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Aristotle on Sense Perception: The Enemy of My Enemy is Not My Friend
A Reply to Martha Nussbaum and Hilary Putnam
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Among the many contributions to twentieth century philosophical scholarship by Martha Nussbaum and Hilary Putnam was their 1992 essay, “Changing Aristotle’s Mind,” in which they appealed to “the Aristotelian form-matter view as a happy alternative” between Cartesian dualism and materialistic reductionism. On the one hand, they argued, Aristotle’s view escapes Cartesian mind-body dualism because for Aristotle, there can be no description of animal functions “without making these functions ... embodied in some matter...” On the other hand, Aristotle does not reduce psychological functions to matter, because the Aristotelian psuche or soul is not identified with the matter of the body, but rather with our “organization to function”. All this was a response to the now infamous essay by Myles Burnyeat, “Is an Aristotelian Philosophy of Mind Still Credible?” in which he fundamentally challenged the idea that Aristotelian psychology is a viable alternative to Cartesian dualism. Burnyeat argued that although Aristotle does embed animal functions in material organs, he does this in a manner which is unacceptable today - by simply attributing life and awareness to material organs, without any further physiological explanation.

This dispute between Burnyeat on the one hand, and Nussbaum and Putnam on the other, is far more than a mere academic disagreement between those individuals. Not only does their dispute touch on some of the most fundamental issues in philosophy, but more importantly, it represents a clash of traditions on how to interpret the history of philosophy. The twentieth century saw an explosion of Aristotelian scholarship in all areas, much of which was devoted to arguing that the previous nineteen centuries had misread Aristotle. Martha Nussbaum herself played a large role in that movement over the past decades, proposing novel readings of Aristotle’s metaphysics, biology, and psychology. In her above essay, for example, she accuses Philoponus, Aquinas, and Brentano (all three cited by Burnyeat as precedents for his own reading) of allowing Christian “theodicy” to influence their readings of Aristotle’s psychology. There is therefore much at stake if readings like Burnyeat’s are correct, which is precisely why, I think, his essay struck such a nerve, and Nussbaum and Putnam felt compelled to “take up arms together” in response.

Since the publication of that response, Burnyeat and others have replied with vigorous defenses of their own. However, many of the specific details in the essay by Nussbaum and Putnam have never been directly addressed. Due to the philosophical stakes involved, their response deserves a point-by-point analysis, which is what I will perform in this paper. I will argue that they not only misinterpret Aristotle’s general project, but also present inconsistent readings of the specific Aristotelian texts which they cite in response to Burnyeat. Due to the limitations of the space allotted here, however, I will restrict myself to the points which have not been extensively addressed already by Burnyeat and others since the publication by Nussbaum and Putnam of their essay, citing when necessary the responses which have already been given to the other points.

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2 Ibid., 32.
3 Ibid., 51.
6 Ibid., 27.
Burnyeat’s Argument and the Response by Nussbaum and Putnam

As mentioned already, Burnyeat’s main thesis was that Aristotle simply attributes life and awareness to material organs, without any further explanation. His prime example was sense perception, arguing (contra Richard Sorabji) that for Aristotle, “no physiological change is needed for the eye or the organ of touch to become aware of the appropriate perceptual objects.”

Consequently, for Aristotle, “an animal’s perceptual capacities do not require explanation.” Any physical characteristics imposed by Aristotle on the sense organs are, according to Burnyeat, merely conditions for “receptivity to sensible form,” not conditions for some physiological change in the organ during sensation. For example, Aristotle’s requirement that the interior of the eyes consist of transparent material is meant simply to allow free passage for the reception of colors into the eyes, not to provide the material for a physical change in the eyes during sight. Aristotle’s analysis of sensation would therefore amount to the simplistic thesis that “the flesh, bones, organs, etc. of which we are composed are essentially alive, essentially capable of awareness.” In other words, in order to be truly Aristotelian, “we would have to stop believing that the emergence of life or mind requires explanation.”

Burnyeat therefore concludes that Descartes was quite right to “junk” this Aristotelian notion that sensory awareness can be simply attributed to organs in this way. Descartes’ solution was to separate sensory awareness from organs altogether. Consequently, Burnyeat declares, “If we want to get away from Cartesian dualism, we cannot do it by traveling backwards to Aristotle,” since we today, like Descartes, find unacceptable the position that conscious awareness can be simply ascribed to matter without any further explanation.

Nussbaum and Putnam respond to this critique by Burnyeat in several parts. In the first section of their essay, they begin by arguing that Aristotle’s rejection of materialistic reductionism cannot depend on the inexplicability of mind, because his prioritization of form over matter in scientific explanation applies to all substances, not just the ones with minds. Further, they maintain that the part which matter does play in Aristotelian explanations is (contra Burnyeat) not merely that of an inert receiver, but that of “the very vehicle of functioning,” since matter is the principle of change itself.

In the second section, Nussbaum and Putnam argue from four Aristotelian texts that sense perception not only has “necessary material conditions,” as Burnyeat had maintained, but also is always “accompanied by some material transition.” In the first text, (De Motu 701b2-32) Aristotle says that sense perceptions can lead to physical alterations in an animal because “sense-perceptions are at once a kind of alloiosis,” or alteration. This shows that “material transition is linked far more closely with psychological activity than Burnyeat’s account permits.” In the second text, (De Sensu, opening) Aristotle lists perception among the functions that are “shared by the soul and the body”. This indicates that bodily organs are not mere necessary conditions for receptivity, but that body and soul “are both active and acting together.” Similarly, in the third text, (De Anima 403a5 ff.) Aristotle states that “perceiving” is one of the things the soul does “not without body,” as opposed to thinking. If, as Burnyeat contended, this meant simply that perceiving has necessary material conditions, then Aristotle’s contrast between perceiving and thinking would collapse, since thinking also has some material necessary conditions. Finally, in the fourth text, (De Anima 412b4-25) Aristotle compares the relationship between the soul and the body to that between

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9 Ibid.
10 Ibid., 23.
11 Ibid., 26.
12 Ibid.
13 Ibid.
15 Ibid., 32.
16 Ibid., 37.
17 Ibid., 39.
18 Ibid., 40.
19 Ibid., 41.
20 Ibid., 42.
21 Ibid.
wax and its shape, and between an axe and its being. These analogies would make no sense on Burnyeat’s reading, since sense perceptions would then not be “carried out in and by the matter,” and “an axe cannot do anything without material transitions.”

Having dispensed with Burnyeat’s position that, for Aristotle, sense perception is simply attributed to matter without any further material explanation, Nussbaum and Putnam therefore see no need to accept his conclusion that we must simply “junk Aristotle” and get down to the business of providing such an explanation. They begin the third section by pointing out that numerous twentieth century philosophers have argued in various ways that the very notion of matter (and therefore, presumably, of a material explanation) is hardly clear in the first place. If it simply means explaining how the brain and other organs involved in sensation work, then as long as sense perception is not reduced to such material events, there is nothing un-Aristotelian about such an “explanation.” Nussbaum and Putnam therefore saw an affinity between the functionalist explanation of sensation in terms of functional organization independent of particular material makeup, and the Aristotelian position that the soul or psyche is our “organization to function,” not the material composition of the body. They conclude, “we can have non-reductionism and the explanatory priority of the intentional without losing that sense of the natural and organic unity of the intentional with its constitutive matter that is one of the great contributions of Aristotelian realism.”

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Analysis and Critique of Nussbaum and Putnam’s Response to Burnyeat

I now wish to show, point by point, that Nussbaum and Putnam are wrong in their interpretation of Aristotle, and that Burnyeat is essentially correct in arguing that the matter of Aristotelian sense organs plays no role in sense perception other than to provide the necessary material conditions for simple reception of sensible qualities. They first argue that Aristotle’s rejection of materialistic reductionism does not specifically depend on the inexplicability of mind because he prioritizes form over matter in explaining all substances, not just those with mind. In response, we should recall that the early moderns criticized Aristotle across the board, not just in psychology, for positing “occult qualities” to explain various phenomena, which is essentially what Burnyeat is accusing Aristotle of doing by simply attributing sense awareness to matter without any material explanation. So even if Aristotle prioritizes form over matter in every field, not just in psychology, all that means is that Burnyeat’s accusation against Aristotle is not limited to his psychology, but can be expanded to every area in which Aristotle posits “occult qualities” to explain various phenomena.

The next series of textual arguments given by Nussbaum and Putnam are meant to rule out Burnyeat’s reading that sense organs have the role of merely providing the “necessary material conditions” for reception, rather than some more active role. In their first text, Aristotle says that sense perceptions can lead to physical alterations in an animal because “sense-perceptions are at once a kind of alloiosis,” or alteration. They read this to mean that perceptions “are realized in” such alterations, so that “material change is intrinsic to what goes on when perceiving takes place...” In response, however, Aristotle also says in the very same line that “phantasia and thinking” similarly have the power to produce such physical alterations in the body. But Nussbaum and Putnam explicitly admit only four pages later that thinking has “no organ and no correlated and realizing change of the organ or organs.” It therefore does not follow that if a function can lead to material changes in the body, the function is “realized in” such material changes, or that such changes are “intrinsic” to that function. So the fact that sense perception has an organ implies only that it is realized in an organ, not in a material change in the organ.
In their second text, Aristotle says that perception is a function that is “shared by the soul and the body,” which they read to mean that body and soul “both do it, are both active and acting together,” contradicting Burnyeat’s reading that the sense organs merely provide the necessary conditions of receptivity. But there is no contradiction between Aristotle’s words, as Nussbaum herself translates them, and Burnyeat’s reading that the sense organs are capable of receiving without any material changes. In other words, that is precisely what the sense organs do - the very act of sensation is just a reception by body and soul together, without any material changes in the body. Burnyeat could therefore easily incorporate their text in his reading. Similarly, another passage which they cite, in which Aristotle says that touching is “a pathos in the wet’ as it is affected by the dry” can also be read Burnyeat’s way, since the kind of affection produced in the wet by the dry in sensing would not be a material alteration, but a reception by the wet which does not actually make it materially dry. If we find this difficult to conceive, then as Burnyeat says, it is precisely because we have today rejected as nonsensical Aristotle’s view of matter as capable of that kind of change.

Nussbaum and Putnam also argue that if being a “common function” of body and soul meant merely that a function has “material necessary conditions,” then thinking would also be a function shared by body, since it never occurs without phantasia. Consequently, Aristotle’s contrast between thinking and all other functions would evaporate, a contrast he explicitly makes in their third text, in which Aristotle says that “getting angry, being confident, desiring appetitively, and in general perceiving” are all activities done by the soul “not without body.” Their argument, however, rests on an equivocation, since the phrase “material necessary conditions” can mean either material activities that another activity needs, as thinking needs phantasia, or simply the material that an activity needs, as the reception of color needs transparent matter. Burnyeat’s position, as he clearly argued, is that the sense organs are “material necessary conditions” simply as material necessary for sensory reception, not as material activities needed for reception. So his meaning of “material necessary conditions” would not have to include thinking among the functions common to body and soul.

Nussbaum and Putnam also criticize the fact that Burnyeat allows material changes for emotions while denying them for sense perception, since in the second and third texts above, Aristotle lists all these functions equally as “not without body” and as common to body and soul. They even argue that Aristotle incorporates emotions under the genus of perceiving, since in the third text above, he lists emotions and desires, and then says, “in general perceiving.” But while Aristotle does say that both emotions and sense perception are “not without body,” it does not follow that they are “not without body” in the same way. Aristotle clearly treats emotions as necessarily involving material changes in the body; for example, he says that the material cause of anger is a heating of the blood around the heart. Emotions are therefore “not without body” in the sense that they not only occur in the body, but also involve inherent material changes. But Aristotle equally clearly insists that the matter of the eyes must remain colorless, that the air inside the ears must remain motionless for good hearing, that the tongue must remain free of any intrinsic flavor, and that the organ of touch senses a tangible quality only to the degree that it does not possess the quality, not to the degree that it materially receives the quality. Sense perception is therefore “not without body” only in that it occurs in a bodily organ, not in that it involves an inherent material change as well. The reason for the difference is that sense perception is a reception of forms, while emotions and desires are not. The latter can therefore involve active material changes, while such intrinsic activity would interfere with the reception that occurs in sensation.

In the fourth text, Aristotle says that “it is not appropriate to inquire whether the soul and the body are one - just as it is not appropriate in the case of the wax and its shape,” and in the case of an axe and its being-an-axe. Nussbaum and Putnam argue that these analogies make no sense on Burnyeat’s reading, since sense perceptions would not be “carried out in and by the matter,” and “an axe cannot do anything without material transitions.” They add that, on Burnyeat’s reading, it would be very appropriate (contra Aristotle) to ask whether body and soul are one, since “if the body does not perform the soul’s activities, there is an obvious sense in which they are not one...” But as has already been pointed out, according to Burnyeat’s reading of Aristotle, sense perception is

31 Ibid., 42.
32 Ibid.
33 Ibid., 43.
34 Ibid., 44.
35 Ibid., 45.
36 Ibid.
37 Ibid.
indeed “carried out in and by” the organ, since it is in and by the organ that reception occurs, even if there is no accompanying material change. Again, if we find this notion hard to believe, then as Burnyeat has pointed out, this is only because we, like Descartes, have rejected as non-explanatory Aristotle’s notion of such reception by a material thing without material change.

So if we agree with Descartes on that notion of matter, then why, as Nussbaum and Putnam point out, have many twentieth century philosophers maintained precisely that the very notion of matter, as well as the mind-body relationship, is inherently problematic and unclear? In response, we must keep in mind that Burnyeat was referring to something very specific when he said that “we are stuck with a more or less Cartesian concept of the physical,” since he was specifically contrasting this with the Aristotelian notion of the physical, according to which “becoming warm” for a material organ can mean something “other than becoming warm in a material way.” That is what we find hard to believe, and that is what Descartes also found hard to believe. We therefore share that aspect of the physical with Descartes - namely, that it makes no sense for matter to become warm in any way other than materially. Whatever disagreements we may have with Descartes regarding other aspects of matter, we at least share that negative restriction with him.

At this point, Nussbaum and Putnam digress a bit in order to argue that the reading of Aristotle defended by Burnyeat is actually one under the influence of Christian theodicy, via figures such as John Philoponus, Thomas Aquinas, and Franz Brentano. Such a Christian incorporation of Aristotle would, they suggest, naturally stress a greater separation of soul from body, due to the Christian belief in personal immortality after death. Despite this, however, they attempt to make the case that Thomas Aquinas does sometimes present a reading of Aristotle that is sympathetic to theirs. In one text, for example, Aquinas says that the “operations of the sensitive soul evidently happen together with some change (immutatio) in the body, as in seeing the pupil is changed by the appearance of color.” Such texts show, according to Nussbaum and Putnam, that even Aquinas sometimes admits not only that “each act of perceiving has material necessary conditions,” but also that “these conditions are changes in the sense organs.”

Against this reading, however, is a text only three questions later in the Summa, in which Aquinas explicitly states that “sight ... is without natural immutation either in its organ or in its object” at all. So unless Aquinas is contradicting himself in a most blatantly obtuse manner within a span of only three questions, the reading offered by Nussbaum and Putnam cannot be accurate. The latter assume that when Aquinas speaks of a “change (immutatio) in the body” during sensation, or says that “the pupil is changed [immutatur] by the appearance of color,” that he must be referring to a physical change, like the kind they have been envisioning. Within that same span of questions, however, Aquinas explicitly states that the immutatio in the sense organ during sensation is not a physical or “natural” change at all, but a “spiritual” one:

Natural immutation takes place by the form of the immuter being received according to its natural existence, into the thing immuted, as heat is received into the thing heated. Whereas spiritual immutation takes place by the form of the immuter being received, according to a spiritual mode of existence, into the thing immuted, as the form of color is received into the pupil which does not thereby become colored. Now, for the operation of the senses, a spiritual immutation is required, whereby an intention of the sensible form is effected in the sensile organ. (ST I.78.3)

Therefore, in the passage cited by Nussbaum and Putnam, when Aquinas speaks of a “change (immutatio) in the body” or in the pupil during sensation, he does not mean a physical change at all, but a spiritual one.

There is a similar problem with their reading of another passage within that same span of the Summa, in which Aquinas says that “the power to see is the act of the eye: for to reason is an act that cannot be exercised through a corporeal organ, in the way that vision is exercised.” This, they claim, shows that for Aquinas, “sensing is the act of (an activity embodied or realized in) a corporeal organ.” But as we have just seen from the immediate context of the very text they cite, according to Aquinas, the act of sensation is a spiritual immutation of

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39 Ibid., 24.
41 Ibid. 53.
42 Ibid.
43 Ibid.
the sense organ, not a physical one. So for Aquinas, not all acts in a sense organ are physical changes - sensation, for example, is a spiritual immutation. Far from supporting their thesis, therefore, the texts by Aquinas cited by Nussbaum and Putnam actually coincide with Burnyeat’s reading of Aristotle, according to which sensation is not a physical change.

So contrary to what Nussbaum and Putnam claim, in order to be “Aristotelians,” it is not enough to simply reject the reduction of perception to material changes. Rather, we would have to reject the inherent presence of any material change whatsoever in the very act of perception itself. As a result, the only difference between the effect of color on the eye and its effect on the air would be that “at the eye the effect is seeing, in the medium it is not, because the eye has the capacity to see and the air does not. End of explanation.” If that sounds like a non-explanation to you, you’re not alone. Descartes agrees with you.
