

Aristotle and the Problem of Intentionality¹

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Aristotle not only formulates the problem of intentionality explicitly, he makes a solution to it a requirement for any adequate theory of mind. His own solution, however, is not to be found in his theory of sensation, as Brentano and others have thought. In fact, it is precisely because Aristotle regards this theory as inadequate that he goes on to argue for a distinct new ability he calls “phantasia.” The theory of content he develops on this basis (unlike Brentano’s) is profoundly naturalistic: it is a representational theory, formulated in terms of the causal powers and physical magnitudes of the body.

Contemporary interest in intentionality is often traced to Franz Brentano’s *Psychology from an Empirical Standpoint*. But Brentano did not think he was being original at all. He saw himself as belonging to a tradition reaching all the way back to Aristotle that recognized the “directedness” of mental acts. For Brentano, intentionality was a means to a further end, that of securing the autonomy of psychology: while all mental phenomena exhibit intentionality, he argued, no physical phenomenon does; therefore, the subject matter of psychology must fall outside the scope of the physical sciences ([1874] 1924, 1.124–25). This thesis has had a checkered fate. But the nature of intentionality has proven to be of significant interest in its own right. If it is a real feature of the world, it must be possible to account for its nature, in all its peculiarities—a task which proves difficult for everyone, from the most hard-boiled materialist to dualists of the most extravagant sort.

¹ I would like to thank David Charles, Alan Code, Marian David, Jamie Dreier, Dave Estlund, Jaegwon Kim, Michael Pakaluk, Richard Sorabji, Ernie Sosa, Michael Wedin and the three anonymous referees for their incisive comments and criticism, as well as my audience at the University of London, who heard an earlier draft in October 1995. After the article was accepted, I have had the benefit of seeing Hilary Putnam’s extensive criticisms in a forthcoming paper of his own (“Aristotle’s Mind and the Contemporary Mind,” to appear in the *Proceedings of the Conference on Aristotle and Contemporary Science*, Thessaloniki, Sept. 1–4, 1997), as well as the treatment of related issues in Shields 1995, Vasiliou 1996, and Everson 1997; I have tried to incorporate references to their work in the footnotes. I would like to thank Hilary for allowing me to refer to his paper.

Yet Brentano was right to look to Aristotle. Aristotle not only formulates the problem of intentionality explicitly, he makes a solution to it a requirement for any adequate theory of mind. His own account, though, is not to be found in his theory of sensation, as Brentano and others thought. On the contrary, Aristotle regards this theory as inadequate to the task and goes on to argue for a distinct new ability he calls “phantasia” precisely in order to solve the difficulty. The theory of content he develops on this basis is, quite unlike Brentano’s, profoundly naturalistic: it is a representational theory, formulated in terms of the causal powers and physical magnitudes of the body. Many of the details are worth serious consideration, in particular his causal analysis of representation and the emphasis he gives to the role of nonconceptual content.

I. The Problem of Intentionality

Intentionality is that feature of our mental states in virtue of which they can correctly be said to be *of* or *about* something or, more generally, possess content. The *problem of intentionality*, as I shall call it, is to provide a philosophical account of this feature, in all its peculiarities. Whether all mental states are intentional, or whether anything nonmental is, is a further and separate issue. Our primary concern here is simply what, if anything, *gives* mental states their intentionality and how it accounts for differences in the content of various mental states. I hasten to add that in framing the discussion in terms of a “problem,” I am not presupposing that there is a solution. In the abstract, an eliminativist position would count equally well as a response to the problem or, at the other extreme, a position that takes intentionality to be a irreducible, primitive feature of mentality.²

Criteria of Intentionality?

Over the last forty years, various criteria of intentionality have been proposed. They are all logical in nature, turning on the failure of sentences about mental states to obey certain familiar patterns of entailment. These proposals have been much contested, with abundant counterexamples.³ Such a debate casts doubt on the very possibility of finding criteria of intentionality; and that, in turn, might raise more general worries about any approach that treats intentionality as a single, isolable phenomenon.

² The problem, as I have formulated it, is thus more open-ended than what Tye calls the “Problem of the Mechanism of Intentionality” (1994, 136–39) or Haldane 1989 “Brentano’s Problem,” both of whom take the problem to require an answer which is both realist and explanatory. This is certainly the most challenging line to take; but it is not the only one.

³ See esp. Lycan 1969 and Martin and Pfeiffer 1986 (with references to the earlier literature).

But the demand for strict criteria comes from the question of autonomy. To show that the psychological cannot be reduced to the nonpsychological, one would need a precise demarcation between the two and optimally one that would show why the psychological cannot be reduced. It is for this last reason, no doubt, that criteria were typically formulated as *failures of entailment*. If psychological observations do not permit inferences nonpsychological “translations” would, they cannot be equivalent, thus blocking the proposed reductions. But the strategy will not work, and not merely because of counterexamples. Without artificial constraints on what counts as an acceptable “translation,” these criteria will not preclude the reduction of psychology to other empirical sciences.⁴

But if, on the other hand, our interest is in the nature of intentionality, and not reduction, we can perfectly well begin with “symptoms” of intentionality, even if they do not constitute strict criteria, so long as they allow us to map out the area of investigation in an at least preliminary way. We can then go on to see whether the phenomena in question are unified in any strong and interesting sense. So understood, the proposals for criteria may still have value. For they identify salient phenomena that must be accounted for in an adequate theory of mind, whether or not they are essential to all that is mental, or whether or not they are peculiar to it. As failures of common patterns of entailment, they are at odds with our intuitions about the rest of the world and so in need of explanation. The struggle to find such explanations, I would suggest, constitutes the real problem of intentionality.

The three most well-known failures derive from Chisholm (1955/56), along with another two from Anscombe ([1965] 1981) and Geach ([1964] 1980), respectively:

1. *Failure of Existential Commitment*

‘Alexius is thinking of Pegasus’ does not entail either ‘Pegasus exists’ or ‘Pegasus does not exist’; nor does its negation entail either.

2. *Failure of Truth-Functionality*

‘Isabella believes the world is flat’ does not entail either ‘The world is flat’ or ‘The world is not flat’; nor does its negation entail either.

⁴ Failures of entailment are a difficulty for reduction only if the translations have to be “paraphrases” of the intentional sentences and thus synonymous or analytically equivalent. Otherwise, it is trivial to produce sentences in the reducing vocabulary which lack the undesirable entailments—they need only avoid the phrases that express the content of the psychological attitude. While some conceptions of ontological reduction may require the reducing and reduced sentences to have the same sense, such constraints are inappropriate for the reduction of *empirical theories* such as thermodynamics or psychology. For penetrating criticisms along parallel lines, see Kim 1971, 327–29.

3. *Failure of Intersubstitutivity of Coextensive Expressions salva veritate*
‘Gottlob knows that Cicero is a cordate’ does not entail either ‘Gottlob knows that Tully is a cordate’ or ‘Gottlob knows that Cicero is a renate.’
4. *Failure of the Excluded Middle*
‘Elizabeth is thinking of a man’ does not entail ‘either Elizabeth is thinking of a man at least six feet tall or Elizabeth is thinking of a man under six feet tall.’
5. *Failure of Quantifier Exportation*
‘Jean promised me a horse’ does not entail ‘There is some horse that Jean promised me’.

Far from being all of a piece, these different failures break naturally into several groups. In fact, before the recent search for criteria of intentionality, they were not generally discussed together. Brentano is concerned with only the first two, which concern how our mental states can “miss” reality, so to speak, by being about what does not exist or what does not obtain. But neither of these failures afflicts veridical states like knowing, and so in the attempt to find general criteria additional failures were added. The third, borrowed from Frege, concerns our ability to think of things under certain aspects without thinking them under others, even when coextensive.⁵ The fourth failure brings this independence out still more forcefully, by showing that what we think about may be “incomplete,” and so indeterminate, with regard to all sorts of attributes, whatever their extension. The fifth is related: it concerns how mental states can be about an individual, without being about any determinate individual. The last three all concern different ways in which the content of thoughts can be abstract and “thin,” in contrast with rich concreteness of natural objects.

There is no reason to limit ourselves to failures of entailment, though, once we have put aside the quest for criteria. It should be plain that there will be other features a complete account of intentionality should explain—for example, what grounds specific *variations* in content.⁶ But such issues form a

⁵ Chisholm initially thought this third ‘criterion’ might subsume the other two (1955/56, 128, n. 3); but he quickly abandoned this hope in subsequent versions (e.g., 1957 and 1958).

⁶ As in Wittgenstein’s famous query, “What makes my image of him an image of *him*?” (1953 Part II, §3). This worry needn’t be restricted to particulars, however. It can be framed more generally as problem about what makes a given mental state about one thing rather than another: a particular *x* rather than a particular *y*, or an attribute *F* rather than an attribute *G*, or a state-of-affairs *p* rather than a state-of-affairs *q*. Such explanations, in my view, constitute the central task in providing an account of intentionality. While solutions to other difficulties will often bear on the solution to this set of problems, they are unlikely to provide a general solution. For a brief discussion, see Tye 1994, 139 f.

loose, heterogeneous set at best. There is no reason to insist that these different peculiarities receive a common explanation, and certainly no reason to expect a given philosopher to address all of them. Historically, what is essential is that a philosopher show an awareness of some of these peculiarities and recognize the need to account for them. I will focus here primarily on the first two, since these are most thematized in ancient discussions. But we will also have occasion to consider where some of the others tie in.

An Ancient Puzzle

A central theme in Greek philosophy, starting with Parmenides and Gorgias, concerns our ability to think of “what is not” (τὸ μὴ ὄν), an expression which, depending on context, can be used for nonexistent, like centaurs, or nonactual states-of-affairs, such as the world’s being flat. Some ancient writers lump these together, while others treat them as distinct. But the puzzles they pose are analogous in form. Intuitively, we feel drawn to each of the following three propositions, framed schematically here in terms of thinking:

- (I) Thinking consists in a relation to what a person thinks about.
- (II) No relation can obtain unless each of its relata exists (or obtains).
- (III) Sometimes what a person thinks about does not exist (or obtain).

As should be evident, however, these propositions form an inconsistent triad and so at least one must be rejected. But philosophers predictably disagree as to which one. The goddess in Parmenides’ poem, for example, courageously rejects (III), denying outright that we can think, or even speak, of what is not. Zeno of Citium, in contrast, the founder of the Stoa, rejects (II) instead, maintaining that our thoughts are sometimes directed towards objects that do not exist.⁷ But most philosophers are inclined to reject (I). They simply differ over *how* to reject it. One option is to abandon a relational analysis altogether, a move we can find some traces of in antiquity. But most retain a relational analysis, by substituting something in place of the object thought about: we think by standing in a certain relation to a suitable intermediary, *by means of which* we think of the object. For certain Platonists, thought consists in a relation to one or more Forms; for an Epicurean, it consists in a relation to part of the surface of a body; for the third head of the Stoa, Chrysippus, it consists in a relation to an abstract object that can be expressed in language.⁸ The adequacy of such proposals depends on the

⁷ See my “Something and Nothing: The Stoics on Concepts and Universals,” forthcoming in *Oxford Studies in Ancient Philosophy* (1999).

⁸ For a more detailed discussion of these issues, see my book *The Problem of Intentionality in Ancient Philosophy* (forthcoming with Cambridge University Press).

particular kind of intermediary and relation involved, and whether they can account for the peculiarities of intentionality.

Using this triad as a basis, it is easy to show that Aristotle was fully aware of the problem of intentionality and attempted to offer his own solution to it. It is not to be found in his theory of sensation, though, as Brentano and others have thought, but in his theory of phantasia. To see this, let us begin briefly with Aristotle's theory of sensation.

II. Aristotle's Theory of Sensation

The passage from *Psychology from an Empirical Standpoint* where Brentano first appeals to intentionality is well-known:

Every psychical phenomenon is characterized by what the scholastics of the Middle Ages used to call the intentional (or mental) in-existence of an object, and which we might call—although with expressions which are not entirely unambiguous—relation to a content, direction upon an object (which is here not to be understood as something real), or immanent-object-hood. Each contains something as an object within itself, although not in the same way. In presentation, something is presented; in judgement, something is accepted or rejected; in love, loved; in hate, hated; in desire, desired; and so on.⁹ (Brentano [1874] 1924–25, 1.124–25)

Much less known, however, is a footnote to this very passage, where Brentano acknowledges his intellectual debts, tracing the history of the notion through Aristotle, Philo, the Neoplatonists, Augustine, Anselm, and Thomas Aquinas. He begins with Aristotle:

Aristotle had already spoken of this psychical indwelling. In his books *On the Soul* he says that what is experienced, as something experienced, is in the experiencing subject; that the sense receives what is experienced without the matter; and that what is thought is in the understanding. (Brentano [1874] 1924–25, 1.125, note *)

Here Brentano identifies some of Aristotle's most central doctrines in *On the Soul* as precursors of his own conception of intentionality. Years later, in a letter to one of his former students, Brentano would again reflect on these doctrines and conclude: “wasn't he thinking essentially the same way as us?”¹⁰

Brentano is not alone. To the extent that intentionality is discussed in connection with Aristotle at all, the same doctrines are standardly cited.¹¹ But the evidence is not encouraging when viewed in context. In fact, Brentano

seems to have realized this himself in later years. Although he would continue throughout his life to credit Aristotle for his conception of intentionality, as early as 1889 he stops citing *On the Soul*, turning instead to a text from the *Metaphysics* (5.15, 1021a26–b3).¹² This is not the place to investigate this further claim, but it is equally hopeless as evidence for the concept of intentionality.¹³

The first doctrine cited in the passage above holds that the object of sensation is in some sense present in the act of sensation. This derives from *On the Soul* 3.2, where Aristotle claims that (i) the functioning or activity of the sensible object is “one and the same” (ἡ αὐτῆ καὶ μίᾱ) as the functioning of sensation (425b26–27, cf. 426a15); and (ii) these occur together in the perceiver (426a10–11). It is easy to understand Brentano's temptation. To say that sensation, which occurs in the perceiver, is the same as the functioning of the sensible object seems to make the object, insofar as it is an object of sensation, immanent in the act. Indeed, it seems to constitute the act and so explain what that act is about.

The difficulty is that this doctrine, and the whole structure of act and object in Aristotle's psychology, comes straight from his more general views on causation. A version of this doctrine applies to every case of causal interaction, whether the perception of an object, the digestion of a biscuit, or the warming of a kettle. In fact, in applying it to perception, Aristotle explicitly appeals to this more general principle (426a2–11), developed at length in *Physics* 3.3. There Aristotle argues that in every causal interaction the functioning of the agent is “one and the same” as the functioning of the patient and present in the patient (202a13–16). If this doctrine entailed the presence of intentionality, it would entail it for every case of causal interaction across the board.

More serious still is the fact that this doctrine can apply to only a handful of intentional states at most. It may be reasonable to identify the object of sensation with its cause. But for a wide range of mental states that could never work. The contents of our dreams, desires, wishes, fears, thoughts and plans often do not correspond to anything in reality, much less their causes. Thus, whatever this doctrine contributes to his theory, it cannot provide a model for the intentionality of mental states in general. It is precisely the sort of doctrine that leads to the inconsistent triad above.

⁹ In what follows, all translations are my own.

¹⁰ From a letter to Anton Marty, dated 17 March 1905 (reprinted in Brentano 1930, 88–89).

¹¹ Geysler 1917, 158–59; Simon 1934, 12–27; Rohmer 1951, 13; Anscombe and Geach 1961, 55; Oehler 1962, 188–201; Veatch 1974, 83–84; Owens 1963, 31–32, 218–28; [1976] 1981, 74–80; 1981, *passim*; Richardson 1983, 275–79; Basti 1986; Modrak 1987, 32 and 148; Münch 1993, 42–63; Shields 1995, esp. 322–30. (Properly speaking, we should also add Burnyeat 1992 to this group, even though intentionality is not his principal concern.) A few other scholars cite a passage from *On Memory and Recollection* we will discuss below (see pp. 258–60, esp. n. 21).

¹² Brentano 1889, 14 and 51, n. 19; the 1911 appendix of [1874] 1924, 2.133–34, 272; 1930, 117; 1933, 133–34, 166–69; 1982, 21–22. The one exception I know of is in a private letter (1930, 88–89; cited above on p. 254); but there he is trying to explain what he meant when he originally wrote his *Psychology* (1874), where he did appeal to the *On the Soul* passages.

¹³ Briefly, the passage makes a point about linguistic redundancy in certain forms of relative description, not the ontological distinction Brentano takes him to make. For a discussion of these passages, see my *The Problem of Intentionality in Ancient Philosophy* (n. 8 above).

These difficulties might lead us to pin our hopes on the second doctrine, of receiving the form “without the matter” (ἀνευ τῆς ὕλης). This puzzling phrase derives from the opening of *On the Soul* 2.12, where Aristotle compares sensation to the impression of a signet ring in wax, which takes on the ring’s device without its gold or bronze (424a17–24); a similar idea seems to underlie his remarks about conceiving or understanding (3.4, 429a15–16). It is related to his critique of Empedocles’ theory, which requires an exact replica of the object to be present in the subject if cognition is to occur. But when we perceive or think of a stone, Aristotle objects, there is no stone in our soul, only its form (1.5, 410a7–13; 3.8, 431b29). Yet if the signet ring metaphor is any guide, the form will not be disembodied either; it simply will not be instantiated in the matter of the original object. What does it mean, then, for the form to be “received without the matter”? Unfortunately, Aristotle says nothing further except to contrast it with heating or cooling a plant, which is affected “with the matter” (μετὰ τῆς ὕλης, 2.12, 424b2–3). The contrast between sensation and heating is suggestive, of course, and so one might be tempted to think this doctrine was meant to distinguish intentional from nonintentional states in general.

This doctrine does not yield what is wanted, however. I will mention just three difficulties. (1) Aristotle takes the example of the wax and signet ring to be a *genuine* case of receiving form without the matter,¹⁴ even though the wax is not in any intentional state about the ring.¹⁵ If so, then such reception cannot be a sufficient condition for intentional states. (2) There is nothing in the phrase itself to suggest the notion of intentional reference. How does being “received without matter” signal the notion of being *about* something? The only argument ever offered for it—if any is offered at all—is an argument by elimination;¹⁶ and that can hardly be taken to show Aristotle possessed a *concept* of intentionality, even if there really were no acceptable alternatives. But suppose, *arguendo*, this phrase was meant to express intentionality. What would “being received without the matter” explain? Why would one instantiation of the form be about another, and not vice versa? And why would it be about a *particular* instantiation, as sensation notably is according to Aristotle?¹⁷ (3) The doctrine is still a causal doctrine: the form is received

from something which genuinely has the form. But in the case of thinking about centaurs, there does not seem to be a form, much less a centaur to receive it from. This doctrine cannot, therefore, be extended to intentional states in general, many of which are not about any of their causal ancestors.

One can conjecture ways of meeting these difficulties, as commentators have for centuries. But the real point, I would urge, is that one *must* contrive them. Aristotle’s phrase is an obscure one and gives little hint of the concept of intentionality, much less a solution of its various difficulties. If this were all we could find of Aristotle’s reflections on intentionality, we could close the book right there.

Sensation and conception are clearly about something, of course, and thus intentional states. They are also clearly fundamental to Aristotle’s psychology and epistemology. But their importance, I would argue, is due to their role as *transducers* of information, taking input in one form and producing output in another (see p. 268 below). It is *not* because they provide a model for intentionality in general.

III. The Problem of Presence in Absence

Aristotle has a great deal to say about intentionality, though. In fact, on at least three occasions, he explicitly formulates what might be called “the problem of presence in absence”—the problem of explaining how something absent from our environment can nevertheless be “present” to mind. He issues it as a challenge to his opponents’ theories and twice rejects them on that basis, *thus making a solution to the problem a requirement for any adequate theory of mind*. He seems confident his own theory can account for it. But each time he does little more than allude to the type of solution he favors. The few details he gives are important, though, and will be crucial to our later discussion.

The Aporia

Aristotle first formulates the problem in his short essay *On Memory and Recollection*:

But one might reach an impasse: How does one remember what is not present in the first place, given that, while the affect [παῖθος] is present, the object is absent? (1, 450a25–27)

The problem is not an idle one for Aristotle, but arises naturally from within his own theory. Personal memory is not directed towards something present

the least.” He argues that we needn’t take it that way, however, suggesting instead that the “strange prose” of the chapter might just be a figure of speech to express our direct awareness of the properties of external things. But in using the phrase ‘receiving form without the matter,’ Aristotle is employing the technical terminology of his own metaphysics. Could he really have been using it figuratively?

¹⁴ This has occasionally been denied: cf. Brentano (1867, 81) and Owens, who insists the metaphor “limps” ([1976] 1981, 77–78; 1981, 91). But this reading goes hard against the text, which simply says ‘such as’ (οἷον); even Aquinas accepts it as a “fitting example” (*conveniens exemplum*, *In De an.* II, lectio 24, §554 Pirota).

¹⁵ The Greek commentators also offer mirrors as an example of something that receives forms without the matter and yet does not thereby have cognition: Philoponus *In De an.* 444.17–26, cf. 437.19–25; Sophonias *In De an.* 110.17–21; cf. 102.35.

¹⁶ This form of argument is explicit in Owens 1980 and 1981, and Burnyeat 1992, 19, 21, 24.

¹⁷ Putnam (*forthcoming*; see n. 1) concedes that if this phrase was meant to explain intentionality, it is “mistaken; taken as an explanation, such a metaphysics is unhelpful to say

like perception is, but towards a past event (τοῦ γενομένου) we have previously experienced.¹⁸ But then memory cannot be explained by the same model as sensation. On his view sensation, like any other causal effect, is *simultaneous* (ἄμα) with the activity of the object that brings it about¹⁹ and so requires the object's presence (*On the Soul* 2.5, 417b24–25). What causes us to remember on a given occasion must therefore be something present.²⁰ But for just the same reason, the cause of remembering cannot be its object, which is, by definition, something past.

What is it about the “present affect,” then, which makes it about something absent? Although Aristotle discusses the problem at some length (450a27–451a14), much of his discussion concentrates on features peculiar to memory and related states, and so cannot provide the basis for a more general theory of intentionality.²¹ But his opening remarks reveal his preference for a *representationalist* solution:

For clearly one must understand the affect (the possession of which we call memory) to be like a kind of picture, occurring on account of sensation in both the soul and the part of the body which has [sensation]. For the change which occurs is imprinted like a kind of cast of the sensory stimulation [τοῦ αἰσθηματος], just like signatories do with their rings. (1, 450a27–32)

¹⁸ *On Mem.* 1, 449b11–25; cf. *Rhet.* 1.11, 1370a29–34. As Julia Annas has convincingly shown ([1986] 1992), Aristotle's does not use ‘μνήμη’ for everything we would call memory, but only with respect to events that fall within our past experience. Nonpersonal cases of memory, such as remembering a mathematical theorem, are treated under the label ‘recollection’ (ἀνάμνησις) instead.

¹⁹ *On the Soul* 3.2, 426a17–19; more generally, cf. *Phys.* 2.3, 195b17–18; 3.2, 202a6–7; 7.1, 242a57–62; *Metaph.* 9.8, 1050a28–29.

²⁰ The activity of the agent cannot occur unless the agent itself is also present. After the agent has perished, there is no longer a subject for the activity to inhere in.

²¹ Several commentators have nevertheless taken this passage to provide the basis for a more general theory: De Corte 1934, 176; Simon 1934, 23–24, n. 1; Everson 1997, ch. 5 *passim*; and in a more qualified vein, Modrak 1987, 104–06 and 1986, 68–69. But in this passage Aristotle is concerned with two features essential to personal memory: (i) having an experience derived from a past experience, and (ii) *taking* this to have derived from a past experience. Using this two-part analysis, Aristotle distinguishes cases where we genuinely remember (when (i) and (ii) both occur) from those where we merely seem to remember (when (ii) occurs by itself) and from cases where we ought to remember, but in fact do not (when (i) occurs by itself). Each part of this analysis prevents it from forming the basis for a more general theory of intentionality. (i) presupposes that the object exists at some point or the other, which does not hold for mental states in general. (ii), on the other hand, injects a reflective, second-order mental state into the analysis, a condition which is implausible for many mental states. Worse, it threatens to make the account circular, analyzing intentional states in general by appealing to an intentional state. But Aristotle does not think (ii) holds for all mental states—indeed, part of his point in this passage is that there are cases of intentional states where only (i) is satisfied (451a2–8), thus showing that there is content apart from (ii). He is thus not committed to the view that an intentional state like *taking X to be Y* is necessary for having content. He only mentions it in cases where a reflective attitude is natural, such as having a personal memory, merely seeming to have a personal memory, and interpreting dreams (see below, pp. 281–83).

The affect Aristotle refers to is identified in succeeding lines as a “phantasma,” the product of a process he calls “phantasia.” Appealing to the metaphor of the signet ring once more, Aristotle describes the phantasma as an imprinting of the sensory stimulation, which it replicates “like a kind of cast” (οἶον τύπον τινα).²² It allows us to remember something absent because it serves as “a kind of picture” (οἶον ζωγράφημα τι)—in short, a *representation*—of what was originally experienced. By standing in the right relation to this phantasma, we remember not the phantasma, but what the phantasma is *of* or *about*.

This strategy is not restricted to memory, moreover. In *On the Soul* 1.1, Aristotle argues that *because* passions such as fear exhibit presence in absence, their content must be due to a state of the body:

One can undergo the passions of a frightened person, *even though nothing frightening is happening*. But if this is so, then clearly the passions are enmattered reasons. (403a23–2)

A child, for example, might be afraid that there is a ghost in her closet, even though there aren't any ghosts—indeed, there may not be even anything remotely ghost-like in her vicinity—and so the content of her fear cannot be explained in terms of any direct relation to present objects. Aristotle infers from this that passions must themselves be “enmattered reasons” (λόγοι ἐνυλοῖ): bodily states which *encode* the kind of contents that motivate us to action.²³

Exactly how such states represent is not explained in either passage. But it is already evident that Aristotle conceives of them as changes in the body and so is unlikely to intend the picture metaphor to imply that representations are literally *viewed*.²⁴ On the contrary, he speaks of phantasmata as affects of the central organ (*On Memory* 1, 450a10–12), which he believes is the heart; of how such changes can be stored in a moist environment, while preserving

²² The repetition of the signet ring metaphor is significant. Elsewhere Aristotle describes phantasmata as being “just like sensory stimulations only without matter” (*On the Soul* 3.8, 432a9–10), much as sensory stimulations themselves are the result of sense objects' forms being received “without the matter” in the sense organ (2.12, 424a17–24). But if this process can be repeated, the phrase ‘without the matter’ cannot signify disembodied “imprints”; nothing could be disembodied more than once. Rather, it indicates the specific kind of causal process involved, where only certain abstract characteristics of the form are preserved—in effect, where information of one form is *transduced* into another. See below, p. 268.

²³ Several meanings of the Greek ‘λόγος’ might be relevant here: (a) a unit of significant speech, such as a word, sentence, argument, or story; (b) a ground or reason; or (c) a proportion or ratio. In this passage, it is often translated as ‘formulae,’ in accordance with (a). But this is obscure, unless (b) is also meant, which is all the more appropriate in context given the action-guiding role passions have. But, as will become clear below (p. 262), (c) may also be involved, if Aristotle has in mind his own technical views concerning the form of representation.

²⁴ For further discussion, see pp. 261–62 and 281–84 below.

their information intact (1, 450a32–b11), and of how their successful retrieval can be impeded by the disruption of bodily fluids around the heart (2, 453a14–31). If he thought that parts of the body represent by *looking like* the items they represent, his theory would be open to the same ridicule he heaps on Empedocles.

Against Noetic Rays

Next, consider a second passage from *On Memory and Recollection*. It occurs in a digression, in which Aristotle asks how we manage to think of distant objects:

For a person does not think of things which are large and far away by thought extending to that place, as some say vision does. For a person will think in a similar manner *even if they do not exist* [μη ὄντων]. (2, 452b9–11)

The theory Aristotle criticizes here takes thought to operate by means of a “noetic ray,” which literally reaches out from the subject in order to grasp the object. The immediate inspiration for this theory is, as he says, earlier extramission theories of vision, something he criticizes vigorously elsewhere (*On Sensation and Sensibles* 2, 437b11–438a5). But the underlying idea can already be seen in Homer, where thought is like something winged (*Od.* 7.36), “darting” through the universe to far away places whenever the thinker calls them to mind, as swiftly as the goddess Hera flies (*Il.* 15.80–83). On such theories, we can think about objects which are absent from our immediate environment, provided we are able to reach out and touch them with our thoughts.

But as Aristotle rightly objects, the problem of presence in absence is far more radical. It is not just a matter of distance. Ignore the improbable physics involved and imagine a noetic ray could reach as far as the Pillars of Hercules or even the moon; it still could not go far enough. Nothing can reach what doesn’t exist—there isn’t anything *there* to extend *to*.²⁵ It is the kind of thing imaginable only in literary hyperbole, such as we find in the treatise *On the Sublime*:

Not even the entire cosmos suffices for the reach of human reflection and thinking, since our thoughts frequently pass beyond the boundaries of its periphery as well. (35.3)

That is just what a noetic ray would have to do; and, we can hear Aristotle say, it would be in vain.

Aristotle’s criticism, we should note, is perfectly general. It does not depend on the details of extramission theories. It does not matter whether the

²⁵ Aristotle elsewhere points out that what does not exist, such as the goat-stag or the sphinx, “is not anywhere at all” (*Phys.* 4.1, 208a30–31; cf. 5.1, 225a31–32). Cf. Plato, *Tim.* 52B3–5 and *Parm.* 162D3, and more generally, cf. *LSJ*, s. οὐδαμοῦ.

“ray” is physical or supraphysical, or even whether extramission is involved at all: the theory could just as well have involved intromission or some combination of the two and still be subject to the same criticism. What Aristotle objects to is the more general claim underlying these theories, that thought *consists* in a *direct relation* to the object thought about, viz.,

(DR) $T(S, O)$.

(DR), of course, is just proposition (I) of the inconsistent triad we started with, which Aristotle deploys here to great effect. His challenge rests on proposition (II): a noetic ray is inadequate precisely because *nothing* can be related to what does not exist. But (I) and (II) together imply that one can *only* think of what exists, against proposition (III), and that, Aristotle believes, would be absurd—*pace* Parmenides, we obviously can think of things which do not exist.

Having insisted on (II) and (III), the only remaining option is to deny (I). For while we can clearly stand in all sorts of relations to existent objects, thought cannot consist in any of them. For we cannot stand in any relation to objects which do not exist, and Aristotle demands that thoughts about existent objects occur *in the same way* (ὁμοίως, 452b11) as thoughts about what does not exist: veridical and nonveridical thoughts must receive the same underlying analysis. But then *no* thought can consist in a direct relation to what is thought about. (DR) must be rejected quite generally.

Aristotle immediately goes on to offer a brief sketch of how we do think, which turns on the presence of internal changes that *model* or *simulate* the objects thought about (*On Memory* 2, 452b11–16). Once again, he takes the subject to stand in relation, not to the objects thought about, but to “something distinct within the subject” (ἄλλο ἐν αὐτῷ, 452b16) which *represents* those objects, whether or not they exist. This type of account, often referred to as the “Representational Theory of Mind,”²⁶ can be applied to thought by means of the following schema,

(RT) $(\exists r) [T^*(S, r) \wedge r \text{ represents } O]$.

A subject *S* thinks about an object *O* just in case he stands in the relation *T** to some *r* which represents *O*. By using ‘*T**’ instead of ‘*T*,’ we leave open what sort of relation is required for thought to take place. Some representational theories, usually associated with British Empiricism, take the subject to be *conscious* or *aware* of the representation. But most contemporary theo-

²⁶ For different versions of this schema, see Field [1978] 1981; Fodor [1984] 1990, 319 and 1987, 17; McGinn 1989, 178. The first two theorists, unlike Aristotle, are concerned exclusively with *propositional* attitudes such as belief. But the underlying logical structure of their accounts is the same.

ries do not: the representation need only stand in the appropriate physical and causal relations to the rest of a subject's cognitive apparatus, without being itself the object of any intentional state. Aristotle, I would argue, falls in the latter camp.²⁷ He claims that we think *by the occurrence* of the relevant sort of change within us (τῆ κινήσει, 452b11–12); he does not further require that we be *aware of* this change. To use a scholastic distinction (e.g., Aquinas *ST* 1a q. 85 a. 2), such changes are merely the *means by which* we think (*id quo intelligit*), not something which itself is thought about (*id quod intelligitur*)—a distinction Aristotle makes himself in discussing phantasmata and the objects of dreams.²⁸

Aristotle also makes some effort to clarify the way in which *r* represents *O*. He claims that we think of objects which are “large and far away”

by means of a proportional change; for in it there are similar shapes and changes. How, when a person thinks of larger things, will the fact that he thinks of them differ from [his thinking of] smaller things? For everything inside is smaller, just as the things outside are proportional also. Perhaps just as something distinct in him can be taken to be proportional to the forms, so too [there will be something which is proportional] to the intervals. (2, 452b11–16)

The proportional change that occurs in the subject exhibits the same proportions as the objects thought about, including their forms, shapes, sizes, and distances, as well as the changes in these over time. Such representations need not be restricted to so-called “primary qualities” either. In Aristotle's day, tones were widely analyzed in terms of certain proportions; and Aristotle extends this analysis to colors, flavors and temperatures.²⁹ He seems to have in mind an analog form of representation, whose parts represent the parts of the object, and whose content is decidedly nonpropositional: complex four-dimensional scenarios are represented, rather than states-of-affairs. Internal changes represent such scenes by *modeling* or *simulating* them, that is, by preserving the *relation-structure* that holds between the various objects in the scene over time.³⁰

²⁷ Against Everson 1997, who appears to take Aristotle to fall in the first camp (194–95, 197, 199; cf. 175–77). His position seems to be due to an overgeneralization from cases where second-order awareness is clearly involved: against this, see n. 21 above and pp. 281–83 below.

²⁸ *On Dreams* 3, 461b24–26: “But his authoritative and discriminating [part] did not say, while it was perceiving, that [the stimulation] was Coriscus, but rather *on account of this* [διὰ τοῦτο] said that *that* man over there is Coriscus, the real one.” For a discussion this important passage, see n. 83 below.

²⁹ *On the Soul* 3.2, 426b3–7; *On Sensation* 3, 440b1–26; 4, 442a13–31; *On Gen. of Anim.* 5.7, 786b25–787b20; *Post. An.* 2.2, 90a18–22; *On Gen. and Corr.* 2.7, 334b14–16. For a valuable survey of the evidence, see Sorabji 1972b; also Barker 1981 and Modrak 1987, 57.

³⁰ On the notion of a “relation-structure,” see Craik's pioneering essay ([1943] 1967, 51): “By a model we thus mean any physical or chemical system which has a similar relation-structure to that of the process it imitates. By ‘relation-structure’ I do not mean some obscure non-physical entity which attends the model, but the fact that it is a physical

Such representations need not be scale models that actually *look like* what they represent. The correspondence can be quite abstract. A phonograph record, to use Wittgenstein's example ([1922] 1983, 4.014; cf. 4.01), would be a case in point: both auditory and temporal magnitudes are preserved *spatially* in the grooves of the record. But Aristotle commits himself here to nothing more than such abstract correspondences. He insists only that the *proportions* between magnitudes be preserved; he does *not* require that they also be along the same *dimensions* as those represented. Nor is this surprising: his representations are, after all, changes in the bloodstream. It is of course possible Aristotle believed that when I think of various sensible objects—the aroma of coffee, say, or the feel of marble, or the crescendo of a symphony—my blood emits a faint odor, hardens slightly, gurgles somewhat more loudly. But it is surely more plausible to think that he is committed only to what he says, namely, that their *proportions* are encoded in the changes in the bloodstream, with certain dimensions mapped onto others, much as in the phonograph record.

It would be wrong, though, to press an *analysis* of representation from these brief remarks. Aristotle only says that we think about large and distant objects *by* undergoing such changes, a phrase which need only indicate the *means* by which we happen to think such thoughts. That is, he may only be referring to the mechanisms by which we (as humans) *implement* or *realize* a certain kind of representational system, rather than the nature of representation itself.³¹ Differences in proportions might yield differences of the sorts relevant to content, *without* being the *only* way to obtain these differences—proportions may be only one of multiple realizations. (Phonograph records are a case in point.) This is just as well, since an analysis solely in terms of proportions would encounter stiff objections on its own, objections that might be evaded if it were embedded in a different account, such as the causal analysis we shall consider below (Section V). Different proportions might covary with different causal powers and so be relevant to content, without being cited directly in the analysis.

The importance of this passage is again strategic. It confirms that the content of mental states is to be explained by appealing to the content of internal representations, which are changes in the body that represent in virtue of their physical features, such as proportions, and not by being viewed or grasped.

working model which works in the same way as the process it parallels, in the aspects under consideration at any moment . . . Kelvin's tide-predictor, which consists of a number of pulleys on levers, does not resemble a tide in appearance, but it works in the same way in certain essential respects.” For a more extended and precise treatment, see McGinn 1989, 176–82. A similar notion can also be found in psychological studies of image rotation, where it has been described as a “second-order (functional) isomorphism”: cf. Shepard and Chipman 1970.

³¹ I would like to thank Hilary Putnam for making this suggestion (in conversation).

But representationalism is not the only solution, as Aristotle well knows. In his polemic *On Ideas*, he examines a solution that takes Platonic Forms to mediate our thoughts—in fact, it uses the problem of presence in absence precisely to argue for the existence of Forms. Naturally, such a solution is unacceptable to Aristotle. But the Platonist *has* done what Aristotle demanded: he has acknowledged the problem of presence in absence and offered a solution to it. It simply comes at a cost Aristotle is unwilling to pay. So Aristotle ups the stakes. The Platonist's proposal, he argues, must be rejected because it cannot handle the *full range* of cases that presence in absence involves—and no psychology is acceptable without a *general* solution to the problem. Once again Aristotle seems confident his own theory can meet this demand. But again he only hints at the cards he is holding. We will have to see later whether he is bluffing.

The Platonist's argument runs roughly as follows. Whenever we think, for example, of a dove, we “think of something that is” (τῶν ὄντων τι νοοῦμεν). But someone might have the same thought, even if every particular dove had perished. There must, therefore, be something he is thinking of apart from the particulars, and this will be a Platonic Form or Idea.³² Notice that the Platonist, like Aristotle, insists on a single, unitary analysis of thinking: he assumes *the same thought remains* (μένει ἡ αὐτὴ ἔννοια), whether or not the corresponding object exists. If a relational theory is to be retained, as the Platonist also assumes, it follows that the thinker must be related to an entity that can exist independently of the whole race of doves.

Yet even when understood in this way, the argument is still invalid, since it only implies that *something* must exist separate from particular doves—we have not yet been given a reason for why it must be a Platonic Form, not to mention the Form of Dove.³³ But Aristotle's objections proceed on the

³² *On Ideas* 81.25–82.1 Harlfinger (following mss. OAC): “If, whenever we think of a human or a land-dweller or an animal, we think of one of the things that are and not any of the particulars—for the same thought remains even if they have perished—then clearly there is something in addition to perceptible particulars, which we think of both when they are and when they are not, for we do not at that time think of something that is not. This is both a Form and an Idea.” Two comments regarding my paraphrase are in order here. (1) I have used thinking of a dove as an example to avoid the gratuitous implication of the Platonist's original examples that the thinking subject must be neither human nor animal himself. (2) I take the phrase ‘even if they have perished’ (‘φθαρέντων τούτων’) to signify a case where *all* the particulars of that type, collectively, have perished—the plural cannot signify ‘when *any given one of them* has perished,’ as Fine seems to take it (1993, 120 f. and 312, n. 28). For further discussion of her interpretation, see Caston 1995, 165.

³³ As it stands, it is not even a valid argument for *universals*, as Fine claims (1993, 129) following mss. LF (see n. 37 below). It would be valid if the second premise claimed that we could have the same thought even when *every particular in general* had perished (which is how Fine reads it at 129 and 310, n. 14). But then it would be trivially false: if *all* particulars were to perish, no thinker would be left and so *no* thought would remain either,

assumption that such a result *can* be derived, in order to reduce the argument to absurdity. Therefore, a charitable reconstruction of the argument—as Aristotle understands it, at any rate—should try to make it valid.³⁴ Whether any such argument can plausibly be attributed to Plato is another matter entirely.³⁵

The argument can easily be made valid, though, if we construe the first premise as follows: whenever someone thinks of an *F*, he stands in the relevant relation, *T*, to something *that is itself F*—indeed, it would be characteristically Platonic to use the phrase ‘something *that is*’ in this way, with ‘is’ construed predicatively as well as existentially. But then the desired conclusion follows straightforwardly. For any subject *S* and type *F*,

1. Whenever *S* thinks of *F*, *S* stands in *T* to something that is *F*.
 2. *S* thinks of *F* in the same way even when there are no particulars that are *F*.
- ∴ 3. There is something that is *F* even when there are no particulars that are *F*.

But then, given that everything is either universal or particular (cf. *De interpretatione* 7, 17a38–b1), it follows from (3) that there is at least one universal. Since, moreover, (i) this universal is itself *F* and (ii) it exists even when no particular *F*'s do, it is both a *paradigmatic* and *separate* universal of *F*, in addition to being an object of thought. It is, in short, a Platonic Form of *F*.³⁶

Aristotle's strategy against this argument is a form of *reductio ad absurdum*: he tries to show that if the argument were sound, it would also yield results the Platonist could not accept. Given Aristotle's own views about thought, the counterexamples he picks are important:

He says this argument implies Ideas of perishing things, perished things, and generally particulars and things which perish, such as Socrates and Plato. For we think of them and retain phantasia of them, even though they no longer are—for we preserve a phantasma even of

not to mention the *same* thought. If the argument is going to have any chance of success, then, it must be contextually restricted to cases where all the particulars *of the type in question* have perished, but not all particulars *tout court*. (Fine in fact uses this more restricted version herself in her schematization of the arguments on 120–21, explicitly defending it at 309, n. 2.) But then the premises do not imply the existence of a universal, only the existence of something which is not a particular *of the type in question*.

³⁴ My approach thus differs from Fine's (1993, 120–29), whose interpretation of the treatise as a whole requires that Aristotle take this argument to be invalid (as one of the “less” accurate arguments). For a criticism of this approach, see Caston 1995, 163–65.

³⁵ For a thorough discussion of relevant passages from the Platonic corpus, see Fine 1993, 129–41.

³⁶ For present purposes, it does not matter exactly how we construe ‘paradigmatic,’ so long as it is a sense Aristotle would reject himself, but take the Platonist to accept.

things which no longer are. But we also think of things which are not in any way at all, such as a hippocentaur and a chimera, so that this sort of argument does not prove there are Ideas. (*On Ideas* 82.1–6 Harlfinger, following mss. OAC)³⁷

If the argument works, Aristotle claims, it should work equally for thoughts of Socrates or of hippocentaurs.³⁸ But no Platonist, he believes, can accept either a Form of Socrates or a Form of Hippocentaur. To avoid the undesired consequences, then, the Platonist must abandon at least one of the premises of his argument.

More significant, however, are the implications for Aristotle's own views. First, he clearly allows that we *can* think (νοεῖν) of individuals,³⁹ not to mention nonexistents such as centaurs, which “are not in any way at all” (τὰ μηδ' ὄλως ὄντα) and so lack a form.⁴⁰ Given more restricted uses of ‘thinking’ elsewhere in Aristotle's corpus, these are important remarks. He also makes an effort to explain how it is that we actually do think of such things. We do it, not in virtue of a Platonic Form, but phantasia—specifically, by having a phantasma of the things thought about. We have something within us that represents the object, and by standing in the appropriate relation to this representation, we think about what it represents.

Secondly, if some form of the Platonist's argument is valid, Aristotle faces a choice himself—in fact, he is threatened by the argument more than

³⁷ Mss. LF add: “But it does prove that there is something else aside from particulars. The universal which is in particulars accords with this, then, and it does not necessarily introduce Ideas.” See n. 33 above.

³⁸ In the case of empty kinds like the hippocentaur and chimera, one need only substitute ‘hippocentaur’ or ‘chimera’ for ‘*F*’ in the schema above. But the case of individuals such as Socrates and Plato needs a little more care. Were we to read the first premise as claiming that whenever we think of Socrates, we stand in *T* to something which *is* Socrates, in the sense that it is something *identical* to Socrates, the first premise will contradict the second: for if we stand in relation to something that is identical with Socrates whenever we think of Socrates, then he must still exist, against the second premise. To get this objection off the ground, then, we must continue to use ‘is’ predicatively and not slide into an identity statement: whenever we think of Socrates, we stand in *T* to something which is (a) Socrates. A Fregean, of course, could not accept such a construal—he would have to reformulate the predicate as something which *Socratizes*. But Aristotle would accept a proper noun as a predicate, as is clear from the example in *Pr. An.* 1.33 (see next note).

³⁹ Cf. *Pr. An.* 1.33, 47b21–29, where Aristotle considers the following inference: A thinkable Aristomenes is always (ἀεὶ γὰρ ἐστὶ διανοητὸς Ἀριστομένους); but Aristomenes is a thinkable Aristomenes; therefore, Aristomenes is always. For a thorough analysis of this passage, see Bäck 1987.

⁴⁰ Although it is sometimes denied, Aristotle clearly believes we can think of things which do not exist: apart from the hippocentaur and chimera (*On Ideas*, 82.6–7), he mentions the goat-stag (*De interp.* 1, 16a16–18; *Post. an.* 2.7, 92b6) and “things which are not” more generally (*Top.* 4.1, 121a23); similarly, we can wish for the impossible (*Nic. Eth.* 3.4, 1111b22; *Eud. Eth.* 2.10, 1225b32–33). We can even know *that* such things do not exist (*Post. an.* 1.38, 49a22–26). But because they do not have an essence or form, we cannot know *what* they *are* (*Post. an.* 2.7, 92b5–8), for they “are not in any way at all.”

the Platonist, who might plausibly make an exception in his account of thinking when it comes to individuals and mythical kinds. But Aristotle cannot ever accept the argument's conclusion: he rejects separate, paradigmatic universals in *all* cases, including natural kinds like dove. Therefore Aristotle has to reject at least one of the premises. And he cannot reject premise (2). Against the Platonist, he urges that we *can* think of Socrates after he has died or of the hippocentaur even though there are none—we can have the same thought, whether or not there is a corresponding object in reality. His earlier argument against the noetic ray theory rests on a similar point. These are not merely dialectical, *ad hominem* premises, then: Aristotle accepts them *in propria persona*. If he is to avoid Platonic Forms, Aristotle must reject (1).

(1) might seem easy to reject, at least as formulated above, since Aristotle does not believe we think of the phantasma itself, but rather of what the phantasma represents. But this response is not sufficient. For we can rewrite (1) using a weaker relation like *T**, viz.,

1'. Whenever *S* thinks of *F*, *S* stands in *T** to something that is *F*

without affecting the validity of the argument. For (1') equally entails the existence of something that is itself *F* whenever someone thinks of it, and from this the Platonist's conclusion inexorably follows: whatever relation we stand in, it will be to something that is *F* even when there are no particular *F*'s. Aristotle must therefore reject (1') as well and deny that whenever a subject thinks of *F*, the following is true:

(ES) $(\exists x) [T^*(S, x) \wedge x \text{ is } F]$

Aristotle, that is, must deny that we stand in relation to an object that is *exactly similar* to what is thought about, something that instantiates *all* the properties represented—what is sometimes called “literalism” in interpretations of Aristotle's theory of perception.⁴¹ But Aristotle cannot reject the first conjunct of (ES), since it is shared by (RT), which he accepts in the case of thought. He must deny the second conjunct, that there is literally an *F* whenever we think of *F*. *Thinking cannot, therefore, require that we instantiate all the properties thought about on a given occasion, by a phantasma's exemplifying these properties itself.* If it did, there would be a particular *F* each time we thought of an *F* after all, against premise (2). The result would be disastrous: either a centaur *would* exist whenever we thought of one, or one would have to deny that we can in fact think of centaurs. Neither view is acceptable to Aristotle. But then he cannot require that whenever we think, we instantiate all the properties represented. Even if Aristotle were to accept literalism

⁴¹ For the most extensive discussion and defense of a literalist interpretation, see Everson 1997.

IV. The Problem of Error

for sensation, he cannot maintain it for representation in general. The same argument applies to phantasia more generally. *Phantasmata do not represent by literally instantiating all the properties represented.*⁴²

This result casts doubt on literalism more generally. As we shall see in the next two sections, Aristotle believes that phantasmata are similar to sensory stimulations in both their content and their physical nature; but if so, then content does not require exact similarity with the object. It does *not* follow from this, however, that “spiritualism” is true—namely, that there need not be *any* physical similarity with the object, so long as the properties of an object are received “immaterially.” *Tertium datur*. Representation might require the literal instantiation of *some* of the properties represented without requiring the instantiation of all of those properties; it might require, that is, a certain kind of *partial* similarity, rather than total similarity. The proportional models Aristotle speaks of, for example, do not share all of the properties represented, only a certain abstract structure—at the very least, they will differ in absolute size and presumably in the dimensions along which these proportions are exhibited as well. Aristotle accepts what we might call an *information transmission* view, where certain abstract features of the objects represented are preserved in the representations themselves, in virtue of which they are *about* those objects, without having to literally replicate all that is represented. Such a view can permit *cases* where total similarity happens to occur—Aristotle’s descriptions of touch and taste in *On the Soul* 2.10–11 come to mind—so long as it does not *require* total similarity across the board, as part of the analysis. The task for such a theory, of course, is to specify *which* similarities are the relevant ones for representation and *why*. Aristotle does exactly this in his discussions of phantasia (see Sections IV–V).

If this is right, then to receive the form “without the matter” is just to receive a certain *transformation* of the form, where the key aspects of that form are preserved. As with the signet ring, these aspects will always be instantiated in matter, but since they will in general be instantiated in a different type of matter, only certain abstract characteristics, such as structures or proportions, will be preserved through the transformation. The reception of form without the matter—literally, a process of “in-formation”—will not consist in an exact replication of a form, but rather the *transduction* of certain key aspects of it.⁴³

Nonexistent objects are not Aristotle’s only concern. A psychological theory should also be able to explain how error is possible even where existent objects are concerned and how, more generally, our mental states can *misrepresent* the way things are in the world. In *On the Soul* 3.3, Aristotle presents this as a challenge his predecessors’ theories must, but cannot, meet; and once again, he is confident that his own theory can by appealing to phantasia. But this time he offers an extended explanation of what phantasia is, first showing that it cannot be reduced to other mental states and then accounting for its content. This theory will not answer all the difficulties associated with intentionality. But he uses it as a foundation for the rest of his theory, from which he can develop appropriate responses (see Sections VI–IX below).

At the beginning of *On the Soul* 3.3, Aristotle complains that his predecessors explain thought on the same model as perception, a corporeal process where “like is known by like” (427a17–29). In fact, it is a model he is drawn to himself, at least at one level. But here he claims it leads to a dilemma, which he explicitly frames in terms of *the problem of error*:

Yet at the same time they should have said something about being in error, too, for this is particularly endemic to animals and the soul spends rather a lot of time in this state. For it is necessary [on their theory] that either (i) all appearances are true (as some have said); or (ii) contact with what is unlike is error (since that is the opposite of recognizing like by like). But both error and knowledge of contraries seem to be the same. (427a29–b6)

Aristotle taunts his predecessors for not speaking about error, precisely because he thinks they cannot. Their theories simply lack the means to explain error, collapsing into one of two unacceptable positions: either (i) denying that error ever occurs or (ii) committing themselves, in effect, to a contradiction. The latter obviously won’t do. But the former is a nonstarter as well. If Aristotle is willing to debate the thesis that ‘all appearances are true’ in certain contexts (*Metaph.* 4.5), in psychology it has no place. To be worthy of the name, a psychological theory must begin from the existence of error and go on to explain how it is possible. Denying so basic a datum would just amount to changing the subject.

Aristotle’s reasoning is compressed and takes some work to unpack. I will limit myself here to the main outlines of his argument.⁴⁴ The view that leads to the dilemma is the position that “like is known by like”: according to Empedocles’ theory, for example, I come to see a bonfire because fiery effluences stream off the fire and find their way into my eyes, where they encounter fire inside and produce a sensation of the fire. The notion of like-

⁴² Against Everson 1997, chs. 4–5, who extends a literalist interpretation to Aristotle’s theory of phantasia.

⁴³ For more on the notion of transduction, see chapter 6 of Pylyshyn 1984. It should go without saying that I am not endorsing his proposal in all its detail, especially as regards his views on analog processes.

⁴⁴ For a more thorough analysis, see Caston 1996 (on which portions of this section and the next draw).

ness governs two distinct parts of this model: (A) the causal process by which a mental state comes about, by like *affecting* like; and (B) the *content* of the mental state, which is exactly “like” its cause. Both aspects are conveyed by the phrase ‘like is known by like.’

Reflection on this model shows, however, that it is specifically (B) which leads to the denial of error. A cause must exist, if its effect does; therefore, if the content of a mental state corresponds strictly to its cause, it will always correctly represent a part of the world as it is. But if this model is meant to apply to mental states in general, as his predecessors’ usage suggests,⁴⁵ and not just thinking or sensation, it would follow that every mental state will be about what brings it about and so correspond to how things really are in the world. Empedocles’ theory portrays this correspondence crudely, by having portions of our organs literally replicate the object perceived. But this theory would run into the same difficulties, even if it were not so crude. So long as a theory maintains that all content corresponds strictly to its cause, it will not be possible to explain the occurrence of error.⁴⁶

The problem is more pertinent to Aristotle’s own views than he might care to admit. For he believes that in genuine cases of sensation, the most basic form of perception, one invariably senses the object that causes sensation on that occasion; and the same causal model is also applied to conception, the most basic form of thought. None of the well-known nuances of his theory, moreover, are to any avail. In particular, the distinction between ordinary alteration (ἀλλοίωσις) and the kind of realization (ἐντελέχεια) that takes place in sensation and conception (*On the Soul* 2.5, 3.4) does not help at all. Such realizations are equally *about their causes*—Aristotle is just as committed to (B) as his predecessors. Nor is he embarrassed by the consequences, repeatedly insisting that sensation and conception are infallible.⁴⁷ But then Aristotle must be wary: if he has only this simple causal model to work with, he will face the same dilemma as his predecessors. *Unless content can diverge from cause, error will be impossible.*

⁴⁵ This is clear from the passages Aristotle cites, when taken in their original context: Empedocles uses ‘φρονεῖν’ in DK 31 B 108 for *dreams* (cf. Ps.-Philooponus *In De an.* 486.13–16, 486.34–487.3 and Simplicius *In De an.* 202.30–34); similarly, in *Od.* 18.136 Homer is speaking about *delusional states*.

⁴⁶ This analysis is confirmed by a parallel discussion in *Metaphysics* 4.5 (1009b12–28), where Aristotle broadens his attack to include Anaxagoras, who thinks that only *unlikes* affect one another, thus rejecting (A) (*apud* Theophr., *On the Senses* 1, 499.3–4; 27, 507.7–8; 29, 507.21–23; 31, 508.5–8 Diels *Doxogr.*). But so long as Anaxagoras is committed to (B), as Aristotle seems to think, he will not be able to explain error either.

⁴⁷ For the sensation of proper sensibles (ἴδια αἰσθητά): *On the Soul* 3.3, 427b12; also 2.6, 418a11; *On Sensation and Sensibles* 4, 442b8–10; *Metaph.* 4.5, 1010b2–3. Cf. *On the Soul* 3.3, 428a11; 3.4, 430b29. Regarding his qualification at *On the Soul* 3.3, 428b18–19, see n. 56 below. For the conception of in-composites and indivisibles: *On the Soul* 3.6, 430a26–27, b27–28; *Metaph.* 9.10, 1051b15–32; 1052a1–4. Cf. *De interpretatione* 1, 16a9–13.

Aristotle’s reaction in *On the Soul* 3.3 is significant. Having posed the problem of error, he immediately turns to argue for a distinct, new process he calls “phantasia,” which he will later use to explain the content of all remaining mental states.⁴⁸ *He recognizes*, in effect, *that his own theory of sensation and conception cannot form the basis for a general theory of intentionality.* To solve the problem of error, a new process must be found that cannot be reduced to the others. The central portion of *On the Soul* 3.3 attempts to certify this, by arguing that phantasia is distinct from

- a) sensation (428a5–18)
- b) conception (428a17)
- c) knowledge (428a18)
- d) belief (427b16–24, 428a18–24), and
- e) a complex of belief and sensation (428a24–b9).

Significantly, the feature that distinguishes phantasia most is its ability to be false as well as true (428a12, b17). Sensation, conception, and knowledge are always true, according to Aristotle;⁴⁹ only belief can be false.⁵⁰ But phantasia is *more basic* than belief. (1) It is a *precondition* for belief: phantasia can occur without belief, but not vice versa (427b24–26 together with b15–16). (2) Phantasia has a *more extensive causal role*: Aristotle thinks phantasia takes the place of belief in the production of animal behavior and in many cases of human behavior as well.⁵¹ Finally, (3) unlike belief, phantasia can function *without acceptance or endorsement* and so can play a wider role in our mental economy (*On the Soul* 3.8, 432a10–11). In particular, it can function in states that lack the epistemic constraints of belief and its immediate affective consequences.⁵²

Phantasia is also operative in many perceptual activities as well. The sensation of proper sensibles is not the only kind of perception (αἴσθησις) Aris-

⁴⁸ Imagination (in the sense of visualization): *On the Soul* 3.3, 427b17–20. Association: *On Mem.* 2, 451b10–452b7, 453a4–31. Memory (including merely seeming to remember and doubting one’s memory): *On Mem.* 1, 450a10–13, a23–25, 451a14–17; *Rhet.* I 11, 1370a29–30. Expectation: *Rhet.* 1.11, 1370a29–30; 2.5, 1383a17–19. Reasoning: *On the Soul* 3.3, 427b15–16; 3.7, 431a14–17, b2; 3.8, 432a8; *On Mem.* 1, 449b31. Deliberation: *On the Soul* 3.7, 431b6–8; 3.11, 434a7–10. Desire: *On the Soul* 3.10, 433b10–12, b27–29; *On the Motion of Animals* 8, 702a18f. Action: *On the Motion of Animals* 8, 702a15–21. Passions: *Rhet.* 2.5, 1382a21–22, 1383a18–19; 2.6, 1384a22; cf. *On the Motion of Animals* 8, 702a18; 10, 703b18f. Dreams: *On Dreams* 1, 459a18–21; 3, 462a16, a29–31.

⁴⁹ *On the Soul* 3.3, 427b12, 428a11–12, 428a17–18, respectively.

⁵⁰ *On the Soul* 3.3, 428a19; cf. 427b9–11, b13.

⁵¹ *On the Motion of Animals* 6, 700b17–21, 701a4–6; cf. *On the Soul* 3.3, 429a4–8.

⁵² Compare 428a23–24, 427b20–21 with 427b17–21, and 427a21–22 with 427a23–24.

tole recognizes—he is quite happy to use the same term to describe the perception of the so-called common and incidental sensibles (*On the Soul* 2.6), which includes the estimation of magnitudes, the synthesis and discrimination of different sensory modalities, and the perceptual recognition of ordinary objects.⁵³ And the latter types of perception *are* subject to error, in Aristotle’s view.⁵⁴ But *none of them operates on the simple causal model* (2.6, 418a23–25; 3.1, 425a30–b11): they plainly involve the cooperation of other cognitive capacities, such as memory, association, conjunction, and (in humans) conception, all of which require phantasia.⁵⁵ In general, Aristotle thinks that *phantasia is involved in every perceptual error*, including those cases where we make a mistake about proper sensibles (as, e.g., with afterimages).⁵⁶ The only kind of perception that is infallible, then, is the pure sensation of a proper sensible, which alone operates on the simple causal model and constitutes the ultimate source of input for all other cognitive states.

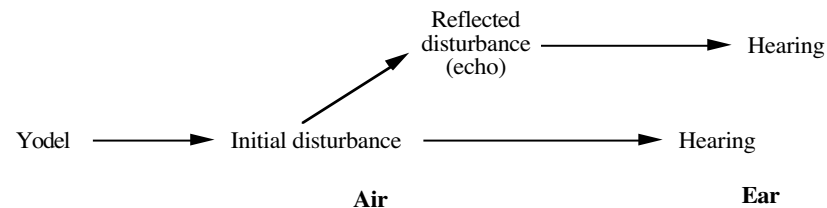
V. A Causal Account of Representation

But showing that phantasia cannot be reduced to other cognitive states is only half the battle. Aristotle must also show how phantasia manages to be false in the first place. His solution is to abandon the simple causal model that underlies sensation and conception, without abandoning a causal account entirely. The simple model identifies content in terms of causal *ancestors*. The content of phantasia, in contrast, is explained in terms of causal *powers*; and this enables it to be about something other than what caused it or anything actually in the world. It makes possible both presence in absence and error.

In the final section of *On the Soul* 3.3, Aristotle argues that phantasia is, in effect, an *echo* of the stimulation that occurs in the peripheral sense

organs.⁵⁷ Aristotle describes it repeatedly as “a change brought about by the functioning of sensation” (κίνησις ὑπὸ τῆς ἐνεργείας τῆς αἰσθήσεως)⁵⁸ and so “a change necessarily similar to the sensation” (ταύτην ὁμοίαν ἀνάγκη εἶναι τῇ αἰσθήσει).⁵⁹ The causal process involved is a form of *reproduction*, resulting in a change with features similar to the initial stimulation. Part of this similarity is a similarity in content. Phantasia will be “about the same things sensation is about” (ὡν αἰσθησις, 428b12); and it is *because* (διὰ) these changes are similar that animals will do and experience many things in accordance with it (κατ’ αὐτήν, 429a4–5; cf. 428b16–17). The critical question is how this similarity in content is to be explained, in a way that makes error possible.

Consider the analogy of an echo more closely. When I yodel in a canyon, I produce a disturbance of air which causes you to hear me. But this initial disturbance also produces a second disturbance of air, which, when reflected off the canyon wall, causes you to hear me a second time, even though I yodel only once:⁶⁰



⁵³ Estimation of magnitudes: *On the Soul* 3.1, 425a14–21; *On Memory* 1, 450a9–12; 2, 452b7–453a4. Synthesis and discrimination: *On the Soul* 3.1, 425a30–b2; 3.2, 426b12–427a16. Object recognition: *On the Soul* 2.6, 418a21–23; *Metaph.* 13.10, 1087a19–21.

⁵⁴ *On the Soul* 2.6, 418a14–16; 3.1, 425b5; 3.3, 428b19–25; *On Sensation* 4, 442b6–10.

⁵⁵ Even Cashdollar 1973, who argues incidental perception is properly a form of perception, appeals to the collaboration of these other cognitive processes.

⁵⁶ Although Aristotle generally speaks of sensation of proper sensibles as infallible (see n. 47 above), at one point he qualifies this, suggesting that some error involving proper sensibles may occur (*On the Soul* 3.3, 428a18–19). He describes such a case in *On Dreams* 2, 459b7–13, where an afterimage causes us to see the wrong color; but he uses the example there precisely to show that phantasia must be involved. Thus, while mistakes about proper sensibles are possible, like all other error, they involve phantasia—the sensation of proper sensibles by itself alone remains infallible. More generally, he treats standard sceptical cases of perceptual error by reference to phantasia: *Metaph.* 4.5, 1010b1–11; 4.6, 1011a26–34; 11.6, 1062b36–1063a10, a35–b6; *On the Soul* 3.3, 428b2–4; *On Dreams* 1, 458b25–33; 2, 459b5–23, 460b3–27.

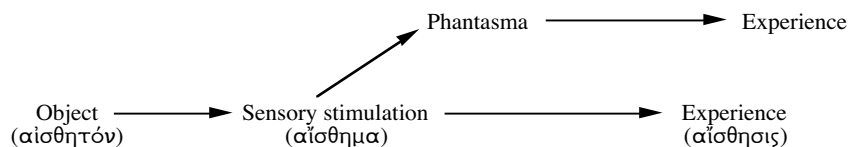
⁵⁷ 428b10–17: “But given that (i) when a certain thing has been changed, another is changed by it; (ii) phantasia seems to be a sort of change that does not occur without sensation, but belongs to perceivers and *is about what sensation is about*, and (iii) it is possible for a change to occur due to the functioning of sensation and this change is necessarily similar to the sensation, [it follows that] (iv) this change could not occur without sensation or without belonging to perceivers, and (v) its possessor can both do and undergo many things in accordance with it and it *can be both true and false*.” Similarly, 428b30–429a9: “Thus, if nothing other than phantasia has the said features, and this is what has been said, then phantasia will be a change that occurs due to sensation that is functioning . . . and it is on account of these [changes] persisting and *being like sensations* that animals do many things accordingly, some who lack intellect (namely, beasts) and others due to the intellect’s being clouded over on occasion by passion, illness, or sleep (namely, humans). About phantasia, both what it is and why it occurs, let this suffice.”

⁵⁸ *On the Soul* 3.3, 428b11–14, which is confirmed at 428b30–429a5 and *On Dreams* 1, 459a17–18. For an extended discussion of the parallelisms between the first two passages, see Wedin 1988, 24–30.

⁵⁹ *On the Soul* 3.3, 428b14 and 429a5. The use of the plural ‘sensations’ in the latter passage indicates that the similarity is between *tokens* and not types: a given phantasma will be similar not merely to stimulations in general, but to the token stimulation from which it derives.

⁶⁰ Aristotle believes that echoes probably always occur, even if not clearly: *On the Soul* 2.8, 419b27–33.

Phantasia works in much the same way, the reproduced pattern of change being called a “phantasma” (428a1–2):⁶¹



Peripheral Organ

Central Organ

Like an echo, the phantasma is only an *indirect* effect: the phantasma is directly caused by the sensory stimulation (αἴσθημα), which in turn is directly caused by the object (αἰσθητόν).⁶² But even with regard to the sensory stimulation, the phantasma is only a *side effect*: the primary effect of the stimulation is the experience of sensation, which it produces by acting on the central sensory organ. For both reasons, Aristotle believes it to be weaker than the original stimulation and easily drowned out.⁶³ But like an echo, the phantasma is produced in a way that ensures it will be a similar sort of change and so, importantly, *can have similar sorts of effects*: in particular, it can travel to the central organ and affect it in similar ways.⁶⁴ A phantasma will thus have similar *causal powers* to the stimulation from which it derives, including the ability to produce an experience *phenomenally like* a sensation. Given the nature of sensory content, phantasia will therefore “be about what sensation is about” (428b12), even if there is no such object in view.⁶⁵

Unlike sensation, then, phantasia is *not* about its own cause, the stimulation of the peripheral organs. Ordinarily, it will be about the sensible object that causes this stimulation, the cause *of* its cause. But even this needn’t be the case: sometimes a phantasma is not about anything in the causal chain

leading up to it. For what determines the content of a phantasma is not its causal antecedents, but the *causal powers* it happens to have at a particular moment. So long as those powers remain the same as the powers of the stimulation that caused it, a phantasma will be about the kind of sensory object from which it ultimately arose. But a phantasma is sometimes modified *en route* to the central organ in a way that *alters* its causal powers and so the type of experience it can produce.⁶⁶ In such cases, the content of the phantasma has shifted and no longer coincides with its causal ancestry: it can be about things it has not causally interacted with, or even things that have never existed at all. It would be as if my echo had altered so much that it no longer sounded like my yodelling at all, but Richard Nixon giving a speech or even Donald Duck.

That phantasmata alter in this way is clear from Aristotle’s lengthy explanation of how alcohol and sickness affect dreams (*On Dreams* 3, 461a8–24, b18–20; cf. *Probl.* 30.14, 957a5–35). My observations of a salamander, for example, produce echoes which remain in my system unnoticed for many hours. But later in the evening, when they finally make their presence felt, the effects of a half-bottle of whiskey have so altered them that I dream, not of a salamander, but an immense fire-breathing dragon. A dragon can’t be a causal ancestor of my dream—dragons don’t exist. But my phantasmata have the ability to affect my central organ the way it *would* be affected *were* I to see such a dragon. The causal history of phantasmata is thus not relevant to their content except *per accidens*. At most, it can explain why a phantasma has the particular causal powers it happens to have. But its content is solely a function of the powers it actually does have at a given moment, *however it came by them*.

To say, then, that the character of phantasia is like the character of the stimulation from which it derives is *not* to require them to share an identical character over time. A phantasma can alter and so deviate from the original stimulation.⁶⁷ Still, the content of a phantasma will remain linked to the content of sensation in a more general way. At any given moment the content of a phantasma will be identical to the content of *some* sensory stimulation: *a phantasma will have the same content as a sensory stimulation with the same causal powers*. It does not matter whether this stimulation is

⁶¹ I will speak indifferently of the content of a phantasma and the content of the phantasia in which it functions—and, analogously, of the content of the initial stimulation of the peripheral sense organs (αἴσθημα) and the content of the sensation (αἴσθησις) in which it functions—since in both cases the content of the activity is the same as the content of the change it involves. This will not be the case for mental states in general, however, especially those which involve further operations *on* representations: for example, in memory the subject must also “say in his soul” that he has perceived this before (*On Mem.* 1, 449b22–25); or, at an abstract level, in the act of denial, where the content of a representation is rejected (*On the Soul* 3.6, 430b20–23). See Section VIII below.

⁶² *On Dreams* 3, 460b29, 461a18–19, 426a29; cf. *On the Soul* 3.8, 432a9–10.

⁶³ *On Dreams* 3, 460b32–461a7; *On Divination through Dreams* 1, 463a8; 2, 464a16–17. Cf. *Rhet.* 1.11, 1370a28.

⁶⁴ See esp. *On Dreams* 3, 462a8–9 and 461b11–24; but also 2, 459a23–b7; 3, 460b28–461b1.

⁶⁵ *On the Soul* 3.2, 425b24–25; 3.3, 428b27–29; *On Dreams* 2, 459a23–27. Cf. *On the Soul* 3.3, 429a4–5; 3.8, 432a9–10; *On Dreams* 2, 460a32–b3; 3, 460b28–31, 461b21–24; *Metaph.* 7.15, 1040a4. Cf. *On Ideas* 82.1–6.

⁶⁶ Phantasmata thus cannot be individuated by their content or causal powers, which can change; presumably they are to be individuated by their causal histories.

⁶⁷ Aristotle does not address whether the sensory stimulation itself can be altered in the same way, a possibility which would leave his account open to serious sceptical difficulties. But in fact he seems to assume that the operations of sensation work without significant interference: the strength of sensory stimulations, one might conjecture, are so strong as to reach the central organ unharmed. Standard sceptical cases—such as vision at a distance, taste during illness, or the heft of an object—are normally treated as involving phantasia, not pure sensation alone (for references, see n. 56 above). For a different response to Aristotle’s silence, see Vasiliou 1996.

the one the phantasma in fact derives from, or indeed whether such a stimulation actually exists—all that matters is *which* powers a phantasma has in comparison with *possible* sensory stimulations.⁶⁸ A phantasma represents, in effect, *what we might possibly sense*.

We can put this more formally. Aristotle is committed to something like the following account for the content of phantasmata:

- (P) For any phantasma ϕ and time t , the total effect ϕ has the power at t to produce on the central sense organ is the same as the total effect some sensory stimulation s has the power to produce on the central sense organ, were s to occur; and at t , ϕ is about whatever s would be about.⁶⁹

ϕ 's powers may no longer be like those of the original stimulation, or like those of any actual stimulation past, present, or future, but a merely possible one. ϕ will then be about whatever s would be about, were it to occur; and that, quite obviously, might be different from the way things actually are. The content of phantasmata can thus diverge completely from their causal ancestry and, more generally, from what is actually the case—they can be *false*. And if an animal further accepts such phantasmata, error will occur (*On Dreams* 1, 459a6–7; 3, 461b30–462a8).

The account of falsehood here is significantly different from the account Aristotle gives for falsehood in language and discursive thought. There falsehood is due to combining concepts in a way which differs from how things are combined in the world.⁷⁰ *But combination does not enter into the account here. Nor do concepts*. This is a point we shall return to (see Section VIII).

The account above is explicitly confirmed by Aristotle's remarks outside of *On the Soul*. In *On Dreams* 2, 460b18–27 perceptual error is explained precisely in terms of similarity in causal powers:

The explanans [αἴτιον] of being in error is that anything whatsoever that appears [does so] not only when an object of sensation is effecting change, but also when the sense undergoes change itself—whenever, that is, it should happen to be changed in just the same way as it would be by an object of sensation. (460b23–25)

Here Aristotle explicitly departs from a simple causal theory of content. Perceptual error involves an experience whose content does not correspond to the

perceiver's environment and so not to its causes, as the simple model requires. Its content is determined rather by the type of change *produced* in the sense, independent of its aetiology: things will appear the same whenever a sense is changed *in the same way* as it would be by an object of sensation. Such a change cannot itself be a perceiving of course (*On Dreams* 1, 458b33–459a5), or indeed anything “object-involving,” since by hypothesis it can occur equally in cases of misperception where there is no such object. Rather, it must be a type of change that can be *common* to perception and illusion. The latter are not alike, therefore, merely insofar as both involve the same appearances. In both cases, the sense also undergoes the same type of change; and the sense's being affected in this way is meant to *explain* why things appear the same. But just such a change can be characterized intrinsically, independent of the corresponding object. *Aristotle*, that is, *rejects disjunctivism*.⁷¹

If a sense undergoes a certain change *qua* sense, it cannot be a merely physical change. It will also be an experience of a certain sort. And it is just this which opens the door to error. For if we undergo the same sorts of changes that we undergo in perception, it will seem to us as though we are genuinely perceiving (*On Dreams* 3, 461b21–30): such experiences will be *indistinguishable phenomenologically* from sensations and so easily mistaken for them, even though they are not anchored in reality as sensations are. Their difference lies in their aetiologies, not something that need be manifest perceptually within the experience itself; if we can detect the difference, it will be through collateral information. In a genuine sensation, the change in the sense will be brought about by what the sensation is of. In cases of illusion, it will be brought about by a phantasma.

What matters for content is the *power* to produce a certain sort of effect on the sensory apparatus, something phantasmata share with sensory stimulations because of the way they are generated. In the passage just cited, Aris-

⁶⁸ These formulations leave open the possibility that there might be *more than one* sensory stimulation with the same causal powers. For a discussion of the difficulties this gives rise to, see Section IX below, pp. 287–91.

⁶⁹ The phrases “the total effect ϕ has the power at t to produce on the central sense organ” must be understood with the background condition: “were ϕ positioned appropriately to affect the central sense organ.”

⁷⁰ *Metaph.* 9.10, 1051b1–6; 6.4, 1027b20–22; *On the Soul* 3.6, 430b1–2; *De interpretatione* 1, 16a12.

⁷¹ Against Putnam (*forthcoming*), who argues that Aristotle endorses a disjunctivist account of perception; he even suggests that “McDowell, who is a fine Aristotle scholar, got his account from Aristotle.” Vasiliou, too, recommends disjunctivism as the best way to understand Aristotle's apparent lack of concern regarding scepticism (1996, 128–31). For the disjunctivist analysis of perception, see the especially clear account in Child 1994; also Hinton 1973; Snowdon 1980/81; McDowell 1982; McDowell 1986; Snowdon 1990. Child argues (160–64) that some variants of disjunctivism may actually be compatible with a causal theory of perception, in contrast with more common incompatibilist versions. But even compatibilist versions seem to be ruled out for Aristotle, if I am right that there is an intrinsically characterizable *experience* common to both perception and illusion. The ultimate motivation for disjunctivism, according to Child (149–53), is not an antipathy for the causal theory *per se*, but worries that in some theories experience becomes an ‘epistemological intermediary,’ interposing a ‘veil of appearances’ between us and the world—worries I am inclined to think (with Millar 1996 and Smith 1990/1991) are due to an inappropriate model of experience, which conceives of it as an *object* one must be *perceptually aware of* in order to perceive ordinary objects, rather than a form of that awareness itself (as is intended here).

title does not mention sensory stimulations, speaking instead more broadly of the effect produced by the sensory object. But his point is much the same, since his claim is plausible only if contextually qualified. He is concerned solely with those powers an object has to affect the central sensory organ by acting on the peripheral sense organs in certain environmental conditions (from a certain distance, perspective, etc.) and so the powers it has to affect the central organ *via* sensory stimulations. A phantasma, then, has the same power to affect the central organ as the object would *by being perceived*. But that is just to say that the phantasma has causal powers exactly like a sensory stimulation produced by the object in those environmental conditions.

A similar analysis underlies several remarks in *On the Motion of Animals*. Aristotle argues that behavior can occur even in the absence of the appropriate objects as a result of phantasia and thinking *about* such objects:

Phantasia and thinking have the power of objects. For the form thought—that is, the form of what is pleasant or fearful—turns out to be in a certain way the sort of thing each of the objects is too. For this reason, people shudder and are afraid merely by thinking. (7, 701b17–22)

Phantasia and thought have “the power of objects” (τῆν τῶν πραγμάτων δύναμιν), because they have the ability to affect us the way the objects would if perceived. *This*, I would suggest, *is precisely what it means to have the form of the objects ‘without the matter’*: the forms involved in cognition are “similar” to the objects represented because such cognition has *similar causal powers* and so can produce effects such as fear and trembling. And it is *because* phantasia and thought have such powers that they *represent* such objects:

For thought and phantasia, as was said earlier, present [προσφέρουσι] the things that produce these affects, since they present the forms of the things that can produce [them]. (11, 703b18–20)

Thought and phantasia “present” objects, even when absent, because they involve the forms of such things and so possess a range of causal powers the object possesses, namely, the ability to produce certain experiences and reactions by affecting the sensory apparatus.

Similarity in causal powers might seem like a rather subtle way of construing the notion of similarity. But Aristotle’s account of artistic representation depends on the same understanding. In *Politics* 8.5, he distinguishes between representation by symbols (σημεῖα), on the one hand, and representation by similitudes (ὁμοιώματα) and imitations (μιμήματα), on the other. Only music, he contends, contains similitudes of states of character; the other arts contain signs of character at best (1340a18–35; cf. *Prob.* 19.29, 920a3–7). Now he cannot mean that rhythms and melodies *sound like* states of character, since states of character do not make any sound themselves. Nor

can he mean that music sounds like the external *manifestations* of character, since that is just what the other arts do in his opinion: they portray *signs* of character in gesture and action.⁷² Rather, rhythms and melodies are similar to states of character in that they *can have the same sorts of effect* on a listener as states of character do. The idea is that Beethoven’s *Eroica* can represent Napoleon’s bravery insofar as both are able to arouse the same reaction.

More generally, Aristotle explains falsehood in both artistic and mental representations through the divergence of cause and content. In *Metaphysics* 5.29, he says that scene-paintings and dreams are both “something, but *not what they produce a phantasia of*” (1024b23–24) and so can be called false. They produce mental states that are not about themselves, but something else, thus splitting content from cause. The resulting states will often be false, and so their causes—the scene-painting and the dream—can be called ‘false’ by synecdoche.

VI. Objections to Aristotle’s Account

This sort of theory immediately gives rise to a number of objections. I will canvass the three most important kinds and briefly consider the responses available to Aristotle.

1. A fairly common assumption is that Aristotle’s theory of phantasia involves *awareness* in ways that make it unacceptable as an solution to the problem of intentionality. His theory is often taken to be an imagistic theory, where phantasmata are themselves objects of awareness—on the most common view, mental images which pass, so to speak, before the mind’s eye.⁷³ But it is implausible to think we view mental images in each mental act that is supposed to be accompanied by phantasia (that is, in virtually all of them). Worse still, it seems to commit him to a dubious metaphysics of mind,

⁷² Compare Xenophon *Memorabilia* 3.10.3–5, where Socrates discusses how painting imitates states of character: when the painter Parrhasius objects that the soul’s character cannot be imitated in painting because it is not visible (3.10.3), Socrates insists that our attitudes, feelings, and character traits “show through” our face and gesticulations more generally (3.10.4) and this *can* be imitated visually (3.10.4–5). Aristotle agrees here with Parrhasius against Socrates: painting cannot imitate something invisible; and the imitation of facial expression and gesture provides nothing more than the *signs* of character.

⁷³ This is especially common in translations and commentaries: G. R. T. Ross 1906; Hicks 1907; Smith 1931; Hett 1936; W. D. Ross 1955 and 1961; Hamlyn 1968; Sorabji 1972a; Lawson-Tancred 1986. Beare 1908 and Gallop 1990 are exceptions to this trend, translating ‘phantasma’ as *presentation* and *appearance*, respectively. But to the extent that their language carries connotations of conscious experience, they are still too strong. This becomes especially clear in Beare’s discussion of phantasia (1906, 290–325), which insists on distinguishing phantasmata from the changes in the bloodstream, arguing that phantasmata are objects of experience produced by these changes. But this distinction is fictitious, given that Aristotle identifies phantasia as such a change (see pp. 259–60 above).

invoking ghostly mental objects and internal acts of awareness.⁷⁴ Of course, a defender of the role of awareness needn't think it is directed at nonphysical objects. But if the phantasmata of which we are aware are changes in the body, Aristotle would seem guilty of a particularly absurd form of homuncular theory.⁷⁵

A related criticism is somewhat more subtle.⁷⁶ It holds that Aristotle's reliance on similarity is not ultimately intelligible without appealing to a kind of *resemblance* or "looking like," and so to an internal intentional attitude. But then his account appeals to precisely the same sort of phenomenon it tries to explain, thus vitiating his analysis. For either the content of this intentional attitude will be explained in the same way, and so on *ad infinitum*, or at some point we will reach an attitude whose content is just taken to be a primitive feature and not further explicable. It does not matter whether the internal attitude is conceived of as a kind of viewing or as a propositional attitude like *taking X to be Y*. If phantasia is fundamentally an *interpretive* act, of taking or seeing something *as* a certain kind of thing, it will be open to just the same objection.⁷⁷

2. Yet even if phantasia does not presuppose intentionality in these ways, its content is still closely linked to the content of sensation: the content of a phantasma is always the same as the content of *some* sensory stimulation, whether the one it originated from or some merely possible stimulation. But such representation is inadequate to handle most intentional states, which often involve nonsensible contents. Much of our higher mental life revolves around propositional contents, which are conceptual by nature and often abstract. But in the passages above we find Aristotle speaking of quasi-perceptual, four-dimensional "scenarios." It is hard to see how such a theory can even provide the basis for the content of propositional attitudes.

⁷⁴ For a criticism of such interpretations of Aristotle, see Nussbaum 1978, 222–30.

⁷⁵ Everson 1997 appears to commit Aristotle to just such an account: he correctly insists that phantasmata are physical entities and so not sense data or mental images (198, n. 26; 203); but he also insists we must be aware *of* such physical changes in perception and phantasia quite generally (175, 194–95, 197–99).

⁷⁶ Cummins 1989, 2–4 and 27–34.

⁷⁷ Thus, while Nussbaum 1978 rejects an imagistic account of phantasia, her advocacy of an interpretive one (see esp. 230–31, 246–48, 258–59, 261, 268) makes her vulnerable to this objection. I suspect she might bite the bullet here and concede that on her interpretation Aristotle does *not* offer a completely general analysis of intentionality, holding that he was not seeking an *analysis* in the first place. This seems a difficult line to take, though, in light of his criticisms of his predecessors regarding presence in absence and error.

3. Finally, there are difficulties for (P), the account of content for phantasmata. Similarity in causal powers is still similarity and so the account must answer traditional difficulties associated with similarity theories. To begin with, similarity is a symmetrical and reflexive relation, while representation is not. Also talk of "similarity" seems too vague to be of any use: if it is anything short of exact similarity in all respects, it seems impossible to specify without circularity the respects in which a representation must be similar to represent what it does.⁷⁸

A related difficulty concerns what we might call the *uniqueness* problem. However we specify the type of similarity involved, it seems that it will always be possible for a representation to be similar in the required ways to *more than one* thing. But do representations represent everything they are similar to? And if not, *which* things do they represent? Given the irrelevance of causal ancestry in Aristotle's account, this is a particularly serious problem.

VII. Awareness and Representations

Although 'phantasma' is often translated as "image," this rendering has little basis in actual Greek usage.⁷⁹ Aristotle does at times speak of phantasia in connection with "placing something before one's eyes" and compare certain experiences to "looking at a picture" (e.g., *On the Soul* 3.3, 427b18–20 and b22–24). But this is atypical, and he certainly does not define phantasia in imagistic terms. Every imagistic experience will involve phantasmata. But the converse doesn't follow: not every state involving a phantasma is an imagistic experience. To translate 'phantasma' as 'image' simply begs the question.

There is likewise little evidence that phantasmata themselves are viewed or otherwise contemplated, and the few passages where this seems to occur are naturally explained in a harmless fashion. In each case, Aristotle is concerned with particular mental activities that essentially involve reflective awareness and so require a higher-order mental state about the content of another mental state. In discussing different memorial states, for example, Aristotle distinguishes between entertaining a phantasma as something *in itself* (αὐτό τι καθ' αὐτό) and as *from something else* (ἄλλου, *On Memory* 1, 450b20–451a17).⁸⁰ But the phantasma possesses content however it is taken.

⁷⁸ Putnam 1981, 57; Nussbaum 1978, 225–27. For these criticisms more generally, cf. Goodman 1976, 3–11 and [1970] 1972 *passim*.

⁷⁹ For a survey of Greek usage before Aristotle, see Schofield [1975] 1978, 116–118; cf. 131, n. 15.

⁸⁰ Commentators have sometimes assumed (see n. 21 above) that the genitive expression 'ἄλλου' expresses intentional content, so that the contrast is between a phantasma as a

The difference solely concerns the type of *memorial* state that results: it is only when we *take* this affect to derive from an earlier experience that we seem to remember—in such cases we “say in our soul that we have seen or heard or thought it before” (1, 449b22–23, 450a19–21; cf. 2, 452b23–29)—and if it actually does so derive as well, then we genuinely remember. Similarly, in sickness, extreme passion, or dreams, the content of our experience may be so unfamiliar as to provoke reflection, in our effort to integrate it with our other experiences; sometimes misjudge the content of our experiences, wrongly assimilating them to more familiar experiences (*On Dreams* 2, 460b3–16; 3, 461b7–11; *On Divination through Dreams* 2, 464b5–16). It seems impossible to talk about such cases without introducing higher-order states, which concern the content of other mental states; and the content of these higher-order states will depend on more than the content of the particular phantasma in question.⁸¹ But in each case, such reflection *presupposes a first-order state*, which has its content *without* reflection or interpretation. Otherwise, talk of mistaking how things *appear* would make no sense.

In none of these cases, moreover, need Aristotle think we are viewing the phantasmata themselves. He does, in fact, think it is possible to observe such motions, but only under special circumstances: as we are falling asleep or awakening, we can sometimes see little motions flitting about in our eyeballs (*On Dreams* 3, 462a8–15). Had Aristotle held that *all* representation

physical change and as being *of* something else, in the sense of *representing* it; and they are led to this view, no doubt, by Aristotle’s comparison to a picture (*On Memory* 1, 450b21–24). But this reading is incompatible with many details in the passage. (1) Aristotle’s comparison to a picture is not, as is usually claimed, between the picture as a physical object and the picture as a representation, but between a picture as such and a picture as a *copy* or *portrait*. To consider the picture as a picture is *already* to consider it representationally; to consider it as a copy is to add the notion that this representation somehow *derives from* or is *causally linked* to the object it represents. Wedin (1988, 139–40) seems to me one of the few commentators to get this point exactly right. (2) Thus, a phantasma has content both when entertained as “something in itself” and “from another”—the person who doubts whether he is remembering has phantasmata which are “copies,” though he does not *take* them to be; while the delusional Antiphron of Oreus, who thinks he is remembering past experiences, has phantasmata which he takes to be “copies,” even though they *are not* (451a2–12). Therefore, phantasmata possess intentional content whether or not they are copies, and whether or not they are taken to be. See Everson (1997, 195–96) for a similar reading. (3) That ‘ἄλλου’ is a genitive of source is clear from Aristotle’s subsequent discussion of doubting whether one is remembering, which he takes to be a case of doubting whether the phantasma is “*from something else*”: although we have changes which are in fact “*from a perceiving before*” (ἀπὸ τοῦ αἰσθῆσθαι πρότερον) in such cases, we are unsure whether they are present “*in virtue of having perceived*” (κατὰ τὸ ἠσθησθαι, 451a2–5) or have arisen in some other way.

⁸¹ The same would be true in general of mental events which involve the coordination of several faculties (thought, memory, perception, desire, etc.), as ordinary episodes of mental activity typically are, including perceptual beliefs.

involved viewing such motions, he wouldn’t have needed to appeal to such an obscure case. Moreover, he does not claim that when we observe these motions in our eyeballs, we are aware of the *content* of these changes, as the dreamer is, but only the changes themselves. When he speaks of mistaking dreams for reality in contrast (461b21–30), he does *not* claim that we mistake a phantasma for a real object, as some have thought.⁸² Rather he argues that we mistake the phantasma for a genuine *sensory stimulation* (b29; cf. b23–24)—in effect, we mistake the experience of dreaming for a sensory experience. He never claims that we mistake an internal item for an external one.⁸³

Thus phantasmata are not tiny pictures that *look like* objects in the world or require interpretation. They are changes in the perceptual system which represent in virtue of their causal powers. Phantasmata can correctly be described as “*imagistic*” or “*pictorial*,” therefore, only in the sense that they are capable of *producing* quasi-perceptual experiences, experiences which are phenomenally similar to perceptual experiences. But it is critical here to distinguish a phantasma from the experience it can produce. A phantasma possesses its causal powers, and thus its content, *whether or not it actually exercises these powers* (461b11–19). The experience a phantasma is capable of producing, therefore, need not occur for the phantasma to have the content it

⁸² E.g. Beare 1908, *ad loc.* and Gallop 1990, 152–53; cf. Ross 1955, 278.

⁸³ *On Dreams* 3, 461b21–30: “Each of these is, as has been said, a remnant from the sensory stimulation when functioning. It is present, even when the true stimulation has gone away, and it is true to say that it is just like Coriscus is, although it is not Coriscus. But his authoritative and discriminating [part] did not say, while it was perceiving, that [the stimulation] was Coriscus, but rather *on account of this* [διὰ τοῦτο] said that *that man over there is Coriscus, the real one*. Thus, what said this while perceiving (whenever, that is, it is not completely overwhelmed by the blood) is affected by the changes in the sense organs as though it were perceiving and something like [the stimulation] seems genuine.” A few comments are in order. (1) The sense in which the “remnant” or phantasma is “just like Coriscus is [τοιούτου ὄιον Κορίσκος], though not Coriscus” is *not* one of subjective resemblance, as is sometimes assumed, but the objective similarity I have been arguing for—a similarity *in causal powers and proportions*. (2) I accept Ross’ emendation of ὄ at b26 (see Gallop 1990, 98, n. 30)—Beare’s reading (1906) would not follow from this lines without connectives such as μὲν . . . δέ. (3) At b29, I understand αὐτῷ with Beare (1908 *ad loc.*, n. 3) as referring to the “true αἴσθημα” mentioned at b22–23 (following mss. EY). Unlike Beare, though, I do not take the αἴσθημα to be an object of awareness itself, but a sensory *stimulation*, a “change in the organs” that can *produce* the experience of sensation and can in this sense be an αἰσθητόν (460b3). I do not think, moreover, as Beare and Gallop do (cf. n. 82 above), that a *second mistake* is made, confusing the phantasma not only with the stimulation, but with an object in the world. This is clear from 462a3–5, which Beare consistently, but incorrectly, renders: “if the sleeper perceives that he is asleep, and is conscious of the sleeping state during which the perception comes before his mind, it presents itself still, but something within him speaks to this effect: ‘*the image of Koriskos presents itself*, but the real Koriskos is not present.’” (my emphasis) But what Aristotle actually says is that “. . . but something in the soul says that while *Coriscus appears to be present, Coriscus is not*.” For a survey of different construals of these lines, see Gallop 1990, 96–98, esp. n. 28.

does. Phantasmata can be stored, retrieved, modified, and manipulated *without* concurrent imagistic experiences.⁸⁴ Actually producing such experiences is unnecessary for them to perform their role as bearers of intentional content.

VIII. Thought and Language

The quasi-perceptual character of phantasia might be problematic, however, even if we grant that phantasmata can possess content in the absence of awareness or interpretation. Many mental states are simply not quasi-perceptual in character—not merely those concerned with abstract or nonsensible objects, but propositional attitudes in general.

This problem would be insoluble if Aristotle thought that something similar to (P) applied to all such states. But Aristotle's strategy is more refined. He only insists that the content of these states be *based* on the content of phantasmata; and he denies that their contents are identical. This stratification of content into two levels is familiar from cognitivism. The contents of propositional attitudes are explained by appealing to the content of mental representations; but it will only be in some cases that states directly inherit the content of the representations involved. Mental processes often involve representations whose content we cannot immediately access—their psychological reality must be tested in other ways than by simple questioning.⁸⁵

What is controversial is Aristotle's claim about the form of representation at the most basic level. Because of their quasi-perceptual character, phantasmata do not constitute a "language of thought," a system of representations semantically structured as a language is structured. Aristotle *does* accept the existence of such a language (*De interpretatione* 1; *On the Soul* 3.6), but only at a higher level of representation that emerges from this more basic, nonconceptual level.

Conception ($\nu\omicron\epsilon\acute{\iota}\nu$), according to Aristotle, always requires phantasmata (*On the Soul* 3.7, 431a14–17; *On Memory* 1, 449b31). This is not merely a necessary condition. The connection is much tighter still. In some sense, phantasmata *contain* concepts latent within them: in Aristotle's words, the subject "conceives the forms *in* phantasmata" (*On the Soul* 3.7, 431b2). In fact, every conceivable feature of objects, including their various dispositions and attributes, must be contained *within* sensible forms and so in phantasmata. Whenever we think, he claims, we simultaneously entertain a phantasma (3.8, 432a4–6; cf. 3.7, 431a14–15).⁸⁶ But not even the simplest con-

cept is identical with a phantasma: "How will primary concepts differ from phantasmata? Or is this it? Neither they nor the others are phantasmata, but they do not occur without phantasmata" (432a12–14).

To arrive at this higher level of representation requires a different power in Aristotle's opinion, the power of conception or understanding ($\nu\omicron\upsilon\acute{\iota}\varsigma$), which grasps part of a phantasma's content to the exclusion of others in a new mode—again, a form of transduction. It is unlikely it does this in the way imagined by some later Aristotelians, by literally stripping away matter from the phantasma and leaving the bare concept. To the extent that Aristotle himself says anything about the subject, he seems to have in mind, not so much the production of a separate entity, as a different way of handling the phantasma, by *ignoring* certain features (*On Memory* 1, 449b30–450a14).⁸⁷ Different phantasmata, that is, *can be treated as equivalent*, insofar as they each have a certain part of their content in common; and that aspect of a phantasma which allows it to be treated in this way would be a concept or $\nu\omicron\eta\mu\alpha$ (as distinct from the *object* of thought or $\nu\omicron\eta\tau\omicron\nu\acute{\nu}$). The relation of phantasmata to even the simplest concepts presumably will be *many-many*: just as a single concept can be found "in" different phantasmata, so too a given phantasma will contain different concepts. Possessing a concept will be the ability to make use of certain aspects without others; and concept development will consist in the process of isolating, through inference and induction, certain features common to a given set of phantasmata (cf. *Post. An.* 2.19).

Although Aristotle says little more about precisely how simple concepts are "contained" within phantasmata, in line with our earlier discussions it is easy to imagine a solution along the following lines. Like the content of a phantasma, the content of a concept will be a function of the phantasma's causal powers. But concepts are more fine-grained, capturing only certain aspects of a phantasma's content. We might, therefore, think of the content of a concept simply as a *subset of the phantasma's causal powers*—powers which might belong to quite different phantasmata in isolation from other causal powers it is instantiated with. The ability to "ignore" certain features would then be nothing more than the fact that in certain contexts some of the phantasma's causal powers may be exercised without the others. There needn't be a homunculus surveying and selecting which features to

⁸⁴ *On Mem.* 1, 450a27–b11; 2, 451b16–452a10 (cf. 452a12–b7), 453a4–26.

⁸⁵ See Cummins 1989, 14–16 for a concise discussion with references.

⁸⁶ Contra Shields (1992, 374), who claims that "Aristotle never argues that thought is synchronically dependent on images." But Aristotle uses straightforwardly temporal language in making these claims ($\delta\tau\alpha\nu$. . . $\acute{\alpha}\mu\alpha$, 432a8; $\omicron\upsilon\delta\acute{\epsilon}\pi\tau\omicron\tau\epsilon$, 431a16). And while these terms could be construed in a logical sense, it is unclear why we should avoid their obvious temporal sense once we have abandoned an imagistic reading. There is nothing

problematic about phantasmata being involved in each act of conception, once we have accepted that phantasmata are not themselves images and can function without concurrent imagistic experience.

⁸⁷ Aristotle thinks that the power which performs this must be without a specific bodily organ. His reason is not that some special supraphysical power is needed to "separate" forms from matter. His argument is again negative: he believes that if thought occurred by a bodily organ's being affected, certain objects of thought would be "masked" and so outside the range of thought, which he optimistically takes to be unlimited (*On the Soul* 3.4, 429a22–b5). But the absence of an organ may only signify that this ability is not localized, supervening instead on the body as a whole: see Charles 1984, 219, n. 15.

“conceptualize.”⁸⁸ Indeed, such a homunculus would already have to *possess* the concepts in question in order to make a selection; otherwise ‘selection’ is a misnomer and the fiction does no work.

If the present proposal is right, it would be possible to represent independently properties that are coextensive, even those which are necessarily coextensive, such as *being a trilateral* and *being a triangle*. The causal powers which represent coextensive properties may always be *coinstantiated* in a phantasma. But so long as one power can be *exercised* without the other, it will be possible to have distinct conceptual representations.⁸⁹ Such a distinction would explain why the intersubstitutivity of coextensive terms in certain contexts does not occur *salva veritate*.

Aristotle posits two additional mental operations, “combination” and “division,” which are also necessary if there is to be propositional content (*On the Soul* 3.6; *Metaphysics* 6.4 and 9.10; *De interpretatione* 1). Each operates on several concepts and results in a proposition: roughly, combination is the *affirmation* or *application* of one concept to another, division the *denial* or *withholding* of one from another. Notice that by allowing two sorts of operations, one positive and the other negative, Aristotle can avoid having complementary pairs of concepts, such as *white* and *black* or *straight* and *curved*—a single concept will do, depending on which operation we use (*On the Soul* 3.6, 430b21–24; cf. 1.5, 411a2–7).

Unfortunately, Aristotle says extraordinarily little that would illuminate the psychological mechanisms underlying these processes, not to mention how he might account for more difficult cases: for example, how we form complex concepts, such as the goat-stag (*De interp.* 1, 16a13–18), or complex propositions, whether quantified, conditional, or disjunctive. What stands out is his insistence that all such representations are ultimately rooted in phantasia and thus in naturalistic representations of our perceptual world. By making phantasmata the basis for higher mental states, rather than a propositional attitude such as belief, Aristotle emphasizes a form of intentionality which is more basic than the conceptual. Aristotle’s account thus becomes plausible for the mental economy and behavior of lower animals

⁸⁸ Sometimes such a function is ascribed to the mysterious “agent intellect” mentioned in *On the Soul* 3.5 (e.g., Wedin 1988, ch. 5). But selectivity is not mentioned in this text at all—in fact, Aristotle nowhere addresses the problems of selective attention explicitly. In any event, I would argue that the intellect mentioned in this chapter is neither human nor involved in the causal production of thoughts, but is rather the divine intellect mentioned in *Metaphysics* 12.7 & 9, which “moves” us as it moves the celestial spheres, namely, as a final cause. For an elaboration and defense of this view, see my “Aristotle’s Two Intellects: A Modest Proposal” (unpublished).

⁸⁹ This suggestion, if correct, would answer the worries I raised about conceptual representation in my criticism of Wedin in 1992, 122–25. Phantasmata do not *instantiate* all of the properties they represent (see pp. 267–68 above), as Wedin claims; they represent them by means of their causal powers.

(*On the Soul* 3.3, 428b16–17, 429a5–6), as well as much that occurs in humans below the conceptual threshold (429a7–8). By itself, phantasia cannot provide a fully general solution to the problem of intentionality. Propositional attitudes pose important difficulties, which require conceptual abilities that go beyond phantasia. But the roots of intentionality lie at this deeper level.

IX. Problems with Similarity

More pressing are the objections raised against (P), concerning the content of phantasmata itself. Close attention to the details of this account show that many of the standard objections against similarity theories do not apply. The uniqueness problem, in contrast, is a genuine difficulty, which may require a modification, or at least a clarification, of Aristotle’s account.

To begin with, Aristotle’s appeal to similarity is less slippery than many. Representation is accounted for in terms of exact, objective similarity along a well-specified set of properties. The only times Aristotle uses similarity in a subjective and inexact sense he has in mind reflective, higher-order states, where a certain interpretive flexibility is natural.⁹⁰ The content of phantasmata, in contrast, depends on which stimulations share exactly similar powers to affect the central organ, which is an entirely objective matter.

Secondly, unlike crude similarity accounts, (P) does *not* entail a reflexive and symmetrical relation of aboutness. For a phantasma to be about itself, it would have to be able to affect the central organ in the same way as it would if it were *seen, heard, or otherwise sensed*. Similarly, for an ordinary object to be *about a phantasma* which represents it, the object must be able to affect the central organ directly in the same way as the phantasma in question would if the phantasma were seen, heard, or otherwise sensed. But there’s nothing in Aristotle’s account that requires phantasmata to have that sort of effect. The reflexivity and symmetry of similarity may make a crude similarity account incompatible with the nature of representation. But it is no objection against (P).

The chief problem for Aristotle is *uniqueness*. *Prima facie*, there might be more than one sensory stimulation with the same powers as a given phantasma; and yet there seems no reason to think such stimulations must always have the same content. Suppose, that is, we have the following scenario:

⁹⁰ See esp. Aristotle’s discussion of how errors in interpretation can arise from “lesser similarities,” i. e., what we take the content of a representation to be is only somewhat similar to the actual content of the representation: *On Dreams* 2, 460b3–18; 3, 461b7–11; *On Divination in Dreams* 2, 464b5–12. See pp. 281–82 above.

1. There is a phantasma φ and two sensory stimulations, s_1 and s_2 , such that
 - a. each has the same power F to affect the central sensory organ
 - b. the content of $s_1 \neq$ the content of s_2

But (1a), when taken together with (P), implies

2. The content of $\varphi =$ the content of s_1
3. The content of $\varphi =$ the content of s_2

from which it trivially follows that

4. The content of $s_1 =$ the content of s_2

against (1b). Therefore, either (1) must be rejected or Aristotle must modify (P).

The first option is difficult. Denying (1) on the grounds that there cannot be two sensory stimulations with the same causal powers, against (1a), is implausible. Given that (P) is not restricted to actual sensory stimulations, but ranges over possible stimulations more generally, it seems unreasonable to claim that there *could never* be two sensory stimulations with the exact same causal powers. (P) presupposes, after all, that phantasmata and sensory stimulations can have the same causal powers. Why couldn't two sensory stimulations have the same causal powers?

Denying (1) because of (1b), however, is only slightly more palatable. It amounts to the claim that stimulations with the same causal powers *must* have the same content:

- (S) For any two sensory stimulations, s_1 and s_2 , if the total effect s_1 is able to have on the central sensory organ is the same as the total effect s_2 is able to have, then s_1 is about exactly what s_2 is about.

(S) would get Aristotle into difficulties almost immediately. On his view, sensations are about the objects that give rise to them. Consequently, sensory stimulations arising from different objects will always differ in content. But (S) requires this difference to be reflected in the causal powers of the stimulations, *no matter how similar the objects*—there would be no differences in content without a corresponding difference in causal powers. And again this is implausible. Imagine two objects that belong to a single, fully determinate sensible type and are perceived under exactly the same conditions. It is possible the resulting stimulations will differ in the relevant causal powers. But it is hard to see what independent grounds there are for thinking they must *always* do so. The causal powers in question are a function of the object's

sensible characteristics. If two objects do not differ at all in this regard, how could the resulting causal powers in question track the bare difference between these objects?

(S) therefore requires an overly fine-grained division of causal powers. Stimulations with the same causal powers *can* differ in content, it seems: a mere difference in objects will not be encoded in the resulting causal powers. A proponent of (S), however, might concede this, while maintaining that such cases are the only problematic ones—that is, he might hold that stimulations with the same causal powers can differ in content *only* as regards a bare difference in objects. If so, then there will no differences in content *with respect to the sensible characteristics or type of object represented* without a corresponding difference in causal powers. That is, instead of (S), one might hold

- (S') For any two sensory stimulations, s_1 and s_2 , if the total effect s_1 is able to have on the central sensory organ is the same as the total effect s_2 is able to have, then s_1 is about *exactly the same type* of sensible object as s_2 is about.

By acting on the central sensory organ, stimulations have the power to produce an experience of a determinate phenomenal *type*: that is, an experience of an object of a fully determinate sensible type in certain determinate conditions (including vantage point, distance, etc.). This does not, of course, exhaust the content of sensory stimulations: even if perception is in some sense “of the universal,” we perceive an individual (*Post. An.* 2.19, 100a16–17; cf. 1.31, 87b28–30). And what makes a given stimulation about a particular object of this type is its *causal link* to that object, viz.,

- (S \leq) For any sensory stimulation s , s is about the object that produces it.

On this view, then, it follows that stimulations cannot have *exactly* the same content unless they arise from the same object. But they can still have a very similar content, insofar as both will be about objects of the same *sort*; which occurs whenever stimulations have the same causal powers.

(S') greatly reduces the force of the *reductio*. Against (1), it replies that two stimulations with the same causal powers cannot have *utterly* different contents: they must be about objects of the same determinate sensible type. It thus limits the problem to cases where two stimulations are about different tokens of a single, fully determinate sensible type. And there the solution seems somewhat easier: Aristotle must accept a modification in (P). Since a phantasma is an echo of a sensory stimulation, it should be about tokens, too, and not the type itself—a phantasma might be about a centaur, but *not* the property of being a centaur or the class of all centaurs. On the other hand,

there is no reason for a given phantasma to be about one token of a certain type rather than another token. In particular, causal ancestry will not be decisive. A phantasma of a horse, which has been stored and later retrieved, need not be about the horse from which it originally derives, if indeed it derives from a horse at all; and none of the causal ancestors of a phantasma of a centaur make it about any centaur in particular. There is therefore no parallel to (S \leq) for phantasmata.

A phantasma, then, would be about a token of determinate sensible type, *without being about any token in particular*, in much the same way I can promise you a horse, without there being any horse in particular which I am promising you. A phantasma would have, if you will, *indefinite singular* content: it would represent a member of a certain class *without identifying* any particular member of that class.⁹¹ It can thus apply to any token of that type indifferently and so possess a measure of generality, without being a representation of the universal type—it is only with concepts that we arrive at the representation of types *per se*. Our earlier formulation of (P), therefore, would be replaced by

(P') For any phantasma ϕ and time t , the total effect ϕ has the power to produce at t on the central sense organ is the same as the total effect some sensory stimulation s has the power to produce on the central sense organ, were s to occur; and at t , ϕ is about *exactly the same type* of sensible object s would be about.

(S') and (P') together disarm the *reductio*. Sensory stimulations and phantasmata with the same causal powers will agree in content insofar as they are about the exact same type of object. But their contents will *not* be identical. Each sensory stimulation will be about the particular object it arises from; while a phantasma will be about a token of that type, without being about any one token in particular.

This sort of response has several advantages for Aristotle, if he were inclined to accept it. First, he could explain the ability of higher animals to *anticipate* events on the basis on past experiences without having to attribute concepts to them, something he is unwilling to do (*Nic. Eth.* 7.3, 1147b4–5; cf. *Metaph.* 1.1, 980b25–981a1). Otherwise, it is difficult to see how animals can learn from past experiences. Memory as such will not do the trick: (i) it is about something past, not something we have yet to encounter; (ii) like sensation, it concerns a particular object to which it is causally linked—it is about a definite particular. But a cat lying in wait for what he suspects may be his next dinner is not under the misapprehension that it is

the mouse he ate for dinner yesterday; and though he may presently hear rustling, he does not hear *prey*. Having experienced many sequences of sounds and glimpses of scurrying vermin in the past, he has the relevant phantasmata; and by means of these, he comes to expect a moving, rodent-looking object behind the bush, whichever rodent that might turn out to be (should there be one there at all). Phantasmata on the revised account allow this, because (a) they are about an object of a certain sort without being about any one in particular, and (b) they do not presuppose the existence of their objects. What the cat lacks is the ability to isolate those features which constitute the concept of a rodent or of prey. But he does not need this to catch mice.

The second advantage is of paramount importance. Aristotle needs both (S') and (P') if he is to explain how *misrepresentation* is possible at a quasi-perceptual level, to represent some real individual as other than it is. Pure sensation, on his view, obviously cannot do this. But neither can phantasia alone. If a phantasma no longer has the same causal powers as a lizard-stimulation, but the powers of a dragon-stimulation, the phantasma does *not* misrepresent that lizard—it *correctly* represents a dragon. It is only if I can secure reference to a particular lizard and then represent *that* as a dragon, that I have misrepresented the lizard; and that could happen if I were able to combine a sensation or memory, which carry definite reference, with a phantasma. Such combinations, I take it, are precisely what happens in any case of misperception according to Aristotle (*On Dreams* 1, 458b31–459a1), including the case where an error is made about proper sensibles (*On Dreams* 2, 459b7–13)—reference to a definite particular must be combined with the identification of a certain type of object. But for that, Aristotle requires both sorts of account.

X. Conclusion

Aristotle is thus well aware of the problems intentionality poses. He appeals to these difficulties as a reason for rejecting other accounts and so requires a solution for any adequate theory of mind. His own theory should meet the same standard, therefore, and although he is not entirely forthright about its possible shortcomings, he puts in the work needed to set things right.

In spite of its centrality, Aristotle's theory of sensation and conception is subject to the same difficulties his predecessors' theories face. All rely on a simple causal account of content, where content coincides with cause, and so one which cannot account for either presence in absence or error. Unlike his predecessors, though, Aristotle does not think all mental states are explained on this model. He analyzes the remaining states by reference to a distinct process he calls phantasia, which he argues cannot be identified with either sensation or conception, but possesses content in a different way. His new

⁹¹ For the analogous contrast between singular definite referring expressions and singular indefinite referring expressions, see Searle 1969, 27. For a defense of "non-identifying reference" more generally (on Aristotelian grounds, no less), see Sommers 1982.

account also relies on causal features, but not in the way the simple model does. The content of phantasia depends on causal powers, not causal ancestry: a phantasma will have exact same type of content as a sensory stimulation with the same powers to affect the central sensory organ. In effect, a phantasma represents what we might possibly sense, and so extends more widely than what we actually do sense, making both presence in absence and error possible.

Although Aristotle invokes similarity here, he does so without being committed to the sort of similarity theory usually derided in the literature. Similarity here is not subjective, but objective, the sharing of a quite specific range of physical properties; and it does not entail a reflexive or symmetric relation between the phantasma and what it is of or about. He takes representations to be changes in the blood, which are similar to their objects insofar as they can affect the central organ in similar ways (via different routes). Aristotle thinks that our representations acquire such causal powers by possessing magnitudes with the same proportions as the magnitudes of the objects thought about and so instantiate a similar relation structure. But he does not seem to think they are scale models, which look like what they represent, since he believes that a representation *cannot* instantiate all of the properties represented and does not in any case represent by being viewed. Proportions may therefore be instantiated along different dimensions, so that only very abstract characteristics are shared by both the object and the representation. What is crucial is the causal powers such a characteristic affords the representation. The other details do not belong to the analysis of representation so much as the realization or implementation of that account.

There is thus a very close relation between the content of phantasia and the content of sensation on Aristotle's view: the kind of content phantasmata bear is thoroughly quasi-perceptual and nonconceptual. Like sensory stimulations, phantasmata are about tokens of certain determinate sensible types. But unlike stimulations, phantasmata do not appear to be about any token in particular—they seem to be indefinite singular representations. This approach allows Aristotle a plausible psychology for animals, who are capable of learning from past experience and misrepresentation even without a conceptual apparatus like our own.

It is only through the effect of a further transducer, the understanding, that we have genuinely general representations of types *per se*. But all conceptual content is ultimately based on nonconceptual content, according to Aristotle; in fact, all simple concepts are in some sense *contained* within this quasi-perceptual content. But he has little to say about just how conceptual content is contained or how it is transduced—at best, we can conjecture how his causal account of quasi-perceptual content could be extended, in a way that might help explain failures of intersubstitutivity. Aristotle posits two further mental

processes, which operate on concepts to produce propositional content—roughly, affirming and denying one concept of another—but again says little about how this works, especially in more complex cases. But this is a topic for another occasion.

Brentano, we may conclude, was half-right: Aristotle did have a concept of intentionality. But it was much closer than Brentano's to our own.

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