

MIND AND BODY IN ARISTOTLE

I

In this paper I hope to show that a particular modern approach to Aristotle's philosophy of mind is untenable and, out of that negative discussion, develop some tentative suggestions concerning the interpretation of two famous and puzzling Aristotelian maxims. These maxims are, first, that the soul is the form of the body and, second, that perception is the reception of form without matter.

The fashionable interpretation of Aristotle which I wish to criticize is the attempt to assimilate him to certain modern philosophies of mind by making him into a functionalist. I shall therefore begin by explaining this modern term of art.¹

During most of this century behaviourism has been the dominant form of philosophical materialism and Gilbert Ryle is generally regarded as its most distinguished exponent. For the Rylean behaviourist, a mental state is a disposition to behave in an appropriate way. For example, to be in the mental state of desiring water is to be disposed to get water. And for someone to have a disposition is simply for it to be true of him that he has behaved, is behaving, will behave, or would behave in the appropriate way, given suitable circumstances. Recently some philosophers have challenged this analysis of dispositions. They say that having a disposition is not adequately analysed in terms of actual and potential behaviour but that it also involves the presence of some internal state which tends to cause that behaviour. Thus they say, roughly, that the disposition is the having of the state with the function of bringing about the behaviour. Brittle glass is, on this view, not merely glass which breaks when struck, but glass with some internal structural feature which causes it to break when struck.² Mentality is thus conceived of as the possession of internal processes with certain behavioural functions. This offshoot from behaviourism is, for obvious reasons, called *functionalism*. It is as reductionist and potentially materialist as behaviourism, for it regards having a mind as simply having something, presumed physical, inside one which causes one to behave in a human manner.

Talk of function is very familiar to the Aristotelian. The soul, according to Aristotle, is a set of capacities (*δυνάμεις*)—that is, a set of functions or processes with certain functions. It is therefore very tempting to foist the modern functionalist theory of mind on to Aristotle. We shall see that Kosman³ and, less directly, Sorabji⁴ have succumbed to this temptation. My main concern in this essay is to show why it is wrong to make this interpretation.

¹ A typical exposition of modern functionalism can be found in H. Putnam, 'Psychological Predicates', in *Art, Mind and Religion*, ed. Capitan and Merrill (Pittsburgh, 1967). For our purposes the causal theory of mind is a popular variant on Functionalism: see D. M. Armstrong, *A Materialist*

Theory of the Mind (Routledge, 1968).

² Armstrong, op. cit., pp. 85 f.

³ L. A. Kosman, 'Perceiving that We Perceive: On the Soul III 2', *Philosophical Review* 84 (1975), 499–519.

⁴ R. Sorabji, 'Body and Soul in Aristotle', *Philosophy* 49 (1974), 63–89.

II

In order to understand functionalism it is helpful to contrast it with the principal alternative and more traditional theory, namely Cartesianism.

Many of those who wish to attribute to Aristotle some form of materialist theory of mind proceed by arguing that Aristotle and the Greeks in general lacked that generic concept of consciousness which we associate with Descartes: that concept is said to be a modern invention.⁵ Thus discussion of whether Aristotle held that mind was non-physical is often cast in terms of whether Aristotle possessed the Cartesian concept of consciousness or awareness. I want to suggest that there are here two questions which stand in perennial danger of confusion. These are (i) did Aristotle possess that concept of consciousness which we call Cartesian? (ii) was Aristotle a dualist? These questions are different for it is not obvious that the essential features of the Cartesian concept require dualism, nor indeed that dualism requires the Cartesian concept. In order to make myself clearer let me first explain what is meant by 'the Cartesian concept of consciousness'. First, notice that this expression is used to designate something broad enough to exclude particular eccentricities of Descartes. As Kahn says, 'For the purposes in hand we may ignore the individual variations in the tradition which stretches from the Cartesian *Meditations* to William James' *Principles of Psychology*.⁶ But Kahn proceeds immediately to identify this concept with belief in the dualism of mental events, such that the two are irreducibly different: '... and regard this view *en bloc* as accepting the fundamental character of the distinction between thought or consciousness on the one hand, and the physical reality of extended bodies on the other.' However, if we look at the essential features of that tradition which stretches from Descartes to William James we shall see that it is at least an open question whether consciousness as they would have defined it had to be non-physical. Before this point can become clear I must explain what the essential features of the Cartesian concept are.

The Cartesian concept of consciousness contains two essential elements. First there is the unity of apperception; that is, the phenomenal fact that the senses, emotions, and other modes of experience do not present their object, as it were, to different subjects. Second there is the capacity for being aware that one is aware of something. This is a reflexive awareness not in the sense of being an awareness of the self, but as a heightened awareness of the sense and its object. D.A. III.2 discusses both these matters. At 426^b17 f. Aristotle says 'Nor indeed is it possible to judge by separate means that sweet is different from white, but both must be evident to one thing—for otherwise, even if I perceived one thing and you another, it would be evident that they were different from each other.'⁷ Here we have a clear appreciation of the importance of the experiential unity of the senses for distinguishing what is *A*'s experience from what is *B*'s. Discussions

⁵ See W. I. Matson, 'Why isn't the Mind—Body Problem Ancient?', in *Mind, Matter and Method* (Minnesota, 1966); Sorabji, p. 68. For further discussion of this issue see W. F. R. Hardie, 'Concepts of Consciousness in Aristotle', *Mind* 85 (1976). Hardie argues strongly that the Greeks in general and Aristotle when speaking non-technically used *ἐμπύχον* coextensively with our term

'conscious' and with the same apparent sense.

⁶ C. H. Kahn, 'Sensations and Consciousness in Aristotle's Psychology', *Archiv für Geschichte der Philosophie* 48 (1966), 43–81.

⁷ Quotations from *De Anima* II and III are from Hamlyn's translation, Clarendon Aristotle Series, Oxford, 1968; quotations from D.A. I are from the Oxford translation.

of the *κωνή αἴσθησις*, though undoubtedly obscure in many ways, testify to Aristotle's awareness of the fact of the unity of apperception: the remark that 'there must be one part of the soul which perceives everything . . . although it perceives different objects with different parts' (449^b8) shows just such a concern. D.A. III.2 starts with the clause 'Since we perceive that we see and hear . . .' and there follows a long discussion of how we perceive that we see. Therefore, Aristotle recognizes 'knowing that one knows' as a standard feature of awareness.

The Cartesian concept defined in this way is ubiquitous and uncontroversial: indeed it is that concept of which philosophers present a dualist, behaviourist, functionalist, or whatever interpretation. It is no objection to say, as Sorabji does (p. 68), that there is no one word in Aristotle to cover everything that Descartes signified by '*cogitatio*' for *αἴσθησις* does not cover thought, unless he is prepared to argue that this shows that some form of unity, like that required between the senses, which is necessary to distinguish *A*'s experience from *B*'s, does not also hold between *A*'s experiences and his thoughts, so that we can similarly distinguish *A*'s thoughts from *B*'s thoughts or from *B*'s experiences. In whatever way Aristotle might try to explain such a unity, it would be drastic to deny that he would acknowledge its existence. Nor does the fact that for Descartes *cogitatio* has only private objects ('ideas in the mind') whereas *αἴσθησις* also has public objects—e.g. acts of walking—prove that *cogitatio* and *αἴσθησις* are different conceptions. Philosophers in the 'common sense' strand of modern philosophy accept that consciousness can be of public objects: the grounds for the more traditional Cartesian restriction to private mental items lies not in the concept of consciousness but in a rigorous epistemology which denies that what can be incorrectly perceived can be an object of consciousness.

These two features, unity and reflexiveness, are the defining characteristics of Cartesian consciousness, in the relevant, broad sense of that term. Indeed, I would suggest that this characterization is so obvious that it is almost ubiquitous amongst philosophical traditions. The fashionable theory that Descartes foisted this concept of consciousness unnoticed on the world, which remained under its spell until Ryle and Wittgenstein awakened it with a behaviourist kiss, has little *a priori* plausibility. One might tartly suggest that this theory is more a reflection of the modern fear of the genuine epistemological problems that the Cartesian tradition has exposed than it is a sober product of an evaluation of the evidence.

Furthermore, even if Aristotle had lacked a concept of the mind or consciousness as a whole it would not follow that one could give materialist or reductionist accounts of sensation and perception, for these faculties might still require a dualist treatment even in the absence of a clear and unified dualist conception of the mind as a whole.⁸

Let us now proceed to the question of whether a non-dualist account of these events can be given.

III

Sorabji has written an article which, though learned and interesting, is obscure in its argumentative direction. He rejects traditional interpretations of Aristotle

⁸ Such a view has modern parallels: e.g. K. Campbell, *Body and Mind* (Macmillan, 1970), argues that all mental predicates

should be analysed behaviouristically except for those relating to sensations which must be treated dualistically.

and begins to develop an interpretation of his own. One of the theories that he rejects is functionalism as I have defined it, but the general tendency of his own theory is towards functionalism and I hope to show that unless he is prepared to take it all the way he has only skirted the topics whose interpretation is central to determining Aristotle's philosophy of mind, and skirted them in a way that indicates no useful way in which they may be further pursued, short of full functionalism.

Sorabji's positive account is developed with reference to desire. The overall project is to find a way of characterizing states of mind according to which they are not just *πάθη* of the soul. He sets the problem for himself as follows:

A certain question now becomes urgent. We have seen that anger and smelling are not 'simply' physiological processes. But we have also seen that, whatever else they are, the something else cannot be a further component. Nor can it be a Cartesian act of mind. What else, then, can anger and smelling be? The further description should presumably be parallel to the description of a house as a shelter.

Aristotle tells us that anger can be further described as a desire to retaliate, and smelling as an awareness of an odour (*D.A.* 403^a25–69; 424^b17–19). But neither answer is very helpful to people with our interests. For the new terms, 'desire' and 'awareness', are, like the original terms ('anger' and 'smelling'), the names of *παθή* of the soul. They therefore invite the same question all over again, 'What else are desire and awareness, besides physiological processes?' We would like a description that differs in kind, and not simply the name of a *παθος*. Unfortunately, Aristotle has not addressed himself to this question. In what follows we can do no more than ask whether what he says provides the *material* for an answer. I propose to take the example of desire. (p. 79)

He provides the answer at the end of the same section:

The description is that desire has an end and is (with appropriate qualifications) an efficient cause of action towards that end. If this is the sort of thing that Aristotle would say, we can now understand how he can hold that desire is something else besides a physiological process, without thinking that the something else is a further component and without thinking that the something else, or the desire itself, is a Cartesian act of mind. Our suggested further description of desire is rather like the description of a house as a shelter, in that it does not name either a component or a Cartesian act of mind. (p. 83)

The theory here presented looks exactly like functionalism. The mental state is (i) not some further state or event over and above the physiological process (ii) an efficient cause of behaviour (iii) defined by reference to the purposes of that behaviour. As it is something tending to cause appropriate purposive behaviour and not a non-physical something, and as an efficient cause must be some sort of event, state, or process, it follows that it is a physical something, presumably a part of a physiological process.

As this stands, therefore, Sorabji appears to impute to Aristotle a straightforward functionalist account of mind. However, he retreats from his apparent position in two ways: first by denying that the type of account he presents of desire is intended to cover all mental states and, second, by denying that, even with regard to desire, it is physicalist in the way that my above remarks suggest that it must be. Concerning the restricted application of the type of analysis Sorabji applies to desire, he says 'For Aristotle shows no interest in connecting all *παθή* and *hexeis* with action towards an end' (p. 83). He does not say what *παθή* are not susceptible to this treatment, but it would seem reasonable to assume that perceptual sensations are among them. If this is so, then Sorabji's retreat is a withdrawal from what he had promised. If desire is really an example of the materials which Aristotle leaves for framing possible answers to Sorabji's

question then we can accept that desire is relevantly typical. But if it should emerge that that very class of mental events which are traditionally recognized as most intransigently Cartesian, namely sensations, are among those which the proposed analysis does not fit, then we should not be impressed by the example of desire nor the 'materials' that are employed in treating that example. Furthermore, at least since Ryle's *Concept of Mind* it has been obvious that such notions as intention, desire, mood, or emotion are particularly (if deceptively) plausible candidates for analysis by reference to their connection with action, and that sensation is not obviously a plausible candidate for that treatment. In the context of a general attempt to discredit Cartesianism, therefore, desire is a particularly inappropriate and peripheral example.

More puzzling than this selection of the softest option from which to demonstrate his thesis is Sorabji's insistence that even his treatment of desire is not functionalist. He says that 'desire is an efficient cause of action *partly* because of its physiological basis' (p. 84 my italics)—that is, there is more to the efficient cause than the physiological. It seems, then, that Sorabji holds the following propositions:

- (i) That it is not the case that 'something else is a further component' of desire in addition to the physiological process. (The emphasis here is on 'component') (p. 83).
- (ii) That desire is an efficient cause of action. (p. 84).
- (iii) That desire is not identical with a physiological process or part of a physiological process (p. 84).

If we add

- (iv) That an efficient cause must be a state, event, process or object which is part of the process culminating in its effect

then we have a contradiction. Desire will be a component which is neither physical nor non-physical. Sorabji does not assert (iv), but it is intuitively obvious that an efficient cause must be an event or state etc. within the process as a whole. Resorting to Sorabji's usual analogy, the form of a house—its function as a shelter—cannot be the efficient cause of its existence. (In that case, the form *in the mind of the builder* might so function, but that is irrelevant here.) It misses the point to complain that we are trying 'to fit Aristotle into pigeon-holes of more recent make' (p. 84) in forcing the choice between regarding the efficient cause either as involving or not involving non-physical components; the only pigeon-holes we are applying are those of sense and nonsense, for there cannot be efficient causes which are not components in the same process as their effects and there cannot be components which are neither physiological nor something further.

In order to take Sorabji as achieving anything, therefore, we must impose functionalism upon him and I take it that this will be the direction of his influence.

A further idiosyncrasy of Sorabji's account which merits comment is his claim that his interpretation does not make Aristotle into a materialist. This is important because it is part of the fashionable view that Aristotle avoids or transcends the supposedly equally awful alternatives—materialism and dualism—that the post-Cartesian faces.

Sorabji denies that functionalism is a form of materialism on the grounds that a thing's function is something over and above its matter. On this theory,

materialism cannot even cope with houses, for as well as bricks and mortar they have a function (p. 78). Thus the emphasis on form is illustrative of Aristotle's greater subtlety than theories expressed in modern terms. At some points, Sorabji appears to confuse matter with and matter without structure (p. 73, n. 43). But even ignoring this possible confusion his position is incorrect. He is asserting that the fact that a physical structure of a certain sort possesses a certain function entails that it is not a purely material object. Strictly, Sorabji might be holding either of two views. The first is that the bare fact that things have functions is incompatible with materialism: the second is that, because talk of functions is not paraphrasable in non-functional terms, it is incompatible with materialism. The first point is interesting only if it involves the second; that is, only if function is ineliminable could it possibly constitute a problem. However, even if functional talk is not paraphrasable, this should not worry a materialist. The causal properties of a physical structure presumably count as physical, and functional terms merely pick out objects according to certain macroscopic causal properties in which we happen to be interested—e.g. the ability to resist penetration by rain. That is, causal properties entail functional ones, for it could not be the case that bricks and mortar possess the causal properties that they do (e.g. their ability to keep out wind and rain) and it not be the case that they could be used as a shelter. Therefore the classification of objects by function involves no imputation of non-physical properties to them. If there is any obligation incumbent on a materialist to eliminate these properties it comes when he provides a materialist account of what it is for humans to classify and to have interests, it does not come in his account of things classified.

IV

It is my purpose in this section to argue that, although Aristotle is very interested in the function of the soul and of its various aspects, it is implausible to attempt to provide a complete analysis of his theory of the soul in functionalist terms.

The assertion that the soul is the form of the body and the analysis of the various parts of the soul in terms of different types of capacity may suggest a functionalist or behaviourist approach. However, although one might certainly be inspired by these features of Aristotle's theory to pursue, in its own right, a functionalist or behaviourist approach to mind they do not license such an interpretation of Aristotle's text. Of the general formula that the soul is the form of the body we shall have more to say later. For the present I wish only to point out that use of terms translatable as 'capacity' or 'function' does not indicate a functionalist theory. These are words which are likely to mislead though through no fault of Aristotle's. It is true that Aristotle views the soul as a set of capacities, as faculties defined by their function. But the concept of capacity, for example, does not necessarily and often does not naturally suggest a behaviouristic interpretation. For example, if the senses are regarded as the capacity to perceive the world and discriminate objects, it does not follow that perceiving or discriminating should be given the anti-mentalist interpretation that functionalism involves. It is a mistake to allow behaviouristic theories to appropriate such terms as 'capacity' and 'disposition' so that any resort to them appears to imply acceptance of a behaviouristic approach. This mistake of assuming that words favoured by behaviourists and functionalists must, whenever used, imply such theories sows confusion in the interpretation of Aristotle, as follows. It is important when

discussing Aristotle to distinguish between strong and weak functionalism. An example of weak functionalism would be the sentence

pain is for detecting harm to the body.

The strong functionalist sentence parallel to this is

to be in pain is to be disposed (or internally caused)
to avoidance behaviour.

The essential difference between these two is that the first sentence in no way gives a reductive treatment of pain; a dualist could agree that this is the role of pain and the causal explanation of the development of the capacity for pain and therefore that you could define pain, in a sense, in these terms, as Aristotle does functionally define various mental states (e.g. 403^a26 f.). On this theory, the mental state could be a Cartesian sensation playing an essential part in the process possessing the specified function. On the other hand, the second sentence provides a reductive account of the experience, feeling, or sensation of pain. If correct it eliminates the Cartesian sensation and thus represents a major breakthrough in the philosophy of mind. It seems plain to me that, though Aristotle is extremely interested in statements of the former type, because he believes that every biological process has a function which explains why it exists, he shows no interest in or awareness of the existence of statements of the second sort. Aristotle is interested in the role played by the feeling and the whole process, but not in collapsing the feeling into the role. Therefore nothing that he has to say about the soul as capacity has any value in dissolving or avoiding post-Cartesian problems. I shall now give five reasons for rejecting a functionalist interpretation of Aristotle.

1. *The absence of positive evidence.* Aristotle nowhere gives an explicitly functionalist account of perception. Sorabji admits this when he asks: ‘. . . “what else are desire and awareness, besides physiological processes?” We would like a description that differs in kind and is not simply the name of a *pathos*. Unfortunately, Aristotle has not addressed himself to this question’ (p. 79). Thus we are asked to believe that Aristotle does not bother to give the formal nature of perception, but only the material.⁹ If Sorabji is correct in his assertion that function dominates Aristotle’s philosophy of mind there should have been no difficulty in his providing such an account. Indeed there would have been no difficulty. Aristotle could have said that the form of perception is to enable the animal to act appropriately towards objects that are, or have been, within the range of its senses. He does not say this nor any corresponding thing for the particular senses. The functionalist is therefore committed to the view that Aristotle simply omitted to give the formal cause of perception, in general or in particular. Of course, this is not to say that Aristotle does not describe perception in terms of its function. That he should do so follows from the teleological approach which makes him a weak functionalist. This raises a problem. Given that there are teleological characterizations of perception, by what right do I say that they signify weak not strong functionalism? In chapter I of the *De Sensu*, for example, various things are said about the usefulness of the senses. But

⁹ In n. 66 Sorabji says that ‘the formal cause of seeing will be awareness of colour’ but goes on to say ‘the awareness is again not a Cartesian act of mind’. Therefore this

reference to awareness as the formal cause is not illuminating, for no account is implicit as to how it should be understood.

nothing in these places suggests that perception is these uses rather than that it *has* these uses. To say that sight informs us of many differences (437^a6) is not to say that seeing is identical with being informed of certain differences, just as saying that a saw cuts does not entail that a saw is identical with acts of cutting. It is those passages in which Aristotle deals with the actual process of sensation which tell us about the faculty that possesses these functions, as we shall see from our next point.

2. *The presence of an alternative theory.* What, however, is the subject in *D.A.* II.5 and, to a lesser extent, *D.A.* II.12, if not the formal nature of perception? To a non-functional this chapter which 'discusses generally the whole of perception' (416^b32) seems to be intended to give its essence. As Kahn asserts, the *De Anima* is principally concerned with the philosophical side of perception, and other works with the physiological. The discussion at *D.A.* II.5–12 seems to run as follows: II.5 is a general account of perception; II.6–11 discusses the different objects and media of the various senses; II.12 returns to some general problems. The discussion up to the end of III.2 concerns whether and in what way a unifying sensory power is required and also the nature of the actualization of the sensible object in the sense.

The conceptual (i.e. formal as against material) nature of the discussion in II.5 is evidenced by the discussion of the different senses in which perception can be said to be actual and potential which occupies most of the chapter from 417^a6: this is a purely conceptual matter. Therefore we have good reason to take the account developed in that chapter as his philosophical analysis of perception. The account begins in the second line of the chapter: 'Perception consists in being moved and affected, as has been said, for it is thought to be a kind of alteration. Some say too that the like is affected by like' (416^b33). After a discussion on what it is to be affected and to be actually or potentially something, the latter part of the formula is further explained: 'That which can perceive is, as we have said, potentially such as the object of perception already is actually. It is not like the object then, when it is being affected by it, but once it has been affected it becomes like it and is such as it is' (418^a3 f.). The message of the chapter is clear. Perception is a mode of alteration and affecting of the faculty or the organ so that, from being potentially like its object, it becomes actually like it. The fact that the affecting is not an ordinary form of alteration but simply a change from potential to actual, as with thought (431^a4; 429^a13), reinforces my previous claim that what we have here includes what we would now call a philosophical analysis of perception and does not merely concern the material embodiment of that capacity.

The functionalist is faced with the dilemma. If, despite textual appearances, this is not Aristotle's formal account of perception, then it seems he does not give one. If it is his formal account, then it appears he used the notion of *becoming like the object* to mean *gaining the capacity to react appropriately to the object*: a strange usage which he ought at least to have explained for he can hardly have taken it for granted that this expression would be so understood. Can a capacity be thought of as like a physical quality or object, even formally? The fact is that the account given in II.5 sounds much more like a traditional theory of sense impressions.

It might be objected that Aristotle's description of perception as 'becoming like' should be given no special significance in this context, for he holds that all

change involves the patient becoming like the agent. This general doctrine is enunciated at 417^a19 and the conclusion, quoted above, that this is so in the case of perception is presented as a way of conforming perception to this general model. This suggests both that the likeness does not play the sort of role special to perception that I implicitly allocate to it and that the sense in which the effect is like the cause may be somewhat attenuated, for there certainly are cases of causal connection where the patient does not become like the agent in any ordinary sense of 'like'.

This is a subtle objection, but it will not deflect the argument, for two reasons. First, the implication that *becoming like* plays only a background role in perception must be false. For it is by becoming like a certain sensible object that the perception is determined to be a perception of that particular object. This must be so, for what it becomes like is what it is affected by and what it is affected by is what is perceived. Given that it is, therefore, the manner of perceptual likeness that determines perceptual content, and that the functionalist essentially characterizes perceptual content as the gaining of a capacity, then he is still committed to identifying a likeness of a sensible object with a behavioural capacity. Even making the reservations that stem from the generality of likeness in change, this equation sounds implausible. Second, there are good textual reasons for believing that the likeness involved is not vague or attenuated but literal. For example, at 425^b26 f. we are told that the actuality of sound, colour, taste, etc. are identical with the sensing of them and that this actualization takes place in the perceiver, indeed in 'the sense-organ *qua* sense-organ' (426^b8). If sound, colour, and taste exist only potentially when separated from the sensing (426^a22 f.) and actually in the senses, then that which is in the sense must be the sensible qualities as we know them in experience. In this case, they cannot be considered as reductively something less than, different from, or vaguer than the qualities of which they are the actualization. Furthermore, we shall show in further discussion that sensation involves a physical image of the object, this image being also an object of awareness. Again, this strongly suggests a literal sense for the 'likeness' involved in sensation.

A functionalist is no doubt tempted to claim that likenesses, especially mere physical impressions, are only parts of the mechanism of perception and not sense impressions in the empiricist sense. In subsequent argument I hope to show that this is not plausible even for physical impressions. What is clear is that the actualization of sensible qualities in the sense cannot be so regarded, for the rationale of that doctrine is that the quality is actual when sensed, i.e. when it occurs within the phenomena. Whatever its role in the causal account, this actualization cannot be regarded as accidental to the philosophical account. Furthermore, as it is in the *sense-organ* (426^b8) it is difficult to see how it could fail to be a physical imprint. For obvious reasons, it is not possible or necessary to treat the philosophical and causal accounts as mutually exclusive.

Aristotle describes perception as a process involving what we would call physical and mental elements (e.g. 436^b7): these elements are, in one sense at least, not on different levels (say material and formal) but different parts of the same causal process. That is why, even in the philosophical account in II.5, he has to include a minimum of physical description and why it is difficult to distinguish a clearly formal account of perception and a clearly material account of it in Aristotle. In this he parallels Locke and, like Locke, he is able, in other places, to

speculate in greater detail than the bare philosophical theory requires about the physical processes probably involved. The mental (i.e., for Aristotle, the perceiving) is the product, or end stage of the process. However, that it is merely the end stage of a process does not prevent it from being, or giving, the form of that process. It is the end, in the sense of being the *τέλος*, as well as being simply the last stage. Sorabji criticizes Barnes (p.70) for saying that mental states are composed of a physiological part and a mental part, the latter being identified with the formal aspect. His criticism is that the form and the matter cannot be regarded as different parts of things. It is true that Aristotle does say this, but when considering processes rather than static objects the situation is rather more complicated than Sorabji's dismissal suggests. In a process the final cause which gives the form of the process will generally be a product and therefore something logically separate from the rest of the process. This is so when the form of a process is to produce a mental state. One should probably say that the form of the process is to produce that state, rather than that it is that state, therefore, the form will not strictly be a product or component but the mental state will be, and the mental state is produced in the soul, i.e. the form (436^b7); and whether it is mental in the sense of being non-physical remains an open question. Thus, though the form will not be a component, the mental event which it is its end to produce will be a component event in a process of which some faculty is the form. A more direct defence of Barnes's view can perhaps be derived from 413^a9 where Aristotle asks whether the soul is in the body as a sailor is in a ship. It is usual to regard this suggestion as so out of keeping with the rest of *D.A.* II.1 that it needs to be taken as a mysterious and irrelevant aside. But one might take the passage at face value and see Aristotle as implying that because the sailor is what actualizes a ship—moves it to and determines its end—he is in a sense its form or, at least, analogous to a form. But if the sailor is the form of the ship because he directs it to its end then clearly the form can be a component part of the ship-in-act. Interestingly, this suggests that Aristotle is susceptible to a loose use of 'form' not entirely dissimilar from that which I saved myself above; the sailor is not actually the *εἶδος* of the ship but he does determine the *τέλος* for which it functions, thereby constituting the actuality of the form.

3. *A further incompatibility between functionalism and D.A. II.5.* Given the nature of perception, there would be no disputing that on the experiential level the object is taken into the faculty as an object of awareness. But many passages also suggest that on the physiological level the organ receives an imprint of the object (e.g. 426^b8). The question arises of the relation between the experiential and the physiological events, in particular between the physical imprint and the phenomenal object. The crudest theory is that the physical imprint is itself the perceiving. That this cannot be the whole story is proved by 438^b12. There Aristotle cites the case of men who lose their sight because the passages behind the eye have been severed. As such a severing would not affect the capacity of the eye to be physically imprinted then such imprinting cannot constitute perception. At the opposite extreme would be the theory that the physical imprinting was merely part of the means by which perception took place and no more entered into the philosophical account than does the image on the retina according to an empiricist—an empiricist would not identify the image with the sense-datum. This latter view might go along either with asserting that the faculty becomes like the object but that this is entirely independent of any theory about

what is going on in the organ (this would be the empiricist's view) or that the faculty does not become like the object at all. We saw above that the functionalist has no place for 'becoming like'.

A middle position is that the philosophical account involves the physical imprint plus something further which constitutes awareness of it: the extra element might be conceived of materialistically, mentalistically, or functionally. If taken in the latter manner the further element will be the uniting of the imprinted organ in an 'organic unity' of the whole properly functioning body. However, taking the extra element in this way leads to difficulties, for it entails the negation of the hypothesis on which it is based, namely that the physical imprint is something of which we are aware. This contradiction is evident for two reasons. First, as we have just been reminded, functionalism has no room for likenesses of objects occurring within experience. Second, as it was argued in the previous paragraph, functionalism can lay no constraints on the process that embodies the function except that it does so embody; resemblance of any part of that physical structure to anything outside of it would be entirely irrelevant. The mentalist and materialist interpretations, on the other hand, could have a role for a physical image. But functionalism, we see, is committed to the theory that the physical image is not relevant to the formal account and it is therefore a version of the second extreme mentioned above.

There are strong reasons, however, for thinking that Aristotle does believe that the physical imprint does constitute the content of awareness. (i) At 424^a17 f. Aristotle says that the sense—that is, the faculty and not merely the organ—receives perceptible forms as wax receives an imprint. This suggests (a) that the imprint is physical and (b) that it constitutes the content of awareness, because it is received by the organ. (ii) In *D.A.* III.2 Aristotle raises the question of why the sense does not perceive itself. This would only be a problem if he accepted that what resided in the organ was a physical version of the quality, for it is physical qualities that he has said are objects of perception. (iii) When discussing our second objection we pointed out that Aristotle says that sensible objects are actualized 'in the sense-organ *qua* sense-organ' (426^b8) and that such an actualization in the *organ* and not simply the sense could not fail to be physical. (iv) The most important contexts are those in which he discusses why the media and such non-sentient objects as plants do not perceive (e.g. *D.A.* II.12). As we shall see below, he regards these as serious objections and provides complicated and obscure answers. But there would be no genuine problem here if a physical effect were not something of which we were aware for that is obviously all that a plant or the media could receive.

If these passages are correctly interpreted it follows that the physical imprint is something of which we are aware. It has already been proved that no imprint could be essential to perception on the functionalist account. Therefore, at best, it is uncharitable to interpret Aristotle as a functionalist, for it implies that he did not understand his own theory.

As yet there must remain a reservation about this argument, for it is proper still to feel uneasy about my claim that we are aware of the physical image. Despite the evidence presented above, is this thesis not incompatible both with the statement that perception is not ordinary alteration (429^a13, 431^a4) and with the maxim that perception is the reception of form *without the matter* (424^a18; 425^b23; 434^a29)? However, I hope to show in §VI that there is no incompatibility between these doctrines and the view that we are aware of the physical imprint.

4. *The insentience of the media and plants.* Aristotle's concern about perception by the media and plants provides the simplest objection. If he were a functionalist he would have dismissed out of hand the suggestion that his theory allowed media and plants to perceive: the simple reply would have been that they do not perceive because they do not have the capacity to react in the right way. (The idea of air acting is almost absurd.) Someone who has to explain the non-sentience of plants by saying such things as 'the reason is that they do not have a mean, nor a first principle of a kind such as to receive the form of objects of perception; rather they are affected by the matter' (424^a30), is enmeshed in a more convoluted theory than functionalism.

5. *Sensation as actuality and potentiality.* A capacity is a sort of potentiality. According to functionalism an actual perception is the acquiring of a capacity to behave discriminatively; therefore what is acquired in perception should be a potentiality. Two things can be said about this. First, in the fastidious discussion of the various senses in which states of the perceiving subject are potential or actual, in II.5, nothing is said to suggest that the actuality brought about in perception is, formally and most essentially, a potentiality and that the ultimate actuality would be any behaviour that might result. Second, Aristotle makes an analogy between knowledge and sensation. Fully actual knowledge is the exercise of knowledge and knowledge merely stored in the memory is, in a sense, only potential. But 'actual sensation corresponds to the stage of the exercise of knowledge' (417^b19). According to the analogy, therefore, sensation corresponds to the completest form of actuality. But if functionalism were true this would not be so, as actual sensation is only acquiring the potential for action; it would be more directly analogous to potential knowledge.

Finally in this section I shall deal with Kosman's rather different reasons for making Aristotle into a functionalist. Kosman's argument stems from his interpretation of *D.A.* III.2. The main body of his article concerns whether one should interpret either self-conscious perception (perceiving that we see or perceiving our seeing) or the perceptual unity of the objects of the different senses as requiring a sense beyond the five ordinary senses. But the main point of the argument seems to be to show that a functionalist theory of both self-consciousness and unity is required. I shall be interested in the former issue only in so far as it affects the latter. From this standpoint Kosman's argument is as follows:

- (i) Consciousness of our sensing is not a function of some further sense (p. 517);

therefore

- (ii) Such a further sense cannot be what accounts for the unity of perception.

therefore

- (iii) Both self-consciousness and unity must be understood as each sense's 'integration in a unified network of senses' (p. 517) which stems from the fact that 'the living body is a common, single sensitive organism' (p. 518), these expressions being interpreted in a functionalist sense, so as to make Aristotle 'a "materialist", or as we might say . . . a mind-body identity theorist' (p. 518).

The puzzle is how the move from (ii) to (iii) is made. It is interesting that Kosman should regard as facilitating a physicalist interpretation the elimination

of the common sense on the grounds that this involves the 'scanning sense of awareness', for just such a sense of awareness is popular with physicalists.¹⁰ I suspect that this reaction suggests an indiscriminating fear of the Cartesian picture; something extra perceiving the operation of the senses seems reminiscent of a 'ghost in the machine' and therefore physicalism is assumed to require its elimination.

To move from (ii) to (iii) we need a further premiss.

(iv) The phenomena referred to in (i) and (ii) can only be analysed either by reference to the activity of a further sense or functionally.

I can see no ground for accepting (iv). Unity and self-consciousness could reside in the collective phenomenal nature of the senses without that collective nature requiring a functionalist analysis. It is an experiential fact that reflexiveness and co-presentation are characteristic of the senses of a single creature. This fact alone does not press one to any particular analysis of experience and it is opaque why Kosman should think that it does.

V

The maxim that the soul is the form of the body (e.g. 412^a19) has provoked widely different reactions. Some philosophers, such as Hardie¹¹ and Barnes¹² find little or no definite sense in it; Ackrill believes it founders on incoherence;¹³ whilst others such as Sorabji and Kosman see it as the ancient wisdom which pre-empts the problems of post-Cartesian philosophy. Among modern philosophers approval of the maxim is most common amongst those who wish to interpret Aristotle's philosophy of mind materialistically. The reason for this is plain. The standard examples of form are simply the functions, shapes, or structures of physical things. Grene's remark that 'soul is the way the body works: that is all' fits well with the idea of soul as form.¹⁴ Conversely, if one thinks that Aristotle was not a materialist then one will tend to feel that the maxim explains nothing, but is only imported to give the illusion of answering the question of the separability of the soul and because Aristotle always finds employment for the form-matter dichotomy. In this section I shall argue that, contrary to these views, the maxim can be given a fairly precise and non-materialist interpretation within Aristotle's system: I shall not, however, suggest that it actually helps to solve or dissolve problems in the philosophy of mind. First I shall consider two arguments which purport to demonstrate that if one takes seriously the principle that the soul is a form then mental events must be physical.

Argument I

1. Soul is the form of the body.
2. Forms of essentially enmattered things cannot exist without matter.
3. Humans are essentially enmattered.

Therefore

4. Human souls cannot exist unenmattered.
5. Conscious events are activities of the soul, or occur in the soul.

¹⁰ e.g. Armstrong, op. cit., p. 94.

¹¹ W. F. R. Hardie, 'Aristotle's Treatment of the Relation Between the Soul and the Body', *Philosophical Quarterly* 14 (1964), 53-72.

¹² J. Barnes, 'Aristotle's Concept of Mind', *Proceedings of the Aristotelian*

Society 72 (1971-2), 101-14.

¹³ J. L. Ackrill, 'Aristotle's Definitions of *Psyche*' *Proceedings of the Aristotelian Society* 73 (1972-3), 119-33.

¹⁴ Marjorie Grene, *A Portrait of Aristotle* (1963), p. 243: quoted by Hardie *Mind*, 1976.

Therefore

6. Conscious events are enmattered.

If desired, this argument can be taken as applying only to the perceptual soul, not to the intellectual soul.

Premiss 1 is *ex hypothesis*: therefore we shall let it stand unquestioned. 2 is supported by the doctrine that forms without matter cannot be individuated except by species. 3 is supported, as far as the sensitive soul is concerned, by the statement that the material part of states of consciousness enters into their definition (403^a25). 5 is supported for example by 414^a13 and 436^a7. However, what the argument proves will depend on how one interprets the concept of an enmattered form. If one says that an enmattered form is a material object or process with a certain end or function then it will follow that there is nothing non-material in such an individual except the characterization of the end as such. This is Sorabji's functionalist interpretation. Alternatively, if one takes 'enmattered' to mean 'with some material part' the conclusion derived will only be that conscious events occur only in humans with bodies, not that those events are themselves material. The adoption of the former, strong sense would only be justified if one accepted

7. If something essentially possesses a material aspect then all its aspects are material, excepting only the statement of its end as such.

There is no reason to accept this, and if Aristotle believed it he would not have allowed the active intellect to be a part of the same soul as the senses. Therefore, it is unreasonable to accept other than the weak sense of 'enmattered' and the weak conclusion that any conscious being must have a body. Even this conclusion might be too strong, for one could argue that matter-receiving forms need only to have had matter to be individuated, in which case the possibility of disembodied survival of the once embodied would arise.

Argument II

1. Soul is the form of the body.
2. Forms are not parts of individuals.
3. Cartesian consciousness is a part of a psycho-physical composite.

Therefore

4. Soul is not identical with Cartesian consciousness.
5. Everything done in or by Cartesian consciousness is done in or by the soul.

Therefore

6. Aristotle has no place for Cartesian consciousness.

Again it is the second premiss that gives the argument its particular direction. This was the principle that we saw that Sorabji used unfairly against Barnes. As the argument stands it is invalid. From the fact that soul is not identical with Cartesian consciousness it does not follow that the latter is not a part of the former and 5 could be true if it were just a part. To derive a strong enough conclusion one would need

2'. Neither forms nor any part or aspect of a form is part of an individual.

From this derives

4'. Soul does not have Cartesian consciousness as a part or aspect.

For the conclusion to go through 5 must be interpreted as meaning

5'. Everything done in or by Cartesian consciousness constitutes a part or aspect of the soul.

However, what goes on in consciousness are individual acts or events. It might be argued that what constituted parts or aspects of the soul were capacities: so that the capacity for perception is a part of the soul but individual acts of perception are not. If we take the view that individual acts of perception are parts of or 'in' the soul, then 2' is refuted by the argument used above to show that, as products of processes are parts of wholes, then if such products are parts of forms then parts of forms are parts of concrete individuals. But if acts of perception are not parts of or 'in' forms then 5' is false; the whole argument will only show that actual consciousness is not part of the form, but only *the capacity to be conscious* is part. In fact, texts to which we have already referred show that both capacities and acts are parts of or 'in' the soul (e.g. 437^a6, 436^b7).

Given the failure of these arguments the non-materialist need not fear the maxim: but what positive interpretation can we put on it? Let us take the maxim in two parts: first as asserting that the soul is the form of a man: second, that this can be represented by saying that it is the form of the (his) body. The soul is a form in the sense that it gives the ends or essence of man: it is the set of capacities which belong to him in virtue of his being alive. I can see no intrinsic objections to this use of 'soul', but we shall see that when Aristotle considers whether the soul is separable from the body it is difficult to align this question with those that interest us about the relation of mental and physical *events*.

The second part of the maxim therefore concerns whether the capacities which define man can be represented as actualizations or ends of human bodies. The answer to this must be affirmative, at least in a sense similar to that of weak functionalism defined above. For seeing is the function of the eye and optic nerve, hearing of the ear, etc. Expressed naïvely, the maxim must be correct in so far as it is true that what you in fact get when you have a properly functioning human body is a human being.

If this is all there is to it, can it cut philosophical ice? Why Aristotle should have thought that it does seems, at first sight, clear enough. The major problem which the maxim seems to be introduced to solve in *D.A.* II.1 is whether the soul is separable from the body (412^b4 f.; 413^a3 f.). This is the manner in which he raises the question of whether the soul is an immaterial entity; for, whilst on the one hand it makes no sense to say that a form *qua* form is material, to say that a form is an immaterial entity one would have to say that it was a form not of a body, in which case it would be separable from body. Aristotle's response to the question of separability is to point out that it must mean 'can those capacities which make a being a human being operate without a body?' then to point out that all our capacities (including intellect because of its dependence on imagination) rely on the operation of the body (403^a5 f.). So far this answer is simple and relevant but rather naïve. Not even Plato had failed to notice that seeing depends on the physical eye: might it not cease so to depend and arise spontaneously or come to depend upon the immaterial eye of a ghostly body? To strengthen his answer to rule out these possibilities Aristotle would have to show what we would now call a conceptual dependence of human capacities on their physical embodiment. Just such a development appears to take place in *D.A.* II.1. At first Aristotle talks, as he does in *De Sensu* 1, as if affections happened in a body and soul together by a sort of interaction of the two (403^a16 f.). Then he appears to move to what we would call a conceptual dependence by saying that the affections are only *λόγοι* involving matter (403^a24). The analogy with a house and its bricks is then imported, which suggests to us a strongly reductionist line:

the soul is no more a thing in its own right than the function of a house or a line abstracted from a physical edge (403^a14). However, he says later that the decaying of a faculty is not a change in the soul but in 'what the soul is in' (408^b23) and that 'if an old man acquired an eye of a certain kind, he would see as well as even a young man' (408^b20). This suggests that the soul is something more than the structure or function of the matter. If the edge of an object is dented the line is destroyed; if the house falls into ruin there is no longer a shelter; yet the capacity is not thought dependent on its embodiment in the case of the soul. This strongly suggests that a man's capacities and therefore his soul are something more than how those organs work, but some power prior to the body which works through it. It might be objected that the statement that age is not a deterioration of the soul when applied, for example, to sight means merely that as the heart and the seat of the soul is functioning the general capacity is untouched and that therefore it requires only a new eye to restore sight. But this would not fit the general remark that 'old age is not due to the soul's being affected in a certain way' (408^b22) with sight serving merely as an example of this. Old age can presumably affect the central organ, but even this Aristotle would not wish to regard as the affecting of the soul, for the remark comes in a discussion the point of which is to show that the soul cannot be moved or affected (408^a35–^b32). Therefore the soul is not just the proper functioning of even the central organ.

If we conclude that the soul is an immaterial principle, in each individual requiring the body only to act (408^b28) but not to exist and in this way different from the forms of other things, we are still faced with the question of why the soul essentially requires the body as an instrument, when all that Aristotle seems to establish is that there is a dependence in fact of the soul's activities on the body. Bearing in mind that Aristotle did not possess our distinction between the conceptual and the empirical, I would suggest two ways in which his strong interpretation of the connection can be explained and justified in his own terms.

1. Hintikka has argued that Aristotle holds that anything which always happens necessarily happens.¹⁵ I shall not investigate this claim, but if it is true it explains why he should move from observing that, e.g., sight always depends on an eye to the conclusion that it must do so and that therefore suggestions of supernatural sight must be in some deep way misconceived. The connection of necessity with universality in the present context receives some support from 403^a15, where it is said of the straight line 'it is inseparable if it is always found with some body'.

2. Aristotle says that the fact that the intellect can think any form shows that it is potentially all forms and therefore actually instantiates none; for if it had any actual properties of its own it could not be potentially those things (429^a18 f.). This suggests a converse, namely that if a faculty is potentially only certain things, not all, this is because it is actually certain things which rule out its being those things potentially, and this explains the limitation of its range. Aristotle does appear to think in this way for he claims that particular senses must consist primarily of elements with qualities suitable to their proper objects: thus, as the organ of smell has to be receptive to fire it itself must be cold, thereby being

¹⁵ J. Hintikka, *Time and Necessity: studies in Aristotle's Theory of Modality* (Oxford, 1973).

potentially hot (438^b28). Thus to be sensitive to a certain object the sense must be potentially that object, and if it is to lack the sensitivity to other objects this will be because it is not potentially those others. This can only be so by its being them already, that is having elements with those qualities in its constitution. Therefore limitation of sensitivity requires embodiment. One cannot reply by saying that these are only empirical facts about causal relations between elements, for they are not. The principle that only a faculty without actualities in its own structure is potentially all things is presented as a metaphysical principle following from the very ideas of potentiality and actuality. If we are allowed to modify it slightly, as above, and say that a faculty lacking actualities would have no bar on being potentially anything, this principle would have the same status. Given, too, that the connections between the senses and the qualities of certain elements (e.g. touch with the dry) are not brute scientific facts but are meant to be phenomenological analyses (i.e. we can tell from reflection on tactile experience that touch is of the dry) then the connection of a faculty possessing a certain object with an organ of a certain qualitative constitution will also be necessary. Organs are required not only to facilitate the reception of forms, therefore, but also to exclude others, thereby defining the different senses by their different objects.

We will find in the next section a further reason why it is necessary for the perceptual soul to be embodied.

The conclusion concerning the maxim that the soul is the form of the body is this: that it has a clear sense, for the soul, characterized as a set of capacities, states what you have when you have a properly functioning human body: and that the role of the body is essential (making it essentially the form *of a body*) because of other features of Aristotle's system.

VI

Receiving the form without the matter. Both Sorabji and Slakey make a purely physicalist interpretation of the maxim that the sense 'receives the form without the matter'¹⁶ (424^a18; 425^b23; 434^a29). In Sorabji's words this means that

e.g. the organ of sight (i.e. the jelly within the eye . . .) takes on the colour of the object seen, without taking on any particles from the object, such as Empedocles and Democritus had postulated. In that case, in talking of the organ's reception of form without matter, Aristotle is so far talking only of the physiological process. (p. 74)

Thus the organ has reproduced within itself the sensible qualities of the perceived object, but does not do this by taking in matter from the object: 'taking in the form', therefore, means simply copying the relevant sensible features. We have already noted the impropriety of holding any theory of perception involving physical images in conjunction with functionalism. However, it is also possible to show that this is an inadequate interpretation of the maxim. In *D.A.* II.12 proper human perception is contrasted with two things: the causal imprint made by an object on a plant which does not perceive it and the failure of an organ to perceive because it is too violently stimulated. On Sorabji's theory the difference between these two forms of non-perceptual causal interaction and perception is that in the latter case no matter from the object enters the sense organ, whereas the plant and the overwhelmed organ receive matter from the object. This cannot be correct, for the causal processes by which objects affect organs are

¹⁶ T. J. Slakey, 'Aristotle on Sense Perception', *Philosophical Review* 70 (1961), 470-84.

amongst those by which they causally interact with non-sentient objects. For example, at 420^a3 f. it is made clear that a sound is heard because it makes air within the ear resonate; the causal influence of the noisy object extends into the organ. Matter from the object is neither more nor less involved in disturbing the air which is the medium outside the organ than it is involved in disturbing the air in the ear. The process would be similar if a noise made another object—e.g. a sound-box—resonate in sympathy. Similarly the disturbance caused in a transparent medium by colour is the same whether it casts light and dark upon an eye or upon another object. It is true that, as Sorabji says, perception of colour does not depend upon taking on coloured matter or particles, but neither do other causal interactions so depend. Indeed, Aristotle says ‘Neither light and darkness nor sound nor smell does anything to bodies, but rather the things that they are in, e.g. it is the air accompanying the thunderbolt which splits the wood’ (424^b10 f.). This suggests that the causal medium itself, *qua* causal, is never essentially coloured, sounding, or smelling: *a fortiori* absence of these features does not distinguish the causation of perception.

Therefore, the fact that the mechanics by which perceptible objects affect each other in certain respects are similar to those by which they affect sense organs shows that *ἀνευ τῆς ὕλης* cannot be taken to be referring to some special absence of matter in the influence on the senses. Some other way must be found of distinguishing the receptivity of sentient from non-sentient creatures.

If we concede that both the plant and the sense organ are subjected to the same external stimuli and that these physical stimuli are essential to perception then it follows that the organ differs from the plant in what it can do with this material input. I can think of only one way of interpreting this which gives sense to ‘without matter’. To receive a form without matter is equivalent to what we would call receiving something as an object of a mental act—in this case an act of perception. This commits us to nothing concerning the role of matter in the process of perception. Notice that the intellect too concerns itself with matterless forms (429^a13 f.) and here again the form (or the entity to which the form belongs) is the object of a mental act. In this context, therefore, *ἀνευ τῆς ὕλης* simply signifies *qua* object of awareness (or thought etc.). But why should it be thought appropriate to describe taking something as an object of awareness as taking it *without matter*? The matter which the plant and the organ both receive does not become an object of perception: that is we do not see the colour in the eye, nor the activity of the transparent medium as such, but we do see the colour of some object, which is received by us as an object of awareness, but not by the plant at all. The matter of things seen is received neither by the organ nor by a plant except in so far as it may be emitted as part of the causal process: if it is this matter that perception is without, the difference between perception and influence on inanimate objects is not that the perceptual influence is without this matter, for so is much influence on inanimate things, but that the form is transmitted. A plant struck by the light from some object receives neither the form *nor the matter* of that object, but it does receive matter in receiving the influence through the medium. Thus neither matter in the sense of matter of the object perceived nor in the sense of matter disturbed or influenced by the object perceived is the object of perception. Rather the intelligible aspects, which means the form, of the object are apprehended in perception. It is the ability to separate the intelligible from the material aspects so as to make a thing the object of a psychic act that the plant and the overworked organ lack.

Something lacking a functioning organ is analogous to a man who hears a language which he cannot understand: just as such a man fails to 'unscramble' the sense from the sounds so the plant lacks the apparatus to separate out the sensible features or information from the physical influences by which it is stimulated. A specialized organ is required for this: if that organ is damaged or worked beyond its natural range it too fails to separate the sensory information from its causal medium. The organ if constructed to its proper *λῶγος* is able to deliver the form freed from matter to the sense. Indeed this principle or potentiality of the organ is what makes it identical with the faculty (424^a26), for the activity of the organ consists in the provision to the soul of the form *qua* object of mental activity.

The above account of mental activity, according to which it consists in taking the form as an object of an act of the soul, resembles Brentano's account more than any other.¹⁷ It is therefore firmly non-materialistic. However, it need not be simply dualistic. It was shown in §V that the soul is necessarily embodied when acting perceptually: it is now possible to produce a further argument for that conclusion and in so doing explain how this embodiment operates. This is best approached via two questions which remain unanswered. First, given that thought also consists in activity about the form without matter, what constitutes the special quality of perception? Our explanation of embodiment above only showed that embodiment was necessary if the restricted range of the senses is to be explained, it did not explain the difference between, for example, seeing and thinking the same thing. Second, how are we to fit the physical images imputed to Aristotle in our third objection to functionalism into such a mentalistic account? The answers to these questions are closely connected.

There are many places at which Aristotle suggests that the organ takes on the features of the object perceived (418^a4; 422^a7; 423^b31) and if the *organ* takes on the feature it is taken on in the form of a physical imprint. But if the object of experience is the form of the object abstracted both from the matter of the thing perceived and from the material process by which it is perceived what essential role is there for this physical sense datum? This question can be answered in two stages corresponding to our two original questions. First it is necessary to recognize that some sort of sensory image is necessary if perception is to be distinguished from thought. The similarity between thinking and sensing led Hamlyn to conclude that sensing was on one account simply a form of judging and that the physiological part of the account represented a completely different theory and Aristotle never reconciled the two approaches.¹⁸ Schiller, too, argues that Aristotle 'conflated material and formal explanations' in order to produce his account.¹⁹ If we acknowledge that some sort of image is necessary to distinguish sensation from thought we can then see why 'receiving the form without the matter' is not enough alone, but requires something specifically sensory. But should this element not be a sense datum—something mental—rather than a physical image? Not if he looked at the matter in the following way. He was anxious to emphasize the role of the physical sense in the process and to show that the process is essentially and not just contingently embodied. The organ,

¹⁷ F. Brentano, *Die Psychologie des Aristoteles* (Mainz, 1867), pp. 79–98.

¹⁸ D. W. Hamlyn, 'Aristotle's Account of Aesthesis in the *De Anima*', *CQ* N.S. 9

(1959), 6–16.

¹⁹ J. Schiller, 'Aristotle and the Concept of Awareness in Sense Perception', *Journal of the History of Philosophy* 13 (1975), 283–96.

that is, does not merely cause the experience, it (i.e. something going on in it) *constitutes* the sensoriness of the act. Just as a man looking through a stained-glass window sees the world as coloured in a certain way in virtue of the colours of the glass, so perceptual judgements are made perceptual by being made 'through' the physical images in the sense. We can now see why we were right to treat the physical image as something of which we are aware. It is not strictly the object of awareness, for the object of the act is the thing seen, but it does constitute the content of the act. The alteration involved in perception is not an ordinary physical alteration for it is the actualization of a capacity, but it involves ordinary physical alteration—the creation of an image—to provide its sensory nature.

Although this cements more closely the relation between soul and body, a modern might still object that perception need not depend on a physical image for the endowing of its sensory quality—a mental image would do as well if not better. However, I think we can understand why this is not so from an Aristotelian viewpoint if one considers two things. First, that Aristotle shows no interest in what we would regard as the merely logically possible: his sense of how things must be is closely connected with his views about the general principles underlying how they in fact are. Like certain modern philosophers, Aristotle takes science as giving the lead in determining what is worth considering as possible, and he believes that science shows physical images to be deeply entrenched in perceptual processes. Second, and more important, it follows from his conception of disembodiment that the sense datum must be physical. The debate about soul without body is cast in terms of form without matter. But form without matter *simpliciter* has, as was noted in §V, only intellectual activity. Sensory activity requires matter to give it its sensory nature and what gives it that nature is the sense datum. Therefore, if the datum is not physical it would have to be another form of matter; a sensory matter which parallels intellectual matter. This would be extravagant.

VII

Conclusion. Our conclusions concerning *αἰσθησις* are (i) that it is irreducibly mental because it is to be analysed in terms of an act having an object in a non-physical manner: (ii) that the maxim that the soul is the form of the body has a fairly clear sense and can be interpreted dualistically in that even the perceptual soul is an active principle which exists as something over and above the body, not subject to physical decay: (iii) that unlike the Cartesian, Aristotle has good internal reasons for insisting that perceptual activity is essentially embodied.

University of Liverpool

H. M. ROBINSON

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