) and thought (νοῦς) in Aristotle's terminology, see also *Nicomachean Ethics* 6.2, 1139ᵇ12, where the two parts or aspects of reason are referred to as 'both parts concerned with thinking' (ἀμφοτέρων . . . τῶν νοητικῶν μορίων).

aspect of thought or reason in virtue and by way of which it contributes to the production of action: in the case of a person whose reason is well developed, practical thought will account for the apprehension both of the right goals for action, and of the ways in which those goals may properly be achieved. Accordingly, in showing what Aristotle's grounds are for denying practical thought to non-human animals, we will also account for the fact that he denies them reason. After all, we will be identifying his grounds for denying that they are endowed with the ability to reason about what to do, and in this way to employ reason in generating the motivating conditions from which their behaviour flows.

The word *logismos* and related expressions, on the other hand, are used by Aristotle in a more specific way. He identifies *logizesthai* with deliberating (βουλεύεσθαι),[10] and in so connecting it with related notions of taking counsel and devising plans, he ties the word *logismos* specifically to the domain of action. Moreover, in Aristotle's discussions of practical cognition, both in the psychological and in the ethical writings, *logismos* is limited to contexts in which some goal or other has been fixed, whether it is a very general goal such as living one's life well, or a more specific one such as recovering a certain sum of money. In such contexts, *logizesthai* is a matter of reasoning or deliberating about how to achieve the goal in question.[11] For the sake of clarity, I shall be using the expression 'deliberative reasoning' to capture Aristotle's notion of *logismos*. Since Aristotle conceives of deliberative reasoning as being prominently involved in the activity of practical thought, the discussion of practical thought in what follows will shed some more light on the role he takes *logismos* to play in the production of action.

The features of practical thought to which I wish to draw attention can be observed in the psychological writings, especially in the *De Anima*, and I shall refer to a number of passages from *De Anima* 3.9–11. But in investigating Aristotle's conception of practical thought we should also bear in mind the very detailed discussions of practical cognition which he offers in his ethical writings, especially in book 2 of the *Eudemian Ethics* and in books 3 and 6 of the *Nicomachean Ethics*. In fact the ethical writings provide a more detailed account of practical thought than the psychological writings do, but one which, so far as I can see, coheres well with the discussions in the psychological writings. My comments on practical thought, as Aristotle conceives of it, will therefore draw on the ethical writings as well as on the psychological writings.

We should begin by noting that Aristotle, time and again in both the psychological and the ethical writings, presents practical thought as having a certain structure, which involves a goal or 'thing for the sake of which' on the one hand

[10] *Nicomachean Ethics* 6.2, 1139ª12–13: τὸ γὰρ βουλεύεσθαι καὶ λογίζεσθαι ταὐτόν. Cf. the shift from φαντασία λογιστική at *De Anima* 3.10, 433ᵇ29, to βουλευτική at 3.11, 434ª7, and again to λογισμός in the same sentence.

[11] Passages in which λογισμός is presented as serving this function include *De Anima* 3.10, 433ª14; 3.11, 434ª7–10; *Eudemian Ethics* 2.10, 1226ᵇ21–30.

and reasoning or deliberating about how to achieve it on the other. Practical thought extends from the recognition of a goal to the origination of action for the sake of achieving it. This conception of practical thought is expressed, for instance, close to the beginning of Aristotle's positive account of animal locomotion in *De Anima* 3.10:

> These two, then, are concerned with locomotion, thought and desire, but thought which reasons for the sake of something and is practical; it differs from theoretical thought in respect of the goal. Also every desire is for the sake of something: for the object of desire is the beginning of practical thought, and its last bit is the beginning of action. (*De Anima* 3.10, 433ª13–17)

A passage from *Eudemian Ethics* 2.10 contains a somewhat more detailed account:

> Nobody deliberates about the goal, but it is laid down for everyone; rather, people deliberate about things which contribute to the goal (περὶ . . . τῶν εἰς τοῦτο [sc. τὸ τέλος] τεινόντων), whether *this* thing or *that* contributes to its attainment, or how *this*, when it has been decided on, will come to pass. We all continue to deliberate until we relate to ourselves the beginning of the process of change. (*Eudemian Ethics* 2.10, 1226ᵇ9–13)[12]

The passage goes on by drawing attention to an important feature of practical thought, one which is relevant to our purposes. After pointing out that decision involves deliberation, Aristotle draws the conclusion that non-human animals lack decision, since they lack deliberation:

> For this reason decision is not present in the other animals, nor at every age in life, nor in a human being no matter what state he is in: for neither is deliberating and opinion about the why (ὑπόληψις τοῦ διὰ τί). Nothing prevents belief about whether something should be done, or whether something should not be done, from being present to many, but not so with belief through reasoning (δι' λογισμοῦ). For that part or aspect of the soul is deliberative which contemplates a species of cause. For the 'for the sake of which' is one of the causes. . . . That for the sake of which something is or comes to be, that we say is a cause—for instance, the recovery of money is a cause of walking, if he is walking for the sake of this. For this reason, those who do not have an aim (σκοπός) are not deliberative. (*Eudemian Ethics* 2.10, 1226ᵇ21–30)

As we have seen, practical thought crucially involves the recognition of a goal (for instance, the recovery of some sum of money), and also of things which may contribute to its achievement (for instance, going somewhere, writing a letter, making a telephone call). The present passage indicates that if deliberative reasoning is involved in a bit of behaviour in the right way, it is not only the case that the person in question is (say) going to the marketplace for the sake of recovering money, and hence in a certain sense because of recovering money. He also grasps the 'for the sake of' relation between going there and recovering the money; in this

[12] My translations from the *Eudemian Ethics* follow those in J. Barnes (ed.), *The Complete Works of Aristotle*.

case, that relation is a means–end relation.[13] He is aware of his goal of recovering money, and he recognizes that going to the marketplace is something that may contribute to the achievement of his goal. His going there depends on, first, his recognition of the goal in question and, secondly, his recognition that doing this is something that may contribute to its achievement. If he did not, in fact, aim to recover the money, or if he did not recognize that going to the marketplace is something that may contribute to that recovery, he would not be going there, except by coincidence.

Now it is important to note that there is room for the idea of a subject doing A for the sake of doing B without itself grasping the 'for the sake of' relation that in fact obtains between its doing A and its doing B. A cat which sees one end of a slowly receding shoe-lace will advance, *so as to get hold of the shoe-lace*. The cat's forward motion plainly is goal-directed: it is driven and controlled by the purpose of getting hold of the shoe-lace. There is, however, no need to assume that the cat is aware of the fact that advancing is what it needs to do in the circumstances in order to get hold of the shoe-lace. Perhaps it advances simply as a result of being naturally constituted the way it is; or as a joint product of its natural constitution and of the conditioning that cats receive in the course of their development in ordinary circumstances. In much the same way, one might well think, a lion wanting to make a meal of a stag that it sees before itself will advance, *so as to get its teeth into the stag*. This, too, does not require that the lion grasps the fact that advancing is what it needs to do in the circumstances in order to get its teeth into the stag. Perhaps it advances simply as a result of being naturally constituted the way it is; or as a joint product of its natural constitution and of the conditioning that lions receive in the course of their development in ordinary circumstances.

It is also worth noting that a subject may form a complex desire for A, B, and C, where A and B in fact are required for, and may contribute to, securing C, without being the least bit aware of the fact that A, B, and C are related in this way. Consider a hungry, ordinarily conditioned lion that sees a stag at some distance in its environment. In normal circumstances, it will try to hunt down the stag and eat it. Aristotle's theory explains the lion's behaviour in terms of perception, *phantasia*, and desire. I take it that his explanation, when fully stated, will look more or less like this. Perception supplies the lion with awareness of the stag in the distance. *Phantasia* makes the lion envisage the prospect of making a meal of the stag. It may also make the lion apprehend certain things that it

[13] This particular 'for the sake of' relation is one between a means and an end. Not all such relations are. Some are part–whole relations, the whole in question being a goal and the part a constituent or ingredient of it. To use one of Ackrill's examples, one may play golf for the sake of having an enjoyable holiday; J. Ackrill, 'Aristotle on *eudaimonia*', *Proceedings of the British Academy*, 60 (1974), 19. Yet another way in which one thing can be done for the sake of another is by being something that achieving a goal in the circumstances consists in, or is realized by. Someone may take a walk for the sake of getting some exercise. The forms of 'for the sake of' relations are discussed in some detail in J. Cooper, *Reason and Human Good in Aristotle* (Indianapolis, Ind.: Hackett, 1975), 19–22.

needs to do in order to get its teeth into the stag. It may do both by providing the lion with a complex representation of, say, laying hold of the stag, killing it in a certain way, and then making a meal of it. The whole of this rather elaborate prospect may become an object of desire, so that the lion can properly be described as wanting to lay hold of the stag, kill it in a certain way, and then eat it. Desire involves, or results in, bodily changes of some kind or other. These, in turn, may effect the large-scale bodily changes which constitute the lion's purposive behaviour as it pursues the stag, lays hold of it, kills it in the appropriate way, and proceeds to make a meal of it. To appeal to the lion's desire, and to the representation that gives it its content, is to render intelligible why the animal all of a sudden engages in rapid locomotion, and why it completes the episode of locomotion in the rather specific way that in fact it does. For some such story to be intelligible and explanatory, Aristotle need not assume that the representations that guide the lion's behaviour are articulated in terms of 'for the sake of' relations.[14] He only needs an account of how appropriately complex and situation-specific representations can arise in suitably constituted animals as a result of perceptual experience; and I have argued that, in fact, he is in a position to offer such an account.

The present text indicates that, by contrast, behaviour which involves deliberative reasoning in the right way will crucially involve the subject's grasping the 'for the sake of' relation that obtains between what it is they are doing and what it is for the sake of which they are doing it. This grasp manifests itself as the subject's 'opinion about the why' concerning the bit of behaviour in question. We have, then, identified an important feature of practical thought, as Aristotle conceives of it: since it involves deliberative reasoning, it includes the subject's recognition of 'for the sake of' relations.

There is another feature of practical thought that is relevant to our purposes. It is described in some detail in a passage from *Nicomachean Ethics* 3.3, which is closely related to the passage from *Eudemian Ethics* 2.10 that we have looked at:

> We deliberate not about goals, but about things that contribute towards goals (περὶ τῶν πρὸς τὰ τέλη). . . . Having laid down the goal, people consider how and through which things it will come to pass. And if it appears that it comes to be through a plurality of things, they consider in addition through which thing most easily and most finely; if it is achieved through one thing, they consider how it will come to pass through that, and through which thing that in turn will come to pass, until they arrive at the first cause, which in discovery is last. (*Nicomachean Ethics* 3.3, 1112^{b}11–20)

[14] It should be noted that it is not part of my interpretation that 'for the sake of' relations do not in fact obtain between the lion's acts of laying hold of the stag and killing it on the one hand and the act of eating it on the other. We may well want to say that such relations do obtain, though the lion is not cognitively equipped to grasp them. After all, it may be the case that whereas the lion's attachment to eating is primitive, its interest in such things as laying hold of animals and killing them depends causally (though, I suggest, not cognitively) on the fact that doing these things, anyhow in the lion's natural habitat, is required for, and strongly tends to contribute to, eating.

It is not only that in practical thinking we identify goals and recognize things that may contribute to their achievement. We are also able to recognize any number of alternative ways in which we might promote the achievement of our goals and, what is more, we are able to assess these alternatives in relation to one another, for instance in terms of ease or fineness. The ability to recognize and assess alternatives, as an important part of practical thought, also features in the passage from *De Anima* 3.11 which is meant to explain why deliberative *phantasia* is limited to subjects that are capable of deliberative reasoning: 'Deliberative *phantasia* is present in animals capable of reasoning (for whether to do *this* or *that* is already a task for reasoning; and it is necessary to measure by one standard: for he pursues what is greater; so that he can make one out of many *phantasiai*)' (*De Anima* 3.11, 434ª7–10).[15]

We have now identified a number of features or aspects of Aristotle's conception of practical thought, as Aristotle conceives of it: the recognition of 'for the sake of' relations, as well as and the recognition and assessment of alternative courses of action. There is, on the other hand, no reason to think that the practical cognition of non-human animals, as Aristotle conceives of it, includes any of these features. Among them, the recognition of 'for the sake of' relations is clearly basic; it is presupposed by the others. We saw that the recognition of 'for the sake of' relations crucially involves, first, the awareness of a goal and, secondly, the recognition that (minimally) something or other may contribute to the achievement of the goal in question, in such a way that the subject forms an 'opinion about the why', an opinion that reflects his or her recognition of an action being for the sake of achieving some goal. Aristotle's conception of non-human animal cognition, as I have presented and interpreted it, does credit non-human animals with the capacity for awareness of goals, but it does not attribute to them the ability to recognize things as contributing to the achievement of goals, so as to grasp 'for the sake of' relations. Nor does Aristotle's conception of non-human animal cognition credit the brute animals with 'opinions about the why'.[16]

Consider the example of a deer crossing a stream as it tries to get back to its young. Aristotle's account, according to the interpretation I have offered, does not require that the animal recognizes that what it is doing, crossing the stream, is required for, and may contribute to, its getting back to its offspring. Nor, in general, does Aristotle's account require a grasp on the animal's part of 'for the sake of' relations. Nor does it require, or indeed allow, 'opinions about the why' on the part of the animal—opinions that would reflect the animal's recognition of its behaviour being for the sake of achieving a goal. Aristotle assumes that the cognitive achievements involved in the deer's behaviour can be accounted for in terms of perception and *phantasia* alone. He assumes, I suggested, that for many

[15] For some discussion of this passage, see Ch. 9, p. 127.

[16] This, of course, is as it should be, given that, at *Eudemian Ethics* 2.10, 1226ᵇ21–3, Aristotle denies to the non-human animals 'opinions about the why'.

kinds of non-human animals, being capable of perception and *phantasia* involves being constituted in a way that supports the formation—through such factors as experience and habituation—of associations between sensory impressions. If so, it is open to him to say that a deer may rely on associations between impressions in forming a complex purpose such as, say, 'crossing the stream, then going through the forest by the side of the road, and then returning to the cave where the young are waiting'. This purpose may cause it to cross the stream (and so forth) without grasping in any way at all that doing so is required for, and may contribute to, getting back to its offspring.

It is not difficult to see that there may be important differences between an organism that proceeds on the basis of associations between impressions, formed by experience and habit, and an organism that can grasp 'for the sake of' relations and that can form 'opinions about the why'—opinions that reflect its cognition of an action being for the sake of a goal. For one thing, an organism of the latter kind is capable of much greater flexibility in its responses to a changing environment. Consider two organisms. Both of them are able to find their way to a location where there is a supply of fresh water. One of them can rely on practical thought; the other can only proceed by associations of impressions. Suppose that their environment changes so that no water is available any more at the location in question. The thinking organism, as soon as he or she finds out that the source of water has run dry, will also recognize that going to *this* location is no longer something that contributes to achieving the goal of drinking water, should there be such a goal. Given this recognition, the organism, in so far as it is guided by practical thought, will not go to the same location again, if its goal is to drink water. So far as the other organism is concerned, it may take a long time before the relevant associations between impressions in its perceptual apparatus cease to be effective, and cease to guide the organism's behaviour. After all, such associations are based, we said, on experience and habit, not on recognizing that some things are required for, and may contribute to, the achievement of others.

The advantages of practical thought over non-rational cognition, as Aristotle conceives of both of these, become even clearer once we take into account the recognition of alternative ways of achieving a goal, and the assessment of such alternatives in terms of some standard or other. We should also note, at least in passing, that grasping 'for the sake of' relations can not only guide and inform the pursuit of low-level objectives as they arise on a day-to-day basis. It also makes possible an integrated view of how to lead one's life overall, one that is articulated in terms of 'for the sake of' relations, which include means–end relations as well as part–whole relations.

It can, then, be shown that, given the way Aristotle conceives of practical thought on the one hand and of non-human animal cognition on the other, there is a very considerable gap between the two. And so his denial of practical thought to non-human animals, remarkable though their cognitive abilities

may be, turns out to be conceptually coherent. This result also applies to the denial of decision. According to the discussions concerning decision both in the *Eudemian Ethics* and in the *Nicomachean Ethics*, it presupposes deliberation,[17] which includes the recognition of 'for the sake of' relations, the recognition of alternative ways of achieving a goal and the assessment of such alternatives in terms of some standard or other. Thus decision, as well as practical thought, can be shown to be well beyond the reach of non-human animal cognition, as Aristotle conceives of it.[18]

As for the defensibility or otherwise of Aristotle's denial to non-human animals of practical thought, and at the same time of reason and decision, I shall confine myself to the following remarks. It is clear that Aristotle's positive account of non-human animal cognition, and of non-rational cognition in general, in terms of perception and *phantasia* stands in need of substantial development. As a result, my reconstruction of that account had to be speculative to a considerable extent. However, the conception of non-rational cognition that has emerged from my interpretation is coherent, economical, and of considerable explanatory power. At the same time, a critic who wants to challenge Aristotle's denial of practical thought to non-human animals faces a daunting task, if he or she accepts Aristotle's conception of practical thought as combining the features to which I have drawn attention, namely the recognition of 'for the sake of' relations, the recognition of alternative ways of achieving a goal, and the consideration and assessment of such alternatives in terms of some standard or other. Aristotle's conception of practical thought invites questions of various sorts, which cannot be discussed here, such as what unifies the features or aspects I have pinpointed, or how he can account for the non-deliberative, but intellectual, recognition of practical goals that his theory evidently requires.[19] Nonetheless, the conception

[17] This point is clear already from Aristotle's definition of decision as deliberative desire (ὄρεξις βουλευτική) (*Nicomachean Ethics* 6.2, 1139^{a}23; cf. *Eudemian Ethics* 2.10, 1226^{b}17). For more explicit statements of the point, see (e.g.) *Nicomachean Ethics* 3.3, 1113^{a}2–5, and *Eudemian Ethics* 2.10, 1227^{a}3–5.

[18] Decision, as Aristotle conceives of it, presupposes not only deliberation, but wish (βούλησις) as well. This view is argued for (e.g.) by E. Anscombe, 'Thought and action in Aristotle', in R. Bambrough (ed.), *New Essays on Plato and Aristotle* (London: Routledge, 1965), 143–8, and by Irwin, *Aristotle's First Principles*, 337. Moreover, see *Eudemian Ethics* 2.10, 1226^{b}14–17: 'decision arises from these [sc. belief and wish]: for the person who decides has both of these'. Accordingly, an action may be deliberated without being decided on: this is as it should be, if an un-self-controlled act can be deliberated (see *Nicomachean Ethics* 6.9, 1142^{b}18–20) and is not (by definition, as it were) decided on (cf. *Nicomachean Ethics* 3.2, 1111^{b}13–15). Since decision presupposes both wish and deliberation, the denial of decision to non-human animals is grounded both in their lacking wishes *and* in their lacking the ability to deliberate.

[19] Deliberation, or deliberative reasoning, does not exhaust practical thought, since practical thought is in charge, not only of identifying ways in which goals can be achieved, but also of determining goals in the first place. Deliberation presupposes that a goal has been fixed, and so it cannot, on pain of infinite regress, be all that there is to practical thought. Practical thought must therefore include non-deliberative recognition of goals. For discussion concerning this point, see Cooper, *Reason and Human Good in Aristotle*, 58–66; A. Mele, 'Aristotle on the roles of reason in motivation and justification', *Archiv für Geschichte der Philosophie*, 66 (1984), 124–37.

of practical thought which I have presented is, I hope, detailed and clear enough at least for present purposes. What has emerged in the course of my discussion is, it seems to me, a clearly conceived and well-grounded contrast between non-rational cognition, which humans share with other animals, and practical thought, of which humans alone are capable.

13

Reason and Non-rational Desire

There remains a question about the applicability of Aristotle's conception of non-rational cognition to adult human beings. Are not all of a reasoning creature's cognitive and motivating conditions affected by rationality?[1] In some ways they may well be, I shall argue on Aristotle's behalf, but this leaves intact a clear and robust sense in which appetite and spirit are non-rational forms of motivation, and a similarly clear and robust sense in which the cognition involved in these forms of motivation can, and to some extent must, be non-rational.

The expert about ethical and political matters, Aristotle holds, should have some knowledge of the soul, to the extent that such knowledge illuminates the nature of virtue. The *Nicomachean Ethics* therefore includes an outline account of the human soul (*Nicomachean Ethics* 1.13, 1102ª26–1103ª3). In fact, this is the most detailed account of the nature of specifically the human soul in Aristotle's extant writings. According to it, there is a sense in which all of the cognitive and motivating conditions of a mature human being are rational. They all belong to a part or aspect of the soul which in a way can rightly be called rational. However, this part or aspect is twofold. One part of it is rational *strictly speaking*,[2] the other is rational *in an extended sense*,[3] in that it is capable of obeying, and of being influenced by, reason. Looked at in another way, that lower part of human reason is non-rational, because, as we shall see, it is incapable of reasoning in its own right. This lower part of reason is the source of appetitive and spirited desires.

One thing I want to do in the present chapter is to clarify how it is that Aristotle holds human appetite and spirit to be rational in a way. I also want to point out

[1] The idea is nicely expressed by H. H. Joachim: 'Thought (intelligence, reasoning), as man's distinctive character, permeates all his being and doing'; from the introduction to his commentary on the *Nicomachean Ethics* (Oxford: Clarendon Press, 1951), 2.

[2] *Nicomachean Ethics* 1.13, 1103ª1–2: 'If one must say that this part, too, has reason [sc. the part that is responsible for appetite and non-rational desire], then reason, too, will be twofold, consisting of one part that has reason strictly speaking and in itself (τὸ μὲν κυρίως καὶ ἐν αὑτῷ), and another part that is capable of listening as if to one's father.' I assume that in writing of 'that which is responsible for desire' (ὀρεκτικόν) at 1102ᵇ30, Aristotle is relying on a use of the word ὄρεξις ('desire') in which it generically picks out *non-rational* desire, rather than desire in all its forms. Parallels include *Eudemian Ethics* 2.8, 1224ᵇ21–4 (cf. 1224ª23–7, 1225ª3); 7.14 (or 8.2), 1247ᵇ34–5; *Politics* 3.16, 1287ª32; *De Anima* 3.9, 433ª6–8; and *Magna Moralia* 1.17, 1189ª1–6.

[3] Note the qualifications at 1102ᵇ13–14 and at 1102ᵇ29–31: the part that is responsible for appetite and (non-rational) desire participates in reason *in a way* (πῃ, πως).

that the rationality of all of a human being's cognitive and motivating conditions leaves intact a robust sense in which some of them are non-rational. In order to see this clearly and in detail, it will be helpful to take a look at some remarks that Aristotle makes in discussing lack of self-control in book 7 of the *Nicomachean Ethics*. Episodes of uncontrolled behaviour involve conflicts between rational motivation on the one hand and appetite or spirit on the other. In discussing such conflicts, Aristotle makes a number of remarks which shed light on how he conceives of the relation between what is strictly speaking reason on the one hand and appetite and spirit on the other. I shall close the chapter with some thoughts about the applicability to human psychology of Aristotle's conception of non-rational cognition, as it emerged in Chapters 8–11.

Aristotle's outline of the human soul, in *Nicomachean Ethics* 1.13, begins with the distinction between one part[4] or aspect of the soul that is non-rational, and another part or aspect that has reason. He adds that, for the purposes of the expert about ethical and political matters, it does not matter 'whether these are delimited like the parts of the body, and like everything that is a thing of parts (μεριστόν), or whether, while they are two in account, they are naturally inseparable, like the convex and the concave in a curved surface' (*Nicomachean Ethics* 1.13, 1102[a]28–31). The convex and the concave, Aristotle is implying, are *not* distinct parts of a curved surface—for example, of the surface of a hemisphere. The parts of a composite object are delimited from one another. But the convex and the concave in the surface of a hemisphere are neither delimited nor separable from one another. They are simply two aspects of the same surface.[5] One thing this makes sufficiently clear is that Aristotle's talk of the parts of the soul, in his ethical and political writings, is not meant to indicate a commitment to the view that the items in question have the status of genuine parts, or to the view that the soul really is a composite object.[6] What such talk requires is only that the items in question are distinguishable in account or definition.

Something which the non-rational part quite definitely includes is the part that is responsible for the nutrition and growth of the living organism. This, however,

[4] Note μόριον at 1102[b]4.

[5] Eustratius has worthwhile things to say about the passage. 'He shows by appeal to a curved surface', Eustratius explains, 'that there are things that are not distinct in place, but different in account. The concave and the convex are in their own right (καθ' αὑτό) in the same surface, being distinct from one another only in account and not also in place. Otherwise they could not both be in the same object that is extended in breadth [sc. but not in depth]. For a curved object that is a magnitude without breadth is a line' (112, 32–6). A curved surface, like any surface, has no depth. It is the *limit* of a body—that is, of an object with length, breadth, and depth. If the convex and the concave are both in the same surface, as they plainly are, they cannot have distinct locations.

[6] Cf. *Eudemian Ethics* 2.1, 1219[b]32–6: in the context of an explanation how it is that there are two parts of the soul that possess reason (ὑποκείσθω δύο μέρη ψυχῆς τὰ λόγου μετέχοντα, 1219[b]28; cf. 1219[b]36–7), Aristotle somewhat abruptly remarks that it actually makes no difference at all whether or not the soul (really) is a thing of parts (διαφέρει δ' οὐδὲν οὔτ' εἰ μεριστὴ ἡ ψυχὴ οὔτ' εἰ ἀμερής). What is important, he adds, is that the soul has different capacities. What warrants talk of the parts of the soul, then, is the fact that the soul has, or is constituted by, distinguishable capacities.

has no share in human virtue and is therefore of no concern to the ethical and political expert (1102^{b}11–12). But as Aristotle explains rather carefully, he does not think that the non-rational part is exhausted by the part responsible for nutrition. He takes it to include in addition to that another part or aspect, which in a way has a share in reason (1102^{b}13–14). This, he thinks, is revealed by both self-controlled and un-self-controlled action. He calls attention to the fact that, in both cases, we praise the person's reason, the rational part of her soul, which impels her to act as she should. But something else in her struggles and exerts itself against reason, impelling her to act in a way that reason opposes.[7] Having shown that what impels self-controlled and uncontrolled characters to act as they should not needs to be *distinguished from* reason, Aristotle next turns to the task of clarifying how it nonetheless shares in reason in a way.

It is, he holds, characteristic of the self-controlled person to have appetitive desires that are both strong and objectionable.[8] He also thinks that it is a fact about the constitution of the human organism that appetitive desires can, all by themselves, get a person to act in pursuit of whatever they are desires for.[9] But in self-controlled action, this is *not* what happens. What happens is that the person in question acts as she should, and as her reason impels her to act. The non-rational part of her soul, the source of her appetites, seems to obey reason at least to the extent of acquiescing in the course of action which reason prescribes and impels her towards. What Aristotle says suggests that the difference between self-control and its lack consists not only in a difference in the motivational structure which a person acquires and maintains over time, with self-controlled characters having stronger rational desires and somewhat less intense appetites than uncontrolled characters. His emphasis on the non-rational part's ability to obey, and to listen to, reason, as well as the reference to admonishing (or warning, νουθέτησις), reprimanding, and encouraging (*Nicomachean Ethics* 1.13, 1102^{b}33–1103^{a}1), indicates an additional point of difference between self-control and its lack. This is the idea that, at the moment of temptation, the self-controlled character affects and influences the non-rational part of his or her soul in a way the uncontrolled character does not. It is part of this idea that the non-rational part of one person's

[7] 1102^{b}21: ἐπὶ τἀναντία γὰρ αἱ ὁρμαὶ τῶν ἀκρατῶν ('for the impulses of the un-self-controlled go in opposite directions'). It is worth noting the similarity in thought and language between *Nicomachean Ethics* 1.13 and the argument for tripartition of the soul in *Republic* 4; e.g. ἐπὶ τοῦτο ὁρμᾷ ('it is impelled in this direction'), 439 B 1; ἀνθέλκειν ('pull the other way'), *Republic* 439 B 3; ἀντιτείνειν at *Nicomachean Ethics* 1102^{b}18. Cf. also *De Anima* 3.10, 433^{b}7–8: ὁ μὲν γὰρ νοῦς διὰ τὸ μέλλον ἀνθέλκειν κελεύει, ἡ δὲ ἐπιθυμία διὰ τὸ ἥδη ('the intellect, on account of the future, prompts to pull the other way, while appetite pulls on account of the now').

[8] *Nicomachean Ethics* 7.2, 1146^{a}9–16: the self-controlled character's appetites must be strong and bad (ἰσχυραὶ καὶ φαῦλαι), or else self-control would not be the impressive and praiseworthy disposition that it is. Cf. 7.9, 1151^{b}34–1152^{a}3.

[9] *Nicomachean Ethics* 7.3, 1147^{a}34–5: appetite drives a person to act, 'for it can move each one of the parts [sc. of the body]'. Note also ibid. 3.12, 1119^{b}10: 'if appetites are large and intense, they knock out the person's reasoning' (τὸν λογισμὸν ἐκκρούουσιν). Cf. *Republic* 4, 440 A 9–B 4: appetite can force (βιάζεσθαι) a person to act against his or her reasoning.

soul is more obedient to reason than the non-rational part of another person's soul, just as some children are more obedient to their parents than others.[10] But there is also room for the thought that some people may be better than others at guiding, directing, and influencing the non-rational parts of their souls, just as some people are especially good at directing and influencing others by admonishing, reprimanding, and encouraging them.

Aristotle is somewhat hesitant to speak of what reason may do to the non-rational part as a matter of *persuasion*.[11] This, I suggest, is because he thinks being, properly speaking, open to persuasion requires being rational in the unqualified sense in which only what strictly speaking has reason can truly be said to be rational.[12] The underlying idea, I think, is that being open to genuine persuasion requires having specifically rational abilities such as being able to grasp that one thing follows from another, that this precludes that, or that doing A is a means, or an obstacle, to achieving B. Such abilities, however, are intellectual ones, and their exercise is, in each case, an act of thought. Aristotle has already indicated, in a twofold characterization which plainly anticipates the key distinction of chapter 13's account of the human soul, that acts of thought belong, not to reason's obedient part, but to reason in the strict sense.[13] On the view that I take to be Aristotle's, then, the non-rational part cannot strictly speaking be reasoned with, because it is unable to grasp inferential connections. This, however, leaves open a number of ways in which the non-rational part may be affected and influenced, even in moments of acute temptation. As far as appetite is concerned, its attention may be redirected from the pleasure that seems imminent to some other prospective pleasure ('encouragement'), or to some prospective pain ('admonition' or 'warning'). Similarly, it should be possible to move spirit by drawing its attention to shameful or otherwise unseemly aspects of a course of action ('reprimanding'), or alternatively to fine or admirable aspects (another form of 'encouragement'). In these various ways, an intense occurrent non-rational desire may grow less intense, or may subside altogether.

Aristotle holds appetite and spirit to be rational in a way, then, because they can be influenced and affected in certain ways by what has reason strictly speaking and

[10] *Nicomachean Ethics*, 1103ª3 (cf. 1102ᵇ31–2): the lower part of reason has reason 'as something capable of listening as if to a father'.

[11] Ibid. 1102ᵇ33–4: ὅτι δὲ πείθεταί πως ὑπὸ λόγου τὸ ἄλογον ('that the non-rational part is *in a way* persuaded by reason'). That is Aristotle's way of indicating that this is no ordinary kind of persuasion.

[12] *De Anima* 3.3, 428ª22–4. This is part of an argument for the view that *phantasia* is distinct from belief. Belief always involves conviction, and that always involves having been persuaded. Persuasion, in turn, always requires reason (λόγος). However, whereas some of the brute animals have *phantasia*, none of them has reason. What is denied to the brutes is the faculty of reason; and so it is best to interpret Aristotle as claiming that what is required for persuasion is precisely that faculty.

[13] *Nicomachean Ethics* 1.7, 1098ª3–5: 'There remains a practical sort of life of what possesses reason; and of this, one aspect "possesses reason" in so far as it is obedient to reason, while the other possesses it in so far as it actually has it, *and itself thinks*' (λείπεται δὴ πρακτική τις τοῦ λόγον ἔχοντος. τούτου δὲ τὸ μὲν ὡς ἐπιπειθὲς λόγῳ, τὸ δ' ὡς ἔχον καὶ διανοούμενον).

in itself—that is, by the intellect. In the virtuous person, appetite and spirit have come to be in perfect harmony with reason (1102^{b}28). The virtuous person's appetitive desires are as they are not because reason has managed to persuade the non-rational part to participate fully in the person's pursuit of a flourishing life through activity that expresses the best and most complete virtue. They are as they are because the virtuous person has learned to take pleasure in those things, and only in those things, that one should take pleasure in, and in those ways, and only in those ways, that one should take pleasure in them.[14] The virtuous person's case makes clear that appetite and spirit can be affected and improved by reason over time, as a person cultivates good habits of attention, response, and behaviour. In concrete situations, moreover, reason can influence appetite, and no doubt spirit as well, so as to calm, or cause to subside, intense occurrent non-rational desires. This, I think, is all that Aristotle's general commitment to the rationality of all of a person's cognitive and motivating conditions comes to. In order to see clearly that, so understood, that commitment leaves room for a robust conception of appetite and spirit as non-rational forms of motivation, we should now turn to the discussion of lack of self-control in book 7 of the *Nicomachean Ethics*.

Given Aristotle's conception of lack of self-control, an uncontrolled person is someone who takes excessive pleasure in eating, drinking, or having sex;[15] he or she knows which pleasures of these particular kinds to pursue and which ones not to pursue, and up to what point to pursue those that should be pursued; but such people are unusually bad at resisting pleasures of these kinds in situations in which, as they know, the pleasure in question should not be pursued.[16] In *Nicomachean Ethics* 7.3, Aristotle offers an answer to the question in what way a person who acts without self-control knows that he should not act as in fact he does. Aristotle's analysis of uncontrolled action in that chapter might seem to suggest that he thinks of the psychological conflict involved in such action as always depending on competing chains of practical reasoning. In particular, it might seem to suggest that the appetitive desire that defeats the uncontrolled person in an episode of lack of self-control always depends on intellectual states and activities such as beliefs and inferences—states and activities, that is, which belong, on my view anyhow, to what has reason 'strictly speaking and in itself'. Aristotle does, after all, say that the uncontrolled act results, in a way, from reason and belief (1147^{b}1):

> When one universal premiss is in the person preventing tasting, and so is one saying that everything sweet is pleasant—and *this* is sweet (and the latter premiss is active), and there

[14] On learning to take pleasure precisely in the things one should and precisely as one should, see M. Burnyeat, 'Aristotle on learning to be good', in A. O. Rorty (ed.), *Essays on Aristotle's Ethics*, 76–7.

[15] Plain or unqualified lack of self-control, Aristotle holds, is connected specifically with those things with which temperance and self-indulgence are concerned (*Nicomachean Ethics* 7.4, 1148^{a}4–11; 1148^{b}10–12). These are said, in *Nicomachean Ethics* 3.10, to be the pleasures that arise through touch and taste, chiefly those obtained by eating, drinking, and having sex (1118^{a}23–32).

[16] That is to say that they tend to be overcome by pleasures of these kinds that most people are able to resist: *Nicomachean Ethics* 7.7, 1150^{a}9–15.

happens to be appetite in the person, then the first one says 'avoid this', but the appetite drives him to it; for it can move each of the parts. So it turns out that the uncontrolled act results, in a way, from reason and belief. (*Nicomachean Ethics* 7.3, 1147ª31–1147ᵇ1)

The appetite that gets the uncontrolled person to eat the chocolate crème filled doughnut seems to depend on the premisses, first, that everything sweet is pleasant, and, secondly, that *this* is sweet. The uncontrolled person no doubt believes both premisses, and so concludes, validly, that *this* is pleasant. Once that conclusion is reached, appetite takes over and effects a bit of uncontrolled behaviour. Because the appetite, in this particular case, depends on the uncontrolled person's beliefs, and on an inference to the conclusion that the doughnut is pleasant, it turns out, as Aristotle says it does, that the uncontrolled act results, in a way, from reason and belief. It results from appetite in the first place, but it so happens that the appetite in question results from inference and belief.

Now, it may well be that Aristotle thinks appetitive desires, and non-rational desires in general, *often* depend on beliefs and inferences for information about significant features of the person's current circumstances. That would go some way towards explaining why he describes a case of this kind in his analysis of uncontrolled action in *Nicomachean Ethics* 7.3.[17] He plainly does not think, however, that the formation of appetitive and spirited desires always depends on beliefs and inferences in this way. This becomes perfectly clear in chapter 6 of book 7, where he compares lack of self-control with regard to anger with appetitive lack of self-control. What he wants to show in the context is that lacking control over the type of spirited desire that is anger is less disgraceful than lacking control over appetitive desires (1149ª24–5). His first argument for thinking this is that since spirit follows reason in a way, whereas appetite does not, the person who is overcome by anger is, in a way, defeated by reason, whereas the person who is overcome by appetite is defeated simply by appetite, and not by reason (1149ᵇ1–3).

He begins by comparing spirit to a hasty servant, who hears only part of his master's order and already runs off to fetch what he mistakenly thinks is wanted. Likewise, Aristotle says, spirit rushes off for retaliation, having heard something of what reason says, but without having correctly heard reason's command:

> For reason, or *phantasia*, indicates an insult or a slight, and spirit, as if having reasoned that this sort of thing must be fought against, at once gets angry. Appetite, on the other hand, only needs reason or perception to say that something is pleasant for it to rush off to enjoy it. (*Nicomachean Ethics* 7.6, 1149ª32–ᵇ1)

The comparison between spirit and appetite is supposed to show that spirit follows reason in a way, while appetite does not. The imagery of spirit hearing

[17] The deeper and more important reason, I am inclined to think, is that Aristotle wants to emphasize the fact that the appetitive impulses that result in uncontrolled acts do not, as it were, befall a person in unaccountable and mysterious ways. Rather, they are, like other impulses, supported by, and hence explicable in terms of, specifiable cognitive and desiderative states and activities, including such familiar and thoroughly unmysterious items as a person's beliefs and inferences.

something of what reason says, but not properly hearing the whole of it, clearly is supposed to illustrate the particular way in which, Aristotle thinks, spirit follows reason. What spirit does when it follows reason in the relevant way cannot simply be what all of the non-rational part of the soul can do, namely to obey, and to listen to, reason, in the way that Aristotle had in mind in *Nicomachean Ethics* 1.13. Both appetite and spirit can, after all, obey and listen to reason in *that* way.[18] What Aristotle is now adding to the picture is that there is a special way in which spirit, but not appetite, follows reason. Now, the argument is plainly not that it is simply because spirit accepts reason's report about an insult or a slight that it can rightly be said to follow reason in the specific way that Aristotle has in mind here.[19] For he leaves no room for doubt that spirit can receive that information from *phantasia* as well as from reason. Moreover, appetite too can evidently accept reports from reason, and Aristotle means to establish by the present argument that appetite does *not* follow reason in whatever way it is that spirit does.

It is not, then, merely in virtue of accepting reason's report about a particular insult or slight that spirit can rightly be said to follow reason in the way that Aristotle has in mind here. How then is it that spirit follows reason in a way? Having considered spirit's acceptance of reason's report about an insult or a slight, the next thing to turn to is the general evaluative outlook that spirit brings to bear on the particular circumstances, which happen to involve an insult or a slight: namely, that insults and slights are objectionable things that should be responded to in an appropriately hostile and vigorous way. Perhaps it is in virtue of adopting and enacting that evaluative outlook that spirit follows reason in the relevant way? This, I think, is an important part of the correct answer.

Before attempting to spell out the correct answer, however, we should consider one more possibility. This is that spirit follows reason in the relevant way because it does something that is much like practical reasoning. As Aristotle points out, it is as if spirit infers (ὥσπερ συλλογισάμενος) from suitable premisses—one universal, the other particular—that *this* bit of behaviour calls for a hostile response. However, there is good reason to think that the activity of appetite can, on Aristotle's view, be represented by a practical syllogism no less than the activity of spirit. Consider the following passage from *De Motu Animalium* 7:

> I must drink, says appetite. *This* is something to drink (τοδὶ δὲ ποτόν), says perception, *phantasia*, or the intellect. And at once the animal drinks. It is in this way, then, that animals are impelled to engage in movement and to act, the proximate cause of movement being desire, and this arises through perception, *phantasia*, or thinking. (*De Motu Animalium* 7, 701ª32–6)

[18] Besides, the sort of obedience to reason that Aristotle has in mind in *Nicomachean Ethics* 1.13 is manifested by self-controlled and virtuous character types, but precisely not by uncontrolled ones when they act without self-control. The way in which spirit follows reason in the present context, by contrast, *is* in evidence in acts that express lack of self-control, namely lack of self-control with regard to anger.

[19] I am indebted to the analysis of the argument offered in J. Cooper, 'Reason, moral virtue, and moral value', in M. Frede and G. Striker (eds.), *Rationality in Greek Thought*, 91.

The desire that, in this example, serves as the proximate cause of the act of drinking must be an appetitive desire to drink *this*, which in some way or other incorporates or reflects not only appetite's initial desire for some drink or other, but also the piece of situation-specific information (supplied by perception, *phantasia*, or the intellect) that *this* is something to drink. Appetite, too, then can do something very much like practical reasoning. In the *De Motu* 7 example, it is as if appetite infers from suitable premisses that *this* must be imbibed. Moreover, appetite, too, has a general evaluative outlook of its own; this is that whatever currently presents itself as pleasant is to be pursued.[20] It is not clear, then, whether there is good reason to reject on Aristotle's behalf an analysis of appetitive motivation along these lines: reason, *phantasia*, or perception indicate some source of pleasure; and appetite, as if having reasoned that this sort of thing must be pursued, at once drives the person towards enjoyment.

Here, then, is what I take to be the most plausible reconstruction of Aristotle's reason for thinking that spirit follows reason in a way that appetite does not. The central point is that, in appropriately conditioned adults, the functioning of spirit incorporates a general evaluative outlook which derives from correct reason[21] and which partially reflects reason's own evaluative outlook. It is part of reason's own evaluative outlook that insults and slights are objectionable things that one should respond to in an appropriately hostile manner, unless there is good reason not to, as there might occasionally be in the varied circumstances of life. Spirit's evaluative outlook concerning insults and slights is quite simply that they are objectionable things that must be responded to in an appropriately hostile manner.[22]

What Aristotle says in the passage indicates that he thinks that spirit somehow obtains or derives this evaluative outlook from reason. After all, he speaks of spirit as hearing something of what reason says, and as following reason in a way, and also of the person who is overcome by anger as being, in a way, defeated by reason; and we have seen that he cannot, in saying these things, have in mind the piece of situational information that an insult or a slight has occurred. There is no need at all to think, however, that spirit obtains or derives its evaluative outlook from reason all at once—for example, in a particular situation that involves an insult or

[20] *De Anima* 3.10, 433^{b}7–10: in conflicts between intellect and appetite, Aristotle says there, the intellect prompts to pull one way on account of the future, whereas appetite, on account of what is immediate, pulls in the opposite direction: 'for what is immediately pleasant (τὸ ἥδη ἡδύ)', he explains, 'appears [sc. to appetite] to be both pleasant without qualification and good without qualification, because it does not see the future'.

[21] By 'correct reason' I am meaning to capture what Aristotle means by ὀρθὸς λόγος: reason as providing the correct practical outlook; this the uncontrolled character has within him or her: *Nicomachean Ethics* 7.4, 1147^{b}31–2.

[22] On my view, then, the relevant part of spirit's outlook is a cruder, and significantly different, version of its analogue in reason's outlook. After all, it is only *in a way* that spirit, on Aristotle's view, follows reason. In this respect, my account differs from Cooper's in 'Reason, moral virtue, and moral value'. According to the latter, spirit and reason *share* the evaluative outlook that 'insults and slights are bad and offensive things, normally to be resisted and retaliated against' (91).

a slight. Spirit's evaluative outlook might well gradually take shape, under reason's influence, over a considerable period of time. At the early stages of that development, moreover, what a maturing person's spirit obtains its outlook from may be correct reason as embodied in others—for example, in family members and in other members of the community. Furthermore, Aristotle may well think that spirit's evaluative outlook in an adult person continues to be sensitive to reason's evaluative outlook concerning such things as insults and slights. Spirit's evaluative outlook may then not only be obtained or derived from reason; it may also stand in need of being reinforced and sustained by reason.

This reconstruction gives Aristotle a suitably sharp contrast between lack of self-control with regard to anger on the one hand and appetitive lack of self-control on the other. The point of contrast is that while anger in a mature and ordinarily conditioned human being depends on, and gives expression to, a general evaluative outlook that derives from, and perhaps is sustained by, correct reason, there is no way at all in which appetite's general evaluative outlook derives from, or otherwise depends on, reason. Appetite's evaluative outlook is that whatever currently presents itself as pleasant is to be pursued. It has this outlook simply as a matter of being constituted the way it is. This outlook is, so to speak, hardwired into appetite.

We are also now in a position to attach force and significance to Aristotle's prominent contrast between spirit's quasi-reasoning on the one hand and appetite's seemingly brute impulse towards enjoyment, which he presents in our text as if it depended on nothing other[23] than some piece of situation-specific information, supplied by reason or perception, to the effect that a source of pleasure is at hand. The point is *not* that the activity of spirit can be represented in terms of practical syllogisms, whereas the activity of appetite cannot. The point is rather that there is a specific way in which, in appropriately conditioned adults, the formation of anger, but not the formation of appetitive impulses, is much like practical reasoning. Much like genuine cases of practical reasoning, the formation of anger, in such adults, involves bringing to bear on a particular situation a general evaluative outlook that is acquired and, at least to some extent, modifiable in light of reasons. Appetitive impulses, by contrast, involve the application of a general evaluative outlook that is inflexibly and unmodifiably built into the constitution, not just of our organisms, but of every animal's organism. It is therefore entirely appropriate, and in fact illuminating, for Aristotle to present appetite as responding mechanically to representations of pleasant things, and to contrast appetite's mode of operation with spirit's quasi-reasoning. In suitably conditioned adults, the formation of anger is not just a mechanical response to certain kinds of situation-specific representations. It so to speak involves two distinct kinds of moving parts that spirit puts together: an acquired and modifiable evaluative outlook on the one hand and a situation-specific belief or representation on the other.

[23] Note μόνον at 1149ᵃ35.

It is time to take stock. Aristotle's theory of the human soul sees reason on the one hand and appetite and spirit on the other as interrelated and integrated in a variety of ways. His account of the human soul in *Nicomachean Ethics* 1.13 makes clear that he takes the non-rational part or aspect of the soul that is the origin of appetitive and spirited desires to be capable of obeying, and of listening to, reason. This is illustrated by the way the non-rational part acquiesces in the better course of action when a person acts with self-control. As far as appetite is concerned, I suggested that such 'persuasion' may come about by reason directing appetite's attention away from the pleasure of the moment towards something else that may capture its interest—say, the prospect of a greater and more engaging pleasure, or a prospect of intense pain. (We can now see that this may simply be an exercise of reason's ability to inform appetite about available sources of pleasure.) Aristotle's discussion of lack of self-control, and of its various forms, in book 7 adds two significant details about how he takes reason, appetite, and spirit to be interrelated. First, reason can inform appetite that some source of pleasure is at hand, and it can similarly inform spirit that an insult or a slight has occurred. Secondly, spirit can, and in ordinary circumstances will, derive from reason a general evaluative outlook concerning such things as insults and slights, and presumably also, more broadly, concerning fine and disgraceful forms of behaviour. At the same time, book 7 requires that appetite's general evaluative outlook does not depend on reason in the way spirit's does. Moreover, Aristotle's comparison between lack of self-control with regard to anger and appetitive lack of self-control in 7.6 makes clear that discernment-involving capacities other than thought can supply appetite and spirit with pertinent situation-specific information. For example, *phantasia* can report that an insult has occurred, and perception can report that something pleasant is at hand.

This theory of the human soul leaves intact a clear and robust sense in which appetite and spirit are non-rational forms of motivation. They both belong to a part or aspect of the soul that, Aristotle thinks, can appropriately be called non-rational. That part of the soul can be affected and influenced by reason, and on *this* basis it can be said, in a way, to have a share in reason. Aristotle indicates, moreover, that the non-rational part does not itself engage in thinking (*Nicomachean Ethics* 1.7, 1098^{a}3–5), and it is safe to assume that he also thinks it does not engage in reasoning, either.[24] For reasoning, as Aristotle conceives of it, is always a matter of thinking. Furthermore, if the non-rational part could itself engage in reasoning, its having *that* ability would plainly be a much stronger basis for attributing a share in reason to it than its being able to obey reason's prescriptions. It is part of Aristotle's theory of the human soul, then, that appetitive and spirited desires stem from a part or aspect of the soul that neither thinks

[24] Note the *Eudemian Ethics* passage, 2.1, 1219^{b}26–1220^{a}12, which is parallel to *Nicomachean Ethics* 1.13. There the higher part of what participates in reason is picked out by reference to reasoning (λογισμός), and the lower part by reference to desire (ὄρεξις) and affections (παθήματα); 1219^{b}40–1220^{a}3.

nor reasons. In the *Eudemian Ethics*, moreover, Aristotle gives further content to this view by indicating that the part or aspect of the soul to which appetite and spirit belong lacks the ability to grasp 'for the sake of' relations. For that ability belongs specifically to the part or aspect of the soul that is capable of deliberation (βούλευσις) and deliberative reasoning (λογισμός).[25] This is the higher part of human reason, the part that in *Nicomachean Ethics* 1.13 is referred to as what has reason strictly speaking and in itself. It should be clear, then, that according to Aristotle's theory of the human soul appetitive and spirited desires stem from a part of the soul that lacks the capacity for practical thought. As we saw in Chapter 12, he conceives of that capacity as crucially involving the capacity for grasping 'for the sake of' relations, and in addition to that, and no doubt dependent on it, also the interrelated capacities for recognizing alternative ways of achieving a goal, and for assessing such alternatives in terms of some standard or other.

When it comes to spirit's attention, then, that a slight or an insult has occurred, it will not, and cannot, generate its distinctive form of response by engaging in a bit of practical thinking. That is to say, it will not, and cannot, form its impulse to act by beginning with the apprehension of a goal (retribution, say, or maintaining one's self-esteem and the esteem of others) and then working out by deliberative reasoning how that goal may best be achieved in the circumstances. As far as appetite is concerned, the availability of some source of pleasure *may* be indicated to it by thought, as when one thinks about how to obtain cigarettes and works out that the thing to do in the circumstances is to go to the shop around the corner and buy a pack of cigarettes there. But Aristotle holds that thought need not be involved in becoming aware of a source of pleasure. Sources of pleasure can also come before the mind by perception, as when you see a chocolate chip muffin in the bakery's window, or by *phantasia*, as when it so happens that a certain scent puts you in mind of making love. It is, moreover, part of Aristotle's theory that appetite can, all by itself, give rise to fully formed impulses to act in pursuit of sources of pleasure that are presented to it in some way or other, for instance by perception.[26] However, when the availability of a source of pleasure is in some way presented to appetite, its response will not, and cannot, be to work out by deliberative reasoning how best to secure and enjoy the pleasure in question. Nor can it be by practical thought that it apprehends the prospective situation it is eager to bring about.

Thus it is not just that Aristotle's theory of the human soul *leaves room* for the occurrence in the domain of human psychology of some forms of non-rational cognition, as when appetite, or spirit, all by itself gives rise to an impulse to act in some specific way or other. In fact, his theory of the human soul *requires* a conception of non-rational cognition that is applicable to the mental lives of ordinarily developed, adult human beings. For in their case, too, he takes appetite and sprit to be able to form and, so to speak, hold in view goals for action, and goals which are relevant to

[25] *Eudemian Ethics* 2.10, 1226^{b}25–6; cf. 2.1, 1219^{b}26–1220^{a}12.

[26] *Nicomachean Ethics* 7.6, 1149^{a}34–^{b}1: 'Appetite only needs reason *or perception* to say that something is pleasant for it to rush off to enjoy it.'

the person's circumstances, without themselves being able to think or reason, and without at the time needing to rely on acts of thought or reason in any way at all.

It is, moreover, part of his theory of human psychology that 'passions' like anger, fear, or intense appetitive desire can alter the condition of a person's body, to the extent that he is temporarily unable to employ whatever practical knowledge he may have.[27] This temporary disablement will affect not only the person's decisions, but also pieces of perceptual or situation-specific knowledge, such as the knowledge that *this* is a chocolate chip muffin, or that he should abstain from eating *this*, because it contains chocolate.[28] In effect, Aristotle holds that such psychological states as anger, fear, or appetitive desire can temporarily disable the rational part or aspect of the person's action-producing apparatus. However, it plainly cannot be part of his theory that such psychological states typically cause the person's action-producing apparatus to grind to a halt. On the contrary, he must think that people who are in the grip of such states continue to act with a high degree of goal-directedness, and continue to be sensitive and responsive to their circumstances, as they grasp them by way of their senses. In other words, it must be part of his theory that the non-rational part or aspect of a person's

[27] In this discussion of how it is that the uncontrolled person knows that he should not act as in fact he does, Aristotle identifies a specific kind of psychological state as characteristic of uncontrolled episodes. He marks this kind of state as a special case of having knowledge without exercising it (at *Nicomachean Ethics* 7.3 1147ª10–12), which can correctly be described both as in a way having and as temporarily lacking knowledge (μὴ ἔχειν, 1147ª13; and note ἄγνοια and πάλιν γίνεται ἐπιστήμων at 1147ª6), and which he illustrates by examples of people who are asleep, who are suffering fits of madness, and who are drunk. (It may be worth observing that the early learners and actors, who are mentioned at 1147ª18–24, are plainly not meant to serve as further examples of the psychological state which is characteristic of uncontrolled episodes. They serve to illustrate the separate point that a person can say things that flow from and depend on knowledge without exercising, or even having, knowledge.) Aristotle's choice of examples suggests clearly and strongly that he thinks of the uncontrolled psychological state as a kind of state in which one is not only not currently exercising knowledge but is temporarily prevented by one's physiological condition from employing any knowledge one may have; note especially the repeated comparison with a person who is asleep, along with one who is drunk (*Nicomachean Ethics* 7.3, 1147ª13–14; repeated at 1147ᵇ6–9, and at 7.10, 1152ª14–15; cf. *Physics* 7.3, 247ᵇ13–17 and 248ª5–6). This picture of a comprehensive, though temporary, disablement of reason or the intellect by 'passion' is reinforced by a number of other texts. In his descussion of temperance, Aristotle says that when appetites become large and intense (σφόδρα), they 'knock out' the person's reasoning (καὶ τὸν λογισμὸν ἐκκρούουσιν; *Nicomachean Ethics* 3.12 1119ᵇ10). The term ἐκκρούειν occurs frequently in contexts where Aristotle is describing the impact of one change or activity on another, when the former is more powerful or intense than the latter. Such clashes include ones between sensory or emotional changes on the one hand and intellectual 'motions' on the other (*De Sensu* 7, 447ª14–18; *Rhetoric* 3.17, 1418ª12–15). Note also *Magna Moralia* 2.6, 1202ª5–7: the uncontrolled person is like people who are drunk; 'his passion gains the mastery and brings his reasoning to a standstill' (ἐπικρατῆσαν γὰρ τὸ πάθος ἠρεμεῖν ἐποίησε τὸν λογισμόν). Another text that is relevant is *De Anima* 3.3, 429ª4–8, to which I shall turn presently.

[28] In *Nicomachean Ethics* 7.3, Aristotle refers to a situation-specific belief, such as that one should abstain from *this*, as a piece of perceptual knowledge (1147ᵇ15–17), because he is dealing specifically with uncontrolled action, which involves acting contrary to knowledge rather than, for instance, contrary to an incorrect view of how it is best to act. However, he doubtless thinks that passion can temporarily disable incorrect views about how to act no less than pieces of practical knowledge, and false situation-specific beliefs no less than true ones.

action-producing apparatus can continue to operate while the rational part or aspect is, for one reason or another, not in functioning order. This too makes clear that Aristotle's theory of human psychology not only leaves room for, but in fact requires, a conception of non-rational cognition that is applicable to ordinarily developed, adult human beings.

Furthermore, Aristotle does not think that this non-rational part of a person's action-producing apparatus is, or may be, in operation only when the rational part is unable to function—as it were, as a back-up mechanism. Rather, he thinks that in standard conditions both parts are active and ready to give rise to motivating conditions of the relevant kinds. Ideally, these motivating conditions will fit together harmoniously. In less ideal cases, the non-rational part may compete, and compete successfully, with the rational part. It is part of the ordinary functioning of the latter that it will try to identify the thing to do in the circumstances by relying on practical thought and situation-specific beliefs. The former may, at the same time, yield impulses to act by generating, or activating, suitable *phantasiai*. Aristotle seems to think that the non-rational part tends to operate more rapidly than the rational part, at least in individuals whose constitution renders them especially vulnerable to what he calls impetuous lack of self-control. He characterizes this form of lack of self-control in terms of being especially inclined to follow *phantasia*, so that the person in question tends not to wait for his or her reason to complete the business of working out what should be done in the circumstances, by bringing to bear relevant pieces of practical knowledge, relevant practical commitments, as well as whatever situation-specific beliefs he or she may have: 'Quick-tempered and bilious people, more than others, suffer from lack of self-control in its impulsive variety. Hastiness in the one case, intensity in the other, prevent them from waiting for reason, because their disposition is to follow *phantasia*' (*Nicomachean Ethics* 7.7, $1150^{b}25$–8).

It is clear, then, that Aristotle's theory of human psychology, as it is presented and put to use in his ethical writings, requires a conception of non-rational cognition that is applicable to ordinarily developed, adult human beings. This is because he takes it to be a fact of human psychology that people can, and frequently do, form goals for action, and goals that are relevant to their circumstances, without in doing so employing thought or reason in any way at all. What he says about the impulsive form of lack of self-control suggests that he has in mind a conception of non-rational cognition in which *phantasia* plays prominent role. However, his ethical writings do not offer anything like a detailed and specific picture of non-rational Cognition and of the role in it of *phantasia*.

At the end of his discussion of *phantasia* in *De Anima* 3.3, Aristotle indicates that he means to explain the non-rational cognition involved in the motivation by appetite or spirit of adult human beings in much the same way as he means to explain the non-rational cognition involved in non-human animal motivation. He concludes the discussion of *phantasia* by saying that because *phantasiai* persist in the organism and are like perceptions, 'animals do many things in ways that

depend on them [sc. rather than on thought](πολλὰ κατ' αὐτὰς πράττει τὰ ζῷα). As for the brute animals, this is because they do not have an intellect. With humans, it is because their intellects are sometimes covered over (ἐπικαλύπτεθαι) by passion, diseases, or sleep' (*De Anima* 3.3, 429ª4–8).[29]

This remark, I submit, makes the conception of non-rational cognition that I reconstructed on Aristotle's behalf in Chapters 8–11 applicable to ordinarily developed, adult human beings. Given that conception, Aristotle is in a position to explain the continuing goal-directedness of people who are in the grip of, say, intense desire or anger, as well as their sensitivity and responsiveness to their circumstances, in terms of non-rational desire, perception, and *phantasia*. He presumably takes it, moreover, that the perceptual system of ordinarily conditioned humans generates or activates potentially action-inducing *phantasiai* not only when their intellect has been temporarily disabled, for instance by an intense emotion. Such *phantasiai* will also be available in standard cognitive conditions, to play the role, perhaps among others, of presenting to appetite and spirit prospective situations which they may impel the person to bring about.

It may be worth pointing out that the texts on which I chiefly relied in reconstructing Aristotle's conception of non-rational cognition—the *De Motu Animalium*, the *De Insomniis*, and in particular the *De Memoria*—are devoted to the explanation of such phenomena as self-locomotion, dreaming, and memory in a way that is supposed to apply to all those animals which exhibit the phenomena in question, prominently including humans. It should come as no surprise, then, that Aristotle takes the conception of non-rational cognition that emerges in considerable detail in these writings to be applicable to human psychology as well as to the psychology of the brute animals.

In reconstructing Aristotle's conception of non-rational cognition, I relied rather heavily on the idea that it is part of the functioning of specifically the perceptual parts of the souls of suitably constituted animals that sensory impressions are preserved in the animal's perceptual apparatus in orderly ways, with dispositions obtaining among them such that one specific sensory representation tends to occur together with, or to be immediately followed by, some other specific representation. Before closing, I want to draw attention to a passage from near the end of *De Memoria* 2 in which Aristotle appeals to configurations of sensory impressions in discussing the representations associated with 'passions' such as anger and fear. He has just discussed the phenomenon that once one makes an attempt to recollect something or other, it tends to be difficult to stop the flow of representations one has set in motion. He is meaning to explain this in terms of bodily changes that one has initiated and that, once initiated, are no

[29] The image Aristotle is employing in this passage is that of the intellect being covered over or shut down. An ἐπικάλυμμα is a lid or a cover, used to cover or shut something, e.g. a sense-organ or a passage (cf. *De Anima* 2.9, 422ª2; *Historia Animalium* 2.11, 503ª35; *De Sensu* 2, 437ª25–6). The image, I suggest, is of the intellect as the eye of the soul, which can be open or shut (cf. *Nicomachean Ethics* 1.6, 1096ᵇ28–9; 6.12, 1144ª29–30).

longer under one's control. The idea of changes in one's perceptual apparatus that run their course without being under one's control is also supposed to explain why it is that people in the grip of emotional states keep having representations associated with the emotional state in question, even as they try hard to get those representations to subside:

> It is for this reason, too, that anger and fear, once they have initiated some 'change', are not halted, even though the person in question effects counter-changes, but rather the emotional state effects counter-changes in the original direction. What happens is rather like what happens with names, tunes, and sayings, when one such has come to be very much on someone's lips. For after the people have stopped, and without their wishing such a thing, it comes to them to sing it or say it again. (*De Memoria* 2, 453ª26–31)

In writing of the 'changes' that anger initiates, Aristotle presumably has in mind representations of (say) slights or insults that one takes oneself to have suffered, as well as, perhaps, of prospective acts of retaliation. The context of *De Memoria* 2 makes it clear that Aristotle takes such representations to be, or to consist in, complex patterns of sensory impressions. It is not just that he thinks that emotions can generate, or activate, such representations. He also thinks that when people are in the grip of an emotional state, their perceptual apparatus tends to keep generating or activating such representations, no matter how much they may try to get those representations to subside by generating or activating other representations in an effort to counteract them. This picture of surging and counter-surging sensory affections is, I suggest, the cognitive counterpart of motivational conflict between reason and non-rational desire.[30]

Presumably Aristotle does not think that the expert about ethical and political matters needs to have at his or her fingertips a detailed and specific account of non-rational cognition and of the role in it of *phantasia*. There is every reason to think, however, that Aristotle would direct a theoretically inclined student wishing to gain a deeper understanding of human psychology to the works on which I relied in Chapters 8–11, such as the *De Anima* and the *Parva Naturalia*. I close with a brief and somewhat selective characterization of the overall theory of human psychology which such a student would take away from a suitably careful study of those texts as well as of Aristotle's ethical writings.

Ordinarily developed, adult humans may generate impulses to act in rather sharply contrasting ways. This is because their action-producing apparatus includes two parts or aspects, one rational, the other non-rational. In the course of its functioning, the rational part brings to bear appropriate bits of practical knowledge, relevant decisions (προαιρέσεις), as well as situation-specific beliefs in trying to identify the thing to do in the circumstances in question. The non-rational part is, all by itself, capable of generating and sustaining fully formed impulses to act in specific ways, without the person's reason or intellect being active at the time in any

[30] Cf. *Nicomachean Ethics* 1.13, 1102ᵇ21: 'the impulses of the un-self-controlled go in opposite directions'.

way at all—for instance, because it has been disabled temporarily by an intense emotional state, an appetitive desire, or the effects of alcohol. In impelling the person to act, the non-rational part can rely on a system of cognitive capacities which Aristotle assigns to the perceptual part of the soul, and which includes perception and *phantasia*. Because it includes *phantasia* as well as perception, it can account for the occurrence of complex representations that are suited to, and continuous with, the person's current circumstances, as these are grasped by way of the senses. Such representations can prompt and guide action. The occurrence of such representations, Aristotle thinks, requires no more than, on the one hand, perceptual awareness of one's current circumstances and, on the other, the presence in one's perceptual apparatus of appropriate patterns or configurations of sensory impressions. Humans, like many other kinds of animals, are naturally constituted so that such configurations are formed and maintained as a result of ordinary perceptual experience.

This is not to say that, on Aristotle's view, the fact that human beings are reasoning creatures makes no difference to the functioning of the non-rational part or aspect of their action-producing apparatus. On the contrary, it is plainly part of his psychological theory that reason can, and normally does, affect the non-rational part of the soul in a variety of ways. It is a fact about the constitution of the human soul, he seems to think, that spirit can, and normally does, derive from reason a general evaluative outlook about such things as insults and slights. Moreover, he takes the human soul to be integrated in such a way that reason can inform spirit and appetite about salient features of a situation, as when a slight or an insult has occurred, or some source of pleasure is available. He also holds that the non-rational part of the soul is capable of listening to, and in a way of being persuaded by, reason. This commitment may be no more than a corollary of his view that reason can inform appetite and spirit about salient features of a given situation or course of action—for instance, by drawing attention to the availability of some source of pleasure, or to the shameful aspects of some course of action.

In addition to all this, it is clearly part of Aristotle's theory, as I have reconstructed and presented it, that reason makes a profound difference, for better or worse, to the functioning of the non-rational part of a person's soul by quite literally shaping his or her patterns of association. The thoughts and actions of a person will deeply affect what sensory impressions are received and preserved in his or her perceptual apparatus, and how they are related to one another. As a result, what you think and how you act will affect, for better or worse, the very character of your awareness. This, Aristotle thinks, is why wicked people constantly feel the need to drown out the hateful noise of their own memories and expectations by spending their time in the company of others (*Nicomachean Ethics* 9.4, 1166^{b}13–17). And this is why even the dreams of the virtuous may be better than those of the ordinary person (ibid. 1.13, 1102^{b}3–11).