

ARISTOTLE ON THOUGHT

The main goal of Deborah Modrak's penetrating and compelling discussion is to show that Aristotle subscribed "to an integrated model of perceptual and noetic functions" (268). Using Aristotle's phrase (Γ4, 429b13, 21), Modrak describes the integrated model as the view that "the noetic faculty is the perceptual faculty differently disposed" (283). She notes that this interpretation faces certain difficulties, but argues forcefully and incisively that it can nonetheless be sustained.

I am in complete sympathy with Modrak's conclusion, and most of what she says in support of it seems to me completely convincing. In particular, she is doubtless correct to put such stress on the Actuality Principle, and her use of ἐπαγωγή to clarify the connections Aristotle saw between thought and perception strikes me as especially illuminating.

Because of my very considerable agreement with Modrak's paper, I want first to raise a few questions about some details of her account, and about some matters of emphasis. I'll then indicate how I believe one might build on her discussion to make an even stronger case that Aristotle held an integrated model. Finally, I'll make a few remarks about Aristotle and the mind-body problem.

The main problem Modrak identifies for the integrated model arises from Aristotle's relatively austere conception of the objects of thought, a conception on which these objects contrast sharply in nature with objects of perception. The Actuality Principle, as Modrak formulates it, dictates that "[a] cognitive faculty is potentially what its object is actually" (47). Accordingly, the stark contrast between different kinds of object implies an equally sharp difference in nature between the perceptual and noetic faculties. This plainly threatens the integrated model.

Comments on Deborah Modrak's "Aristotle's Theory of Cognition," conference on Aristotle's Philosophy of Mind and Modern Theories of Cognition, University of Rochester (April 4, 1985). Modrak's paper has appeared, somewhat revised, as chapter 5 of *Aristotle: The Power of Perception*, Chicago: University of Chicago Press, 1987.

One preliminary way Modrak seeks to dispel this threat is by appeal to the impressive parallels Aristotle describes between thinking and perceiving (e.g., in Γ4 and 8). Both are ἀπαθής—have a kind of resistance to change, though both also are passive in being receptive of the forms of their objects (Γ4, 429a29ff.). And both conform to the Actuality Principle. Modrak concludes that, despite differences between the two faculties, "Aristotle persists in analyzing them within the same theoretical framework, because, for him, they are the same sort of faculty" (275). And she sees this common framework as helping with the integrated model, since on that model "noetic activity is amenable to the same model of analysis as perceptual activity" (283).

I am not sure, however, that these parallels actually have any direct bearing on the integrated model. Though both faculties are impassive, Aristotle insists that they are not impassive in the same way (Γ4, 429a30ff.). And being receptive of the forms of objects is just a corollary of the Actuality Principle. For actuality is form (B1, 412a10 and B2, 414a18 for ἐντελέχεια; for ἐνέργεια cf. e.g., *Met.* H3, 1043b2 and H6, 1045b18-20). So, if the actuality (ἐνέργεια) of the object and that of the faculty are "one and the same" (Γ2, 425b26-7 [though Modrak sometimes puts the Actuality Principle in terms of "actualization" (272, 275) or "realization" (290), possibly suggesting ἐνέργεια as κίνησις rather than οὐσία (*Met.* Θ6, 1048b7-9), the faculty must be able to take on the form of that object (cf. Γ8, 431b27-2a1)]. But in *DA* Aristotle seems to derive the Actuality Principle, as it applies to psychological faculties, from more general considerations about the nature of acting and being acted upon (Γ2, 426a2-12). And in the *Physics* he claims, with no mention of soul, that the actuality of something active is the same as that of the thing it acts on (III 3, 202b7-10; cf. a13-18 and *Met.* Θ1, 1046a11-14). But if the Actuality Principle is just a special case of a principle that governs potentialities—δυνάμεις—generally, and not just psychological δυνάμεις, its application to perceiving and thinking will be unable to sustain any special connection between them.

Such parallels play a relatively minor role in Modrak's argument. More important is her suggestion that noetic and perceptual objects differ only in degree, and not in kind. Noetic objects are more abstract than perceptibles. But the objects within each group also differ in degree of abstractness. The essence of the straight is more abstract than the straight, though both are noetic objects (Γ4, 429b18; 276-7; cf. 273, 284).

Modrak thus urges that, if noetic and perceptual objects

differ from each other in the same way objects within each group differ, the line between the two kinds will be relatively arbitrary and the distinction between them unimportant. The Actuality Principle will then ensure that there is no significant difference in nature between the corresponding faculties. Indeed, Aristotle's language suggests that the difference between discerning the straight and its essence is the same as the difference between discerning water and its essence (Γ4, 429b10-21; cf. Γ8, 432a6-7). If so, there are exercises of the perceptual and noetic faculties that differ no more than certain exercises of the noetic faculty do from each other (276-7). The two faculties would thus be better seen as one. Modrak concludes that "the noetic faculty is the perceptual faculty differently disposed."

Though I believe there may be other reasons to see νοῦς and αἴσθησις as being, at bottom, aspects of a single faculty, I have some doubts about Modrak's continuum interpretation. As she notes, this interpretation does not fit easily with Aristotle's tendency to describe noetic objects as universals and perceptual objects as particulars. Prima facie, the difference between universals and particulars is sufficiently sharp to make for a dramatic break between the two faculties.

Modrak sees Aristotle as having equated the distinction between noetic and perceptual objects with that between universals and particulars because of an unfortunate and largely unmotivated identification of noetic objects with objects of knowledge (283; cf. 417b23-4). Once we discard this epistemic intrusion, she urges, it may remain reasonable to hold that νοῦς alone apprehends universals, but not also that νοῦς apprehends nothing else (282). But we should be cautious about discounting the epistemic dimension of νοῦς, since on Aristotle's view knowing is the natural end of human psychological activity (*Met.* A1, 980a22). Indeed, the epistemic orientation of Aristotle's treatment of soul doubtless explains the parallels between that discussion and his descriptions of ἐπαγωγή (e.g., in *Met.* A1), parallels that Modrak invokes so effectively.

In any case, Aristotle has other reasons to insist that all noetic objects are universals, reasons that more directly reflect the distinctive character of the two faculties. We perceive by the senses the various proper and common sensibles and, in an incidental way, things that happen to have those sensible characteristics (B6). Since universals just are objects considered in abstraction from all sensible character, the sensible character of perceptual objects

ensures that they are all particulars. Accordingly, as Modrak notes, only νοῦς can apprehend universals.

But these considerations also imply the converse. Since the mark of a universal is abstraction from all sensory character, particulars will invariably have some sensible character, and perception is that faculty by means of which we apprehend sensible things, insofar as they are sensible. Thus particulars are all objects of perception, and never of νοῦς.

Other considerations reinforce this conclusion. The soul apprehends things by taking on their forms. We take on sensible forms when the sense organs are subjected to a kind of qualitative change (B4, 415b24). If the noetic faculty took on forms that way, it would be limited, as Modrak remarks (271), with respect to the range of objects it could apprehend. Since νοῦς can think all things (Γ4, 429a18), it must take on forms in a way that does not so restrict it. The forms it takes on must therefore not include any sensible characteristics.

However, because the noetic faculty is thus dedicated to objects that are independent of, that is, abstracted from, all sensible character, Aristotle's distinction between νοῦς and αἴσθησις does not coincide with the line we now draw between thinking and perceiving. For we often count people as thinking about individual objects in respect of the sensible character of those objects.

Aristotle remarks that thoughts are distinct from φαντάσματα (Γ8, 432a12-4). Because Modrak rejects the idea of a sharp break between νοῦς and perception, she concludes that "[t]he only possible difference between [thoughts and φαντάσματα] is the mode of representation employed" (295). And to sustain this conclusion she develops in section IV a detailed and inviting account of noetic representation as essentially involving inference.

But it is natural to see mental representation in Aristotle as simply a faculty's taking on the form of its object. Accordingly, the difference between the two modes of representation will be simply a matter of whether the form taken on is sensible, or abstract and noetic. Nonetheless, Modrak's alternative account of the difference is on target because of the close connection inference has to the apprehension of universals.

Modrak sees νοῦς and αἴσθησις as continuous with one

another, rather than as distinct, discrete faculties. So when she brings ἐπαγωγή to bear on these issues, she depicts it as "a continuous cognitive process" (284). Aristotle does describe ἐπαγωγή as a process in which the psychological activity of each stage develops naturally into that of the next, at least in creatures with the relevant capacities. But continuous development does not preclude discrete, sharply distinct stages. In ἐπαγωγή, the objects characteristic of each stage are distinctive unities relative to the pluralities of the preceding stage, though only the transition from experience to art and science seems to rely specifically on abstraction to obtain those unities. However continuous the process may be, Aristotle sees the objects and faculties of the various stages as different in kind, not just in degree.

But ἐπαγωγή does point the way to what may be a more decisive defense of the integrated model. As Modrak notes, "the cogency of [ἐπαγωγή] ... depends upon a particular way of conceiving the relation between the object as presented in perception and *phantasia* and the object as presented in thought" (284). One and the same thing will be both an object of perception and of thought—an object of perception in virtue of its sensible characteristics, and an object of thought in virtue of those of its properties, such as its essence, which involve no sensible qualities. The object of thought is the same thing as the the object of perception, though what it is to be the one is different from what it is to be the other (284, 286). Modrak develops these points with admirable and convincing lucidity.

This cannot, however, be the whole story. Because of the Actuality Principle, the noetic and perceptual faculties take on forms of their objects without their matter—sensible forms in the case of perception, and intelligible forms in the case of νοῦς (Γ8, 431b27-2a7; cf. B12, 424a17). In the external object, as Modrak emphasizes, these forms are tied together because both are forms of a single object. The very same bronze exemplifies both the essence of bronze and the sensible forms of being brown and hard (cf. *de Sensu* 7, 449a12-19).

But this model cannot explain how intelligible and sensible forms of a single object are related when these forms occur in the soul. The matter of sensible forms in the soul is the sense organ, and the noetic faculty has no organ (Γ4, 429a27). Moreover, the idea that sensible and intelligible forms might be forms of the same thing in the soul won't readily square with Aristotle's denial that thoughts and sensory images are the same (Γ8, 432a14).

The process of ἐπαγωγή can help some here. When I abstract from the sensible characteristics of an object to arrive at its essence, a psychological history causally links the sensible forms to the subsequent noetic forms in my soul. This genetic tie should suffice to explain why, as Modrak puts it, "we refer both [psychological states] to the same [external] object" (295). But solving that epistemic problem does not address the integrated model, since a continuous developmental process is compatible with sharply discrete stages, and correspondingly different faculties.

In human beings, sensible forms persist, group together in ways that reflect the ways sensible qualities occur in physical objects (cf. *de Sensu* 7, 447b10-8a2), and finally give rise to nonsensory noetic forms. This is a natural process. So, as Modrak observes, "[t]he *noeton* exists potentially in the *phantasma*" (286; cf. 291-2; also cf. *Met.* Θ7, 1049a13-5).

This has important consequences. Since Aristotle identifies potentiality with matter and actuality with form (B1, 412a10 and B2, 414a18; *Met.* H3, 1043b2 and H6, 1045b18-20), suitably grouped φαντάσματα will be the matter correlative to noetic forms in the soul. Moreover, the actualized faculty is identical with its object. So, if φαντάσματα are the matter of noetic forms in the soul, the corresponding faculties are also related as matter to form. This nonepistemic, ontological tie should suffice to sustain the integrated model. And it also helps explain Aristotle's claims that, though images and thoughts are distinct, thinking requires images (e.g., A1, 403a9-10, Γ7, 431a16, Γ8, 432a9, 14; *de Mem.* 1, 449b31) and, indeed, that "noetic objects are in the [ἐν τοῖς] sensible objects" (Γ8, 432a5; cf. Γ7, 431b2). It may even help us understand Aristotle's difficult remark that "although the particular is what is perceived, perception is of the universal" (*APo* II 19, 100a16-b1).

Mental states are just states of objects, and hence have an ontologically secondary status. But Aristotle is explicit that an analysis of mental states in terms of form and matter applies nonetheless, since the sense organs are matter for sensible forms in the soul (Γ2, 425b22-4, Γ7, 431a17-8; on πάθη, see A1, 403a 25, b2). This suggests that it is just his use of form-matter analyses that makes Aristotle so confident that thinking has no organ. The matter of noetic objects in the soul is not some organ at all, but rather perceptual mental states.

Aristotle's reliance on form-matter analyses results in his distinguishing various hierarchically related levels of study, in which the explanations special to each level rely on those of the preceding

level. This insistence on hierarchies of levels of organization is perhaps the single most salutary aspect of Aristotle's philosophical psychology. A case in point is his repeated appeal to distinctively biological functioning to describe mental phenomena. If more philosophical attention were focused on the apparent mystery of how life can occur in some physical objects, the mystery of how some living things can have mental capacities would very likely seem far less unyielding.

Moreover, a hierarchical ordering of faculties within the psychological level also helps dispel Cartesian quandaries. Descartes's definition of mind in terms of thinking and consciousness automatically makes a mystery of what thinking and consciousness themselves could be. No account in nonmental terms alone can do justice to these phenomena, but on Descartes's definition no account can make use of any mental concept without being viciously circular. A tiered description of mental functioning avoids this otherwise intractable problem. Lower mental functions lend themselves to accounts cast in predominantly biological terms, allowing accounts of higher functions to draw on lower levels. Aristotle's hierarchy of levels thus suggests analogies with contemporary functionalism, since, in both, part of the reason for distinguishing levels of analysis is to help make intelligible how physical objects can have mental capabilities. But the particular levels the two theories advocate—especially within the psychological realm—are not all that similar.

Throughout most of *DA*, Aristotle treats the five senses as distinct faculties. But he sometimes makes clear that it is more accurate to regard them all "as one" (ἡ μία: Γ2 425a31). Thus he writes: "There is one sense, ... but what it is to be that sense is different for the various kinds of sensible object" (*de Somno* 2, 455a21-2; exactly the same point occurs at *de Sensu* 7, 449a17-19; cf. 447b10-8a2, and *de Iuventute* 2, 468b3). In this spirit, he claims we must understand the functioning of any particular sense in terms of the functioning of the whole perceptive body (B1, 412b24-6 and B12, 424b18-19), and indeed that the individual senses apart from perception as a whole would be mere homonyms of functioning senses (B1, 412b17-24). And he even tells us that the perceptive and desiderative faculties are not distinct, though they differ in being (Γ7, 431a13-4).

Despite the inescapable differences among the proper sensibles of the five senses, Aristotle uses the Actuality Principle itself in *de Sensu* to derive the unity of the perceptive faculty. The same perceptual object often has both color and taste, though what it is to have each is different. Aristotle infers that this happens also

in the soul (*de Sensu* 7, 449a12-19; cf. Γ7, 426b25-7a15). The corresponding special senses are therefore one, though they differ from each other in being.

Noetic and sensory forms also occur together in the external object. But, though they presumably also cooccur in the soul, they are not in that case forms of the same object. It is thus unlikely that these considerations can support the conclusion that the perceptual and noetic faculties are really a single faculty of discerning (see Γ3, 427a20-1 and 8a2-5, and Γ4, 429b12-7).

But perhaps we can reach that conclusion by another route. Φαντασία is the matter of the noetic faculty. And, when proximate matter and form occur together as a composite, Aristotle tells us, they are "one and the same," though of course they differ in being (*Met.* H6, 1045b18-22). So, since φαντασία is presumably an aspect of perception, the noetic faculty will indeed be the perceptual faculty "differently disposed"—the same faculty, though different in being.

If the two faculties are one but differ in being, why does Aristotle deny that thoughts are images? That denial poses a problem for any defense of the integrated model. Perhaps Aristotle means there only to resist a reductive account of thoughts, though it would be nice to have independent support for some such construal. (Reading ταῦτα in place of τᾶλλα does not help, since the problem remains even if Aristotle's remark is only about the πρῶτα νοήματα.)

Because thinking requires images, thinking (φαντασία) "cannot exist apart from the body" (A1, 403a9-10). Thus Modrak emphasizes that "the noetic faculty [is] dependent upon the body in a weak sense" (285). This indirect dependence is reinforced if φαντάσματα are the matter of noetic objects in the soul. For then the noetic faculty and its objects in the soul have as matter other objects whose matter is in turn straightforwardly bodily.

It is tempting to hold that active and passive νοῦς are just aspects of a single noetic faculty. But we cannot infer this from the unity of noetic objects. For active νοῦς has no objects in the way other faculties do. It makes objects, but does not become them (Γ5, 430a14-5); hence Modrak's inviting account of active νοῦς as merely catalytic.

But Aristotle tells us that "faculties are separate from matter insofar as their objects are" (Γ4, 429b21-2). And only extended,

perceptible objects have separate existence (Γ8, 432a4; cf. Γ4, 430a6-9), since abstract objects are not separate in being (*Met.* E1, 1026a9-10, *Phys.* II 2, 193b32-6). So, insofar as it has objects at all, νοῦς is not separate (see A1, 403a8-10). Perhaps, therefore, Aristotle's difficult remark that active νοῦς is separate (Γ5, 430a17) means no more than that, unlike other faculties, it is independent of any objects.

Whatever the case with active νοῦς, I have doubts about seeing Aristotle as a property dualist. Property dualism is the view that mental properties are nonphysical properties, even though they belong to physical objects. But on Aristotle's view most noetic properties in the soul plainly are not nonphysical properties. For they are simply essences of physical objects, and other universals exemplified by physical objects with no mental capacities. These properties are all indisputably physical. Moreover, even though the matter of noetic forms differs depending on whether or not they are in the soul, the forms in the two cases are themselves the same.

Perhaps such noetic properties as the essences of psychologically endowed creatures are somehow nonphysical properties. But there is little reason to suppose Aristotle held this limited property dualism, which in any case is like no view now advocated. Property dualists hold that properties are nonphysical because they figure in mental representations of things, not because the things represented have mental capabilities.

There is a modern tendency to suppose that, unless one can somehow reduce mental phenomena to phenomena that are uncontroversially physical, those mental phenomena must be nonphysical. Debate typically turns on what should count as a satisfactory reduction, leaving unchallenged the central assumption that such reduction is in order. Indeed, materialists and their opponents often tacitly share the view that, without a reduction to the uncontroversially physical, we cannot avoid the conclusion that the mental is somehow nonphysical.

But the relation between mind and matter has, since Descartes, come to be so problematic that no mental phenomena now count as uncontroversially physical. So the apparently innocuous demand for a reduction to the uncontroversially physical tilts things decisively towards dualism. For it implies that we can avoid the conclusion that mental phenomena are nonphysical only by reducing mental phenomena to phenomena that are not mental at all—a patently futile enterprise.

This tacit Cartesian assumption may help explain the temptation to see Aristotle as a property dualist with respect to noetic functions. Since noetic forms are presumably irreducible to anything else, it may seem plausible to suppose that they must be nonphysical.

But it simply conflates two distinctions to insist that noetic, or other mental phenomena are nonphysical because we cannot give a nonmental reduction of them. Moreover, Aristotle is happily innocent of this Cartesian assumption, as the physical character of noetic forms in the soul decisively shows. And that is one main reason why his views fail, often to their credit, to fit neatly into the post-Cartesian framework that defines the modern mind-body problem.

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