

Aristotle on Perception

Aristotle spends a great deal of time in *DA* discussing the topic of sense-perception. But what is his theory of perception? It is surprisingly difficult to get clear on exactly what it is.

He begins his discussion of perception in II.5 by saying that perception:

- a. “occurs in being moved and affected.”
- b. “seems to be a type of alteration.”
- c. is a process in which “like is affected by like.”

Much of his subsequent discussion is on the physics and physiology of perception:

- a. Each sense has a **sense-organ**.
- b. Each sense has a **medium** (e.g., air, water).
- c. Each sense has its own **proper objects** (of sight, *color*; of hearing, *sound*).
- d. The proper object of a sense is a **qualification** of an external object. E.g., the color (red) we perceive is a quality of some individual body (a tomato).
- e. Perception is (or involves) a **causal process** leading from the external object through the medium to the sense-organ, and ultimately to the “primary” sense-organ in the heart.
- f. This process is one in which the **sensible quality** of the external object (e.g., its color) is transferred to the sense-organ of the perceiver. (For details on this process, see the II.7 discussion of **sight** as the transmission of color from the object of perception through the intervening medium—water or air—to the eye.)

Qualification: Perception is not an alteration

All of this makes it seem as if Aristotle thinks of perception as a physiological process. But things are not so simple. First, Aristotle employs his distinction between levels of potentiality and between levels of actuality.

- Level A: potentiality₁
- Level B: actuality₁ (= potentiality₂)
- Level C: actuality₂

He then contrasts two cases. First case: the transition from level A to level B; second case: the transition from level B to level C:

In the first and second case we pass from potentially to actually knowing; but in the first case we do so by being altered through learning, and by frequent changes from the contrary state, while in the second case—where we pass from having ... knowledge without actualizing it, to actualizing it—we do so **in another way** (417a30).

The passage from potentiality₁ to actuality₁ is an alteration; the passage from potentiality₂ to actuality₂ is not an alteration.

Aristotle therefore qualifies the preliminary claim that perception is a process (*kinêsis*) or alteration (*alloiôsis*, a change of quality, which is a kind of process):

Further, there is not just one way of being affected. On the contrary, one way of being affected is a destruction of contrary by contrary, while the other way is more properly preservation, not destruction, of a potential F by an actual F (417b3).

His point is that a thing that is affected in the second way is not **altered** by being so affected:

That is why we should not say that the intelligent subject is altered in exercising its intelligence, just as we should not say that the builder is altered in <actually> building (417b8).

Since perception is “second case” transition—from potentiality₂ to actuality₂—it should not be considered an alteration at all. But Aristotle admits that ordinary language does not have different words for the transitions from the two different levels of potentiality:

Since the difference between these cases has no name, though our distinctions have shown that they are different, and in what ways, we have to use ‘being affected’ and ‘being altered’ as though they were the strictly correct names” (418a1).

Aristotle concludes II.5 by refining the crude claim with which he began (that perception is an alteration in which like is affected by like), and puts his point instead in terms of actuality and potentiality:

“The perceiver (*aisthêtikon*) is potentially what the perceptible object (*aisthêton*) actually is already, as we have said. When it is being affected, then, it is unlike the object; but when it has been affected it has been made like the object and has acquired its quality” (418a3-6).

Aisthêtikon here should probably be translated literally as “that which perceives.” It is **not** the *person*, but the **organ** or **faculty** with which the person perceives.

The Reception Doctrine

With this in mind, we can approach Aristotle's notoriously obscure definition of perception (at the beginning of II.12) as **the reception of perceptible form**.

A general point to be grasped is that each sense (*aisthêtikon*) receives the perceptible forms without the matter. Wax, for instance, receives the design on a signet ring without the iron or gold; it acquires the design in the gold or bronze, but not insofar as (*qua*) the design is gold or bronze (424a17).

There are basically two main lines of interpretation of the reception doctrine:

- a. **Physiological** (*P*): The sense **organ** (literally) takes on the perceptible quality perceived.
- b. **Cognitive** (or Intentional, or Rival, or "Christian") (*C*): The **sense** becomes aware of the perceptible quality.

Both interpretations take the Reception Doctrine to be a restatement of the refined version of the Likeness Principle as stated at 418a3. They differ on what it is that receives the perceptible form. Aristotle says it is "the perceiving thing" (*to aisthêtikon*), but that is ambiguous.

- a. *P* says it is the sense-organ.
- b. *C* says it is the sense.

Ross seems to think that Aristotle actually says what *P* takes him to say, but that he should have said what *C* takes him to say.

"... the sense organ is assimilated to the object. The hand becomes hot, the eye colored, ... the tongue becomes flavored, the nose odorous, the ear resonant. Perception is distinguished from nutrition by the fact that while in the latter the matter of the food is absorbed, the former is receptive of form without matter. Now ... this ... does nothing to explain the essential fact about perception, that on this physical change **supervenes** something quite different, the apprehension by the mind of some quality of an object. It is only if reception of form means *awareness of form* that it is a true description of perception. ... The phrase 'receptive of form' covers a radical ambiguity" (Ross, *Aristotle*, p. 135).

Ross's claim that a mental apprehension "supervenes" on a physical change leaves open three different possibilities about Aristotle's theory:

- a. A type-type identity theory
- b. A token-token identity theory (functionalism)
- c. Psychophysical interactionism (physical change causes mental apprehension).

So Ross does not really pin Aristotle's theory down at all.

Physiological vs. Cognitive interpretations

Who is right? Defenders of *P* point to all the passages in which the reception of form seems to be described as a physiological occurrence. Defenders of *C* appeal to the distinction in II.5 between different ways of being affected. The relevant passages:

Supporting P:

1. 416b32: *aisthêsis* is being moved.
2. 425b22: In perception the sense-organ is “colored”; this explains after-images.
3. 423b29: it’s the organ that is potentially like the object of perception, and which becomes actually like it.
4. 424a4: one cannot perceive what’s equally hot or cold.
5. 424a9: what perceives white and black is neither.
6. II.4: the comparison with nutrition:
 - a. Nutrition: Although Aristotle does not say so explicitly, nutrition can be viewed as taking on matter without form (cf. 416b14: “an ensouled thing ... preserves its substance and exists as long as it is nourished”).
 - b. Perception: Aristotle describes perception as taking on (sensible) form without matter.

In both cases, Aristotle is interested in how an organism assimilates parts of its environment. The assimilation is purely physiological in the nutrition case, since matter is taken on. In the case of perception, it is form that is taken on.

Supporting C:

1. 417b2ff: There are different senses of *paskhein* (“being affected”).
2. 417b20ff: Perceiving is like thinking (contemplation), except that the objects of perception are external. Thinking is “up to us”, but perceiving requires an external object. This is because perception is of the particular (which is outside), while knowledge is of the universal (which is in the soul). But in both cases, the object (of thinking, or of perception) is in the **soul**.

Crucial but ambiguous passages:

1. 424a19-22: the wax/gold analogy (see below).
2. 424b17: “What more (*para*) is smelling than being affected by something?”

Neither interpretation is free of difficulties. Here are some of the problems that each faces, with possible responses.

Difficulties for the Physiological interpretation:

- a. If ‘Reception of Form’ is a description of the **material** side of perception, then what’s the definition (formal side) of perception?
- b. The physiological process attributed to Aristotle is silly, embarrassingly naive, “open to devastatingly obvious empirical refutation” (Barnes).
- c. *P* seems to make perception ordinary alteration, in spite of Aristotle’s reservations in II.5.

Responses on behalf of *P*:

- a. Perception itself is *sui generis*; each of the senses is defined by genus (perception) and differentia (the proper object of that sense). E.g., vision is defined as the perception of color.
- b. The physiological theory may not be so naive. Of course it’s silly to think you can explain how I see red by saying that something inside my head gets red, and there’s a little man in there who looks at that and *he* sees red. For now you have to explain how he sees red. Does he have his own little man inside his head?

But if you’re trying to explain how the informational content of the quality perceived gets into the observer (or the observer’s body) it’s not silly to suppose that this is done by having the quality itself (rather than some symbolic representative) occur inside the observer. Cf. Nathans, “The Genes for Color Vision” (*Sci. Amer.* Feb. 1989, 42):

Each class [of cone-shaped color-sensing cells in the retina of the eye] responds differently to light reflected from a colored object, depending on whether the cells have within them red, green, or blue pigments.

Although the details are very different, there is an important similarity to the account that *P* attributes to Aristotle. No pigment from the tomato enters the eye; rather, it “activates” pigments that the eye has built-in. **But something in the eye is (literally) pigmented.** (I think in fact the pigment that gets activated is of the complementary color.)

c. The issue of what kind of alteration perception is (if it is one at all) is important and complex.

1. Can *P* hold that the reception of form involves an alteration in the face of Aristotle's claim that it is an activity (*energeia*)? It seems not, since any kind of alteration is a *kinêsis*, and a *kinêsis* is not an *energeia*.

[The best response: the activity in the sense-organ in perception is a process in just the same way that the activity of walking may consist in the *kinêsis* of walking from *x* to *y*. That is, one and the same "happening" may be an *energeia* under one description and a *kinêsis* under another.]

2. In what way is the *kinêsis/energeia* in the sense-organ different from garden-variety alterations? (*P* must provide **some** difference.)

[A speculative possibility: in garden-variety alteration, a quality is transferred from one thing to another "from the outside". The quality was not already in the recipient *in potentia*. It remains in the recipient until something acts on it so as to remove it.

In perception, the quality is not transferred, but activated. The sense-organ already has the potentiality to take on any of the qualities it is sensitive to. So when acted on, its taking on the quality of the *aisthêton* is a fulfillment of its own nature. The quality remains actual, of course, for only a short time; the sense-organ quickly (and spontaneously) returns to its original "neutral" state. In this sense, the sense-organ is "preserved", not altered.]

3. A consideration in favor of *P*: Taking *aisthêsis* to be a special case of alteration (rather than not really an alteration at all) helps reconcile *DA* II.5 with *Physics* VII.2-3:

For in a way even the senses undergo alteration, since actual perception is a motion through the body in the course of which the sense is affected in a certain way. (244b10-12)

Alteration and being altered occur in sensible things and in the sensitive part of the soul and, except accidentally, in nothing else. (248a6-7)

Difficulties for the Cognitive interpretation:

- a. What, according to *C*, is the physiological basis of perception? Either there is none (Burnyeat) or there is one that is left unspecified here (Weller). The latter is much more attractive, since on the former Aristotle's physiological preoccupation in *DA* is incomprehensible. But both have the problem of

explaining why the physiological story is so thoroughly emphasized, then dropped like a hot potato.

- b. *C* makes key Aristotelian explanations circular.
 - 1. After-images (425b22): the redness that remains in the eye-jelly can hardly explain after-images if, as *C* maintains, that phenomenon just **is** awareness of red and nothing more. The awareness in question is the explanandum, not the explanans.
 - 2. The mean (424a7ff): Aristotle's explanations of the failure to perceive when the sense-organ is not in the right (= mean) condition is circular on *C*. An already warm sense-organ cannot perceive warmth because it cannot *become* warm. But 'become warm' here just *means* (according to *C*) 'perceive warmth'.
- c. *C* does not fit Aristotle's wax/gold analogy. For *C* takes 'x receives *F*-ness without matter' to mean 'x becomes *F* in an immaterial way'—i.e., without the matter of *x* being affected. (See Cohen, "Hylomorphism and Functionalism", p. 65 in Rorty & Nussbaum.)

A sense receives form without matter, he tells us, 'as wax receives the imprint of a signet-ring without the iron or gold; it takes the imprint of gold or of bronze, but not *qua* gold or bronze' (424a19-22). In illustrating 'without matter' Aristotle says 'without the gold'. It is clearly the matter of the *donor* that is at issue rather than that of the recipient. The analogy would be a poor illustration of the theory Burnyeat attributes to Aristotle.

Reconciliation?

A reconciliation may be possible between *P* and *C*. Note that the claims made by the two "interpretations" are not incompatible. So it may be that the reception doctrine involves both what *P* says and what *C* says:

a sense becomes aware of a sensible quality by means of an alteration in the corresponding sense-organ (in which the sense-organ takes on the sensible form of the object perceived).

If we include the parenthetical clause, this is just a conjunction of *P* and *C*. If we replace the parenthetical clause with its negation, we get a view like that of Cass Weller:

a sense becomes aware of a sensible quality by means of an alteration in the corresponding sense-organ (although the sense-organ does not literally take on the sensible form of the object perceived).

To get Burnyeat's (extreme) Intentionalism, we need to deny even more:

a sense becomes aware of a sensible quality without any alteration in the corresponding sense-organ.

Are *P* and *C* incompatible? They need not be. For *P* may be a description of the *material* aspect of perception, and *C* a description of its *formal* aspect. To get an incompatibility, you have to take *C* to include either (or both) of the following:

- a. There is no physiological process, no "alteration," in the sense-organ in perception.
- b. "Receiving form" or "taking on form" **means** awareness of form.

P can deny (a) without requiring a literal "taking on of form"; it can deny (b) ("receiving form" doesn't mean "being aware of form") without having to hold that perception is nothing more than a physiological process in the sense-organs.

We must take seriously the hylomorphic nature of Aristotle's theory of the soul and of perception. This means that each side in the dispute must accommodate something of the other. *C* must allow for the material side of perception; *P* must allow for the formal side of perception.

The resulting hybrid holds that Aristotle has both ideas in mind in asserting the Reception Doctrine. Perception is (materially) a process in the sense-organs; perception is (formally) an awareness of sensible form. Aristotle's formulations tend to run these ideas together; he doesn't always make clear which side of perception he's talking about.

Perception may, after all, involve the literal reception of form, but that cannot be established. What we can rule out, I think, are these two extreme positions. They are both entirely unlikely:

- a. Perception involves no physiological changes at all. (Burnyeat)
- b. Perception is a purely physiological process; Aristotle failed to take awareness into account. (Hamlyn)