Representation and Objects of
Thought in Medieval Philosophy

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Chapter V

Rethinking Representation in the Middle Ages:

A Vade-Mecum to Medieval Theories of Mental Representation*

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The object sufficiently represents itself in a cognition.
—William of Ockham, *Reportatio*, 2, qq. 12–13 (OTh. 5, 274, 4–5)

The Christian Aristotelianism of the High Middle Ages had the conceptual resources to explain the representationality of mental representation – that is, the feature or features in virtue of which a mental representation represents what it represents – in four separate ways:[1]

(R1) The mental representation and the represented item have the same form.
(R2) The mental representation resembles, or is a likeness, of the represented item.
(R3) The mental representation is caused by the represented item.
(R4) The mental representation signifies the represented item.

These several accounts were often uncritically taken to go together. When Socrates confronts a sheep (say), the sheep causes a particular mental event to occur in Socrates (R3), namely the sheep's form coming to inhere in his soul (R1); this selfsame quality in Socrates's soul, namely the inherent form, is thus a natural likeness of the sheep (R2), thereby signifying the sheep and playing the role of the mental or inner word (*verbum*) for it (R4). Even on this first pass there are obvious problems. Do

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   1 It should go without saying that I'm concerned with the modern notion of mental representation as it shows up in the High Middle Ages, not with the medieval (limited and restricted) use of *repraesentatio*. That is a part, but only a small part, of their account of mental representation; it's more profitable to track the concept than the terminology.

(R1)–(R4) *have* to go together? Which of (R1)–(R4) actually does the representing? And the like.

A rough approximation of what I want to argue for here is that in the course of the High Middle Ages an important shift takes place in the theory of representation, namely a shift from accounts of representation that favor (R1) and (R2) to accounts that favor (R3) and (R4). This is all the more surprising in that (R1) and (R2) are clearly Aristotle's preferred account of representationality, if anything is. The trajectory of the debate begins with Thomas Aquinas and is epitomized, as so many medieval philosophical discussions are, in William of Ockham.

In the spirit of Fodor (1985) and Haugeland (1990), I'll take a top-down approach to the historical sources, concentrating on the logic of the positions and their development. My account will therefore track mainstream medieval philosophy of psychology. Richard Rufus's attack on naive representationalism, for example, won't be considered here since it appears not to have affected the course of the debate, interesting though his arguments were. My focus is rather on scholastic 'common wisdom' about mental representation, to the extent there was any, in the High Middle Ages.

1 Conformality

1.1 The Simple Version

According to (R1), a mental representation represents an object just in case it has *the same form* as the object – hence the name 'conformality' for this account of representation. More exactly, the inherence of the form in the appropriate kind of matter makes that matter into the very thing or the kind of thing it is, whereas the presence of the form in the soul doesn't turn the soul into the thing itself, except metaphorically; instead it produces a sensing or a thinking of that thing, namely when the form is present in the sensitive or in the intellective soul respectively. The conformality account is usually embedded in a much larger and longer theory, for the most part meant to be a causal theory, of the reception or acquisition of such forms in the soul, involving the transmission of forms through the intervening medium (the *species in medio* doctrine), their affection of the sense-organ and reduction of the associated sense-faculty from potency to act, the production of a phantasm or sensible species through the common sense, and so on, with the agent intellect and the possible intellect getting their licks in too. But we can ignore the mechanical details here, since they aren't important for explaining how a mental event is 'about' an external item (in the paradigm case).[2] Philosophers who hold an illumination theory of cognition, for instance, can hold that God directly causes the presence of a form in the intellect, which is thereby thinking of the item whose form it is, without any direct causal link between the thought and the external item itself. (Bonaventure

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2   See the recent surveys in Tachau (1988), Spruit (1994), and Pasnau (1997) for the broader theory of the reception of forms in the soul.

and Matthew of Acquasparta are examples of this view, and arguably Henry of Ghent as well.[3]) Hence (R1) is independent of (R3). A mental representation represents something by virtue of having its very form in mind, no matter how it got there.

The precise details of the conformality account depend on the answers to a series of metaphysical questions. Are there individual forms or only non-individual forms that are (non-formally) individualized in individuals? What is the principle of individuation? Does an individual have a plurality of substantial forms or only one? But even without settling these and related questions, we can explore the paradigm case in which Socrates, confronted with a sheep, thinks about it by virtue of having the sheep's form, whether individual or specific, in mind.[4] Socrates might think about, and hence represent, the sheep confronting him in a 'thin' fashion, namely by thinking about all sheep, or about sheephood wherever it may be found – but though thin, it is nevertheless a case of thinking about *this* sheep in the end. (Whether we can identify an individual sheep with its non-individual form is a separate and disputed metaphysical question.) The point is that a general representation still represents what it does by virtue of the presence of the same form.

Yet what is it about the presence of form in the soul that makes it *represent* things that have the form? Put another way, why doesn't the sheep represent Socrates's mental state, by virtue of the presence of the form in the sheep, as much as vice-versa? Conformality, as a kind of identity or sameness, is symmetrical, but representation isn't (or usually isn't taken to be). Three possible replies suggest themselves, each problematic.

The first reply: The defender of conformality could simply bite the bullet and maintain that conformal items represent one another, in spite of the counterintuitive consequences: external objects represent mental states, and each thing represents itself. This line of reply was quickly dropped for its obvious drawbacks.

The second reply: There might be something interestingly special about the subject in which the form is present, namely the soul, so that the presence of a form in the (intellective) soul counts as representing its object whereas its presence elsewhere does not.[5] Yet this merely names the mystery rather than explains it: what

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3   For Bonaventure see especially his *Quaestio disputata de cognitionis humanae suprema ratione*; for Matthew of Acquasparta see his *Quaestiones disputatae de cognitione* q. 1 ad. 22, q. 2 ad. 1 and ad. 12, *Quaestiones de anima*, 13, q. 5. Both are discussed in King (1994). For Henry of Ghent see his *Summae quaestionum ordinariarum*, art. 1 q. 2 (amplified and modified in art. 58 q. 2), *Quodlibeta*, 8, q. 12 and 9, q. 15; see also the analysis in Marrone (1985).

4   This strategy assumes that having the specific form of sheephood in mind is a way, though not necessarily the only way, of representing an individual sheep. If not, then a separate account of singular thought, and in particular how singular thought can represent an individual, is required. Aquinas is the best-known case of a philosopher who rejects the assumption, and his account of singular thought, if indeed he has one, is at best obscure: the *conversio ad phantasmata*.

5   This is the version of the conformality account Cummins (1989) ridicules, saying that 'mind-stuff' is what makes representationality. But it's only one possible way to go

is the special feature of intellect such that the presence of form in intellect, though not elsewhere, becomes a representation? But a deeper objection, I think, is that this reply winds up giving no account of representationality at all. Instead, the presence of the form determines which thing the representation represents, while the burden of the claim that there is *representation* going on falls squarely on the (unexplained) nature of intellect. And in the High Middle Ages that was too high a philosophical price to pay.

The third reply – Aquinas's way out and the most promising of the three – holds that it isn't the subject but rather the mode of the form's *presence* that makes all the difference. The form of the sheep in Socrates's soul doesn't inform the soul in such a way as to make it into a sheep, which is what it usually does (given appropriate matter), and indeed it's not clear that the notion of a corporeal form informing an incorporeal substance in anything like the ordinary sense of 'inform' makes a great deal of sense. Rather, the form must be present in the soul, but present in a special way. Aquinas says that the form is present not 'really' but *spiritually* or *intentionally*.[6] The suggestion is ingenious. On Aquinas's reading, Aristotelian physics is deeply committed to the notion that a form may occur in something without literally informing it, *e.g.* a color in the medium which doesn't tint the intervening air (*De veritate*, q. 27, art. 4, ad. 4); why not make use of this idea in psychology? Furthermore, unlike the second reply, it does make something relevant to the form, namely its presence, be the key to explaining representation, though like the second reply it makes the form explain only why the representation represents this sheep rather than something else, not why representation occurs at all.[7]

Promising as it is, there are two drawbacks to this third reply. First, since it doesn't depend on any special features of the subject in which the form intentionally exists (otherwise it would be a version of the second reply), there is no good reason to rule out representation wherever forms may intentionally exist – say, a color existing intentionally in the air, as the blackness of the sheep's wool is said to exist intentionally in the air, which is the intervening medium between the sheep and Socrates's eye; the intervening air, though not itself black, would thereby be said to represent the black color, or perhaps even the sheep itself. For many this would qualify as a *reductio ad absurdum*, but Aquinas seems to have bitten this particular bullet: he declares that 'air and water are perceptive of color' *(aër et aqua ...sunt perceptiva coloris: In De anima*, 3.1, §570). To defend this claim we might point out on Aquinas's behalf that representation isn't the mark of the mental; the statue of Hercules in the park represents Hercules, and a mirror-image represents that of

in developing the conformality account, and not common at that. Cummins also conflates conformality (R1) with likeness (R2) in his discussion; Cummins (1989) 3–4 and Chapter 3. It may be that conformality is no longer a contender in the race to explain representationality, but it should lose in its own right, not as a caricature of itself.

6   See for example *In De anima*, 2.14, §418 and 2.24, §553, *Summa theologiae*. 1ª, q. 14, art. 1 corp., *De veritate*, q. 2, art. 2 corp., *et passim*. Aquinas probably took this idea over from Albert the Great; see e.g. Albert's *De anima*, 3.3.12 and Spruit (1994), vol.1, 144.

7   See *De veritate*, q. 10, art. 4 corp. for an exceptionally clear statement of this point.

which it is the image. Hence Aquinas's use of 'perceptive' is not entirely without precedent. However, the second drawback to this third reply is more serious. What is it for a form to be present only 'intentionally'? Aquinas never says, or, to the extent that he does, his account was opaque to his disciples and detractors alike. then and now.[8] Aquinas's failure to say what intentional presence consists in makes representationality into a mystery again, this time centered on the non-informing presence of the form in the representer; it may well explain why Aquinas had few followers in philosophy of psychology during the High Middle Ages.

1.2 The Composite Version

Duns Scotus starts from a new direction, using a top-down approach to psychology based on simple introspection.[9] His reasoning is as follows. Thinking is episodic: sometimes we think and sometimes we do not. In general, episodic processes are metaphysically identified as *accidents*, since they may be present or absent. Well, accidents require substances to inhere in, of course, and in this case there is a handy (quasi-) substance available: the soul. Thus a mental event, such as Socrates's thinking of a sheep, is metaphysically analyzed as an accident (the thinking-of-the-sheep) inhering in a substance (Socrates's soul).[10] How does this substance–accident analysis square with the claim that to think of something is to have its form in mind?

The natural answer is that the representational form just *is* the accident inhering in the mind. But the natural answer won't do. Aside from the metaphysical difficulties it faces in holding that (say) a corporeal substantial form such as sheephood can accidentally inform an incorporeal (quasi-) substance such as Socrates's soul,[11] we've seen above some of the problems to which this answer leads. Sheephood cannot straightforwardly inform Socrates's soul since it doesn't make his soul into a sheep,

8   Cohen (1982) argues that the form's intentional mode of presence is actually a physical event; Haldane (1983) offers textual grounds for reading it physically and also for reading it non-physically. Pasnau (1997) maintains that 'Aquinas ... gives the theoretical outlines of an account but leaves the specific details to be filled in,' although this 'lack of specificity can hardly be seen as a weakness in the account' (41–2). But this isn't a mere detail that further research could fill in; it's the brass ring itself.

9   See his *Ordinatio*, 1, d. 3, p. 3, q. 2, n 422 and the parallel claim in *Quodl.*, 15.6: 'A thought is something new in us, as we all know by experience.'

10   To get straight on the details here requires understanding how the substantial form of a composite can itself be the subject of accidents. There is a long story to be told, but for our purposes it's enough to follow the medievals in talking of the soul as though it were simply a substance, however the details are worked out–roughly, whether we follow the Franciscan tradition in thinking that the soul is substantial in some fashion or follow Aquinas in radically insisting that the soul is just a form.

11   Whether one and the same form can be the substantial form of one object and an accidental form of another is one of the issues raised in discussions of the Incarnation: see Cross (2002), Chs 2–5.

and the reason for this, it seems, has to be sought in either the subject or the mode of inherence of the form. The former tack makes representationality a mysterious feature of minds, the latter postulates a novel and as yet unexplained mode of being, 'intentional presence'; neither is a case of a simple substance–accident relation.

Thus whatever we say about representation, it seems as though the form of the object in the mind should *not* be identified with the accidental quality inhering in the mind. But the argument that thinking is somehow an accidental quality, given above, still has force. Therefore, we have grounds to postulate not one but two forms in the mind: one that corresponds to the thinking (as an accident), the other that determines what the thinking is about (by conformality). Now obviously these two forms are not independent of one another. Very roughly, we might take the former to be 'directed' at the latter, or to 'include' it. It doesn't matter which of these largely metaphorical ways of speaking we adopt, for in the end they come to the same thing, namely the introduction of a distinction between something in the mind and its content. We can either talk of how the form of the external object present in the mind is that which 'terminates' the mental act or concept,[12] or alternatively talk of how the object of thought is included in or is a part of the concept or the act of thinking; each enshrines the distinction.

Take a moment to realize just how extraordinary a move this was. There isn't any room in the ordinary Aristotelian framework for the distinction, since, on the conformality account (Aristotle's 'official' view), the 'content' of a thought is given by the nature of the form involved, and its presence or inherence in the soul just is the occurrent thought – the sort of thing that led Aristotle, and Aquinas in his wake, to speak of the knower becoming the known, a suggestive but obscure claim.[13] But as we've seen, this simple account, pushed to its extreme in Aquinas, eventually breaks down. Hence the distinction between mental act (or concept) and its content, resulting in a view of thought as essentially composite.

The post-Aquinean proposal is therefore that a mental representation represents in virtue of having the same formal content as the external object, so that when Socrates thinks of a sheep he does so in virtue of having a concept whose content is the form of the sheep. Concepts or mental acts can thus be sorted by their (formal) contents.[14] Now thinking, as an occurrent mental act, is an accident inhering in the soul as its (quasi-) substance – that is to say, the thought, concept, or act of thinking is present in the soul as in a subject: it is 'subjectively' in the soul. The determinate

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12 Even Aquinas talks this way occasionally: *Summa contra Gentiles*, 1.53.

13 These and other dark sayings of the Philosopher are most naturally read as expressing the view that the form of the external object inheres directly in the soul and (somehow) imparts to it the qualities that it engenders in the external object: the soul is 'assimilated' to the thing; the mind, as the 'form of all forms,' successively becomes each of the things it thinks about.

14 Duns Scotus, *Quodlibeta*, 15.30: 'The (intelligible) species also seems to be classified according to the object, not as an intrinsic formal principle but instead as an extrinsic principle' (*Videtur etiam sortiri speciem ab obiecto, licet non sicut a principio formali intrinseco, tamen sicut a per se principio extrinseco*). Scotus uses '*sortiri*' here as the deponent verb 'to sort or classify' rather than in its classical sense 'to select by lot.'

form, however, is not present subjectively. Hence the coinage of a new vocabulary to express the presence of this second form: it is present 'objectively' in the soul, which is to say that it has 'objective being' (*esse obiectivum*) in the soul. This turn of phrase emerged in the work of Hervaeus Natalis, Giacomo di Ascoli, and Duns Scotus (who uses it synonymously with *esse repraesentativum* and *esse deminutum*).

The virtues of this new approach are evident. It clarifies the underlying ontology, and, at the price of doubling the 'forms' involved (one existing subjectively and the other objectively), it seems to provide a clear model for mental representation. Indeed, to the extent that we identify a thing with its substantial form, or at least don't take its matter to be essential to it, we can now speak of the thing as 'existing' in the thought. This isn't quite real being, of course; it's only a lesser or 'objective' kind of existence (the existence had by objects of thought). Such conceptual contents mediating the thinker and the world can come in handy for a variety of other philosophical problems, especially with regard to thinking about impossible or unreal things, such as universals (for Ockham's early view) or perceptual and conceptual illusion (as proposed by Peter Aureol).

Unfortunately, the drawback of this approach is also evident. Put as a question: What is the ontological standing of such mental contents? The most tempting answer – 'Nothing' – won't do. Nor will it do to say that such conceptual contents are mere extrinsic denominations of the items thought about. Apart from the obvious problem that they will no longer come in handy for nonexistents and impossibilia, since there aren't any such items to extrinsically denominate, to treat conceptual content as mere extrinsic denomination, i.e. to sort or classify mental acts solely by referring to the external objects they are about, gives up entirely on conformality: there is a form existing subjectively in the sheep, and a distinct form existing subjectively in Socrates's soul, and that's the end of it; the form 'existing objectively' is really just a way of talking about ('denominating') the form in the sheep. Yet if there is no shared form, there is no explanation why a given mental act represents a given external object. The only recourse, then, is to grant them some independent ontological standing. This raises a host of metaphysical problems. What kind of being do they have? Doesn't this result in a medieval Meinongian ontology? Aren't they accidents of accidents?[15] And so on.

William of Ockham recapitulates the public debates over objective being in his own philosophical development. It's an oft-told tale how Ockham initially accepted an act/content distinction, supporting it with a view of universals as ficta, but faced with arguments from Walter Chatton (among others) eventually found it metaphysically insupportable.[16] I won't go through the details, in part because it is

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15 The content of a mental act seems to be an accidental feature of that act, which is in its turn an accident subjectively inhering in the soul – which itself is a form, not properly a substance! The standard reading of Aristotle didn't countenance accidents of accidents.

16 Ockham describes in some detail, and at different times seems to endorse, at least three distinct theories of the nature of concepts: (*i*) conceptual content exists objectively in the mental act, that is, something fashioned by the mind that is the object of the mental act.

oft-told, in part because these are problems that are, in the last analysis, problems in the ontology of mind rather than problems having to do with the account of representation. Their net effect, of course, was to deter philosophers by Ockham's time from explaining representation in terms of conformality, despite its Aristotelian pedigree.[17] Fortunately, other candidates were available.

2   Likeness

According to (R2) a mental representation represents an object just in case it is similar to the object, or is a *likeness* of it. Statues literally resemble their subjects, and mirror-images what they reflect; so too mental representations. The genus of representation isn't confined to the mental, as we noted above. Now it's clear that (R2) can be combined with (R1), namely by holding that the possession of a form in the mind constitutes the presence of a mental likeness. This is a substantive claim, and it isn't obviously true. If anything it seems false. Why should the possession of a form automatically lead to there being anything mental we might want to call a 'likeness' on independent grounds? (The proviso 'on independent grounds' does real work, since it's trivial that the form in the mind resembles the form in the external object in being the same form, after all.) Hence (R1) and (R2) are distinct. Of course, all the philosophical work for (R2) is done in explaining when one item is 'like' another. There were two approaches to this, the second having at least two distinct branches.

2.1 The Literalist Proposal

The first approach proposes that one item is 'like' another just in case they literally have the same quality. This fits ordinary usage, Latin as well as English. My sweater is like your shirt since each is red. Furthermore, submerged technical terminology is at

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namely a *fictum*; (*ii*) there is a mental quality distinct from the mental act; (*iii*) the concept is simply the mental act itself. The most plausible interpretation of the presence of these different theories is a developmental hypothesis which leads to (*iii*) as Ockham's 'mature' theory. According to this developmental reconstruction, Ockham began by endorsing (*i*), but serious difficulties regarding the ontological status of such fictions forced him to abandon this position in favor of holding that concepts must have real existence or subjective being in the soul, as (*ii*)–(*iii*) maintain, and considerations of parsimony eventually pushed Ockham to (*iii*). See Gal (1967), Read (1977), Adams (1977), Adams (1987), Chapter 3, Tachau (1988), 148–53, Pasnau (1997), 76–85.

17 It's an interesting question how 'objective being' and associated notions re-enter the scene in Late Scholasticism, just in time to be Descartes's downfall (see Caterus's First Objections: Adam-Tannery, 7, 92.12–94.4.). Spruit (1994), 280, suggests that it has to do with the use of Aquinas as the basic teaching text during the Counter-Reformation, but, if my analysis is correct, it's precisely Aquinas's failure to get clear about intentional being that led later thinkers to the mental act/content distinction, in which case Spruit's suggestion won't work.

work here. For philosophers in the Aristotelian tradition, there are three fundamental forms of identity: among substances, called 'sameness'; among quantities, called 'equality'; and among qualities, called 'likeness'. Hence two items are alike when they are qualitatively identical. Thus items are alike when they literally have the same quality.

There are obvious problems in applying this 'literalist' proposal to the case of mental representation. How can something immaterial, such as a mental representation, be literally 'like' something material? Wouldn't it resemble anything immaterial much more than it resembles anything material? Likewise, wouldn't the mind have to actually be red (say) in order to count as representing red through likeness, i.e. qualitative identity, on this score?

William Crathorn endorses the literalist proposal.[18] Take the last question first: Crathorn raises it in his second and fourth objections to the proposal (*Sent.* 1, q.1, n.7, 119.13–15 and 119.24–6):

> Secondly, if the aforementioned likeness of color were genuine color, then a soul understanding color would be genuinely colored (and a soul understanding heat would be genuinely hot), which is false ... Fourthly, the color that is seen by the soul and exists outside the soul would then color the soul itself.

He bites the bullet in his replies (120.30–34 and 121.16–17 respectively):

> As for the second objection, we declare that the argument holds. A soul seeing and understanding a color is genuinely colored, even with no color existing outside the soul but only its likeness, which is genuine color ... As for the fourth objection ... I grant that [external] color really causes color in the soul.

Crathorn finds himself driven to this extreme — Robert Holcot jeered that Crathorn's soul must therefore be a chameleon (see Pasnau 1997, 91) — because he thinks that only a given quality can resemble itself. White cannot be a likeness of red, for instance (117.29–30). Crathorn concludes that only conspecific items can be alike (117.23–5). And since literally the same color is in the stone and in the soul, the first pair of worries about the immaterial and the material don't arise. The immaterial soul is 'genuinely colored,' whatever this may mean for an immaterial object, and so straightforwardly resembles the material colored stone. Crathorn tries to blunt the edge of this paradoxical conclusion by arguing that a form such as redness can be either indivisible and unextended in an immaterial subject, or divisible and extended in a material subject, while nevertheless remaining the same form (120.17–19). Of course, without more explanation these claims won't help. Yet even if we were to persevere in the face of these difficulties — a price most medieval philosophers thought too high to pay — there is a further problem for the literalist, namely that

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18 Tweedale holds that medieval philosophers generally adopt 'a fairly literal interpretation of the view that species are likenesses of external objects' (Tweedale, 1990, 36). But who besides Crathorn was a literalist?

the proposal is the same as the simple version of conformality. It is one and the same quality present in the external object and the mind that grounds representation in virtue of engendering the same quality in each subject, which is the essence of conformality.[19] Thus likeness, under the literalist proposal, is no better than simple conformality as an explanation of representationality.

2.2 Picturing

The second approach to explaining likeness proceeds not literally, as Crathorn tried to do, but through a traditional yet fertile conceit: a mental representation represents what it does – is similar to what it represents – by *picturing* it. The notion of 'picturing' at work here can be taken more or less strictly, of course, but we can broadly divide this second approach into two main branches. On the first of these, the notion of picture or likeness is taken more strictly: a mental representation is an *image* of what it represents, just as drawings, paintings, statues, photographs, and the like are images of their subjects. A sketch of a sheep, for example, is an image or likeness of the sheep, but it doesn't literally have the same properties as the sheep. The sketch is an inanimate two-dimensional plane figure; the sheep is none of those things. Furthermore, the claim that a mental representation is an image dovetails nicely with the fact that we have, and often think by using, mental images.[20] In addition, the (mental) representation, understood pictorially, embodies something like the 'form' of the item represented. The lines and shading on the paper that make

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19 Strictly speaking, it isn't the conspecificity of the shared form but the fact that each engenders the same quality in its possessor that grounds representation. But since it's the nature of the form that determines the quality it engenders – redness wouldn't be redness unless its inherence made, or usually made, things red – the distinction is too fine to make a difference.

20 There is a delicate point here. Much of the discussion of mental representation in the Middle Ages takes place in the context of explaining concept-acquisition, arguing over which mental mechanisms have to be postulated to this end, and in particular whether there needs to be an intelligible species. Two of the many jobs performed by the intelligible species are (*a*) to be representative of the object, and (*b*) to be impressed on the possible intellect, typically by the agent intellect, thereby reducing the possible intellect from potency to act, which constitutes the mind's actual thinking of the object. Two features of the intelligible species, evident even from the bare description of (*a*)–(*b*), seem not to match up with mental images. First, the intelligible species is that by means of which the object is thought of, not the object of thought itself, whereas mental images are often part of the content of thought. Second, intelligible species are clearly pre-conscious, whereas mental images can be introspectively examined. But neither of these is a barrier to identifying the intelligible species with mental representations as mental images. We may think with mental images, but that isn't to be confused with thinking *of* mental images: Socrates thinks of the sheep by calling up a mental image, but it's another matter for him to think about his mental image of the sheep (rather than the sheep itself). Again, the intelligible species may be generated prior to any conscious thought, but on the standard account it is then stored in memory to be used later; hence one and the same thing can be pre-conscious and also accessed as the object of thought.

up the sketch of the sheep, for example, arguably preserve various formal features of the sheep: its shape, color, and overall visual appearance. The mental image may likewise preserve formal features of what it represents. These considerations make it plausible that mental representation is a matter of pictorial resemblance.

This account avoids the problems that plagued the literalist proposal, since it allows us to hang on to a large amount of *dis*similarity between the representation and what it represents. Pictures can fail to resemble their subjects in all sorts of ways. Even photographs, the most 'realistic' of representational media, are utterly unlike their subjects. A photograph of Socrates, unlike Socrates himself, is a flat colored sheet of (developed) photographic paper. Hence the immateriality of the mental image need be no barrier to its representing material objects, just as the flatness of the photograph is no barrier to its representing the three-dimensional Socrates. Aquinas makes this point via a distinction between natural and representational likeness. A picture isn't a natural likeness of Socrates, he asserts, since they don't 'agree in their nature,' but it nevertheless is a representative likeness of him (*De veritate*, q. 2, art. 3, ad. 9). Pictorial resemblance (representational likeness) is far removed from the way in which twins resemble one another (the natural likeness of the literalist proposal); it need not even be symmetric.

If mental representation is to be explained in terms of pictorial resemblance, as contrasted with natural likeness, we need a better understanding of how it works. And here we run into difficulty with the more strict reading of picturing. Think of the sketch of the sheep: an inanimate two-dimensional plane figure. The sheep has none of these properties. What makes this object a representation or image of the sheep? Well, perhaps the sketch has the same color as the sheep, and we might even convince ourselves that the lines traced on the paper are in fact the actual shape of the sheep without the cognitive processing involved in stereoscopic vision (the sketch is sheep-shape). The lifelessness of the sketch, on the other hand, is a characteristic, along with its size and other features, that is not to be taken into account in explaining how the sketch pictures the sheep. Even putting aside the difficulty in distinguishing features that matter from those that do not, this explanation cashes out pictorial resemblance in terms of literal likeness, that is, through the natural resemblance of some features: the same color, the same shape, and the like. So too with the mental image of the sheep, here setting aside the immaterial medium in which the sheep's color is exemplified. The fact that these instances of literal sameness are surrounded by other dissimilar or discounted features is irrelevant. It seems as though all the problems with the literalist proposal haunt the more strict reading of pictorial resemblance.[21]

A way out of this dilemma is to interpret pictorial resemblance less strictly, the 'second branch' mentioned above. Imagine a monochrome sketch of a sheep. The

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21 Many medieval philosophers use imagistic terminology to describe mental representations without apparent worry over the literalism such terminology seems to entail. But they should be worried even if they aren't, and without telling more of a story we have no real explanation of representation.

sheep isn't literally colored a shade of gray, but that gray shade rather than another *corresponds* to the sheep's rich and creamy merino color. Likewise, the sheep isn't a two-dimensional closed plane figure, but is sketched as one according to the 'laws' of perspective. In short, none of the sheep's properties are literally present in the representation; the representation, instead, pictures what it does in virtue of having intrinsic features that correspond to the properties of the external object. The image need not 'look like' its subject at all, as long as the appropriate correspondence holds. An architectural blueprint for a building, or a circuit diagram for an amplifier, represent their subjects without any 'natural' resemblance. Nowadays philosophers speak of correspondence, projection-rules, mapping, or transformation-rules, but the underlying idea is recognizably the same. A (mental) representation represents what it does in virtue of having features that systematically correspond to the properties of the represented object (and perhaps other, irrelevant, features as well) according to some scheme. Likeness is a matter of 'picturing' in this extended sense.[22]

The virtues and the vices of such a correspondence-account of representation are familiar.[23] But its most appealing feature to medieval philosophers deserves special mention. When a transformation-rule is applied to some item, the result is, ideally, something with features that systematically correspond to properties of the original item. What is it that such a transformation-rule preserves? Well, the natural answer is: *form*. (Nowadays people say 'structure' but that's an acceptable translation of *forma*.) It is because the sheep is the way it is that the pattern of lines and shading on the sketchpad is the way it is, and the two-dimensional relations among lines is a 'projection' of the three-dimensional volumetric relations in the world. The one pattern is not the other, but it is the transformation of the other, and, if the transformation-rule is a good one (in some sense to be spelled out), we can say that it has the same form. This happy meeting of (R1) and (R2) made the attractions of a general theory of pictorial resemblance a clear winner for medieval philosophers, and they helped themselves to it freely. For example, Roger Bacon wrote that mental representations signify things 'according to conformality (*conformitatem*) and the configuration of one thing to another in its parts and proper characteristics, the way images and pictures and likenesses and so on do' (*De signis*, §5, 83).

Seductive as this picture of picturing is, it only qualifies as an explanation of the representationality of mental representation if it is supplemented by a full (or at least fuller) account of the natural transformation-rules embodied in sense and intellect, as well as of the transformed 'analogous' features in the mind. Unfortunately, not only did mediaeval philosophers not provide such an account, there isn't any sign they ever even tried to, and so leave us in the end with no more than a suggestive conceit.

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22 Sellars (1960) tries to re-develop this theory in light of modern concerns with isomorphism and picturing. His attempt is noteworthy for his exploitation of the (neo-Aquinean) idea that the features of the representation are the 'analogous' properties systematically correlated by some scheme with the actual properties of the represented item.

23 Here's a sample difficulty: is a sketch of a sheep shaded gray a monochrome representation of a merino sheep or a colorful representation of a gray sheep?

Yet medieval philosophers are hardly the only ones to leave 'picturing' at a more intuitive level than they should. We might be more tolerant here than in the case of 'intentional being': the latter seem like an obfuscatory word, whereas there is a rich body of theory surrounding pictorial representation. We might even be inclined to praise medieval philosophers for their restraint, in not designing theories when they had no way of making good on them.[24] But this tolerant attitude misses the point. Without anything more to say about how picturing does its work, the lack of an articulated theory ultimately leaves mental representation mysterious – it too misses the brass ring – and renders it vulnerable to a surprise attack from another quarter.

William of Ockham discusses the nature of representation carefully in *Ordinatio*, 1, d. 3, q. 9, where he takes up the question whether creatures are somehow indications of their Creator. He begins by distinguishing two kinds of representation: images (*imagines*) and impressions (*vestigia*). The paradigm of the former kind is a statue of Hercules, of the latter an animal's hoofprint, but Ockham is clear that these categories of representation are much wider; an 'image' can be any univocal effect at all, even if not intended as such.[25] It's clear that he is working with the generalized notion of pictorial representation described above; he elsewhere points out that the image can be entirely dissimilar to that of which it is the image and yet represent it.[26] Such cases of pictorial resemblance are instances of representation, Ockham argues; they differ from what they are of (what they depict), and they lead to the notion of what they are of through acquaintance with it.[27] And Ockham grants that images of all kinds do in fact represent their subjects. But at the very least they can't be the whole story, he maintains, since they are intrinsically general, and therefore can't explain what we nowadays call 'singular thought.'

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24 Pasnau (1997) takes this tack on Aquinas's behalf (his emphasis): 'One might say that Aquinas doesn't have a *theory* of representation at all, in the sense that he doesn't give a determinate account (of the mechanisms behind representational likeness) ... It is one of the merits of Aquinas's approach, I would suggest, that he does not rest his account of mental representation on any particular kind of likeness' (112). One indeed might say.

25 Ockham gives three senses of 'impression' in *Ordinatio*, 1, d. 3, q. 9 (OTh, 2, 548.8–549.2) and of 'image' in q. 10 (553.2–25), the strictest of which is the statue of Hercules and the broadest of which is 'anything univocally produced by another.'

26 In *Ordinatio*, 1, d. 2, q. 8 (OTh, 2, 277.3–278.12), Ockham approvingly cites Augustine, who emphasizes the lack of similarity between the picture and what it is said to depict–indeed, Augustine emphasizes the arbitrariness of the picture. For example, Augustine describes imagining the city of Alexandria, which he had never seen, and notes that it would be miraculous if it were anything like Alexandria; equally, when reading the Bible, one can fashion mental images of the Apostles and of Christ which are probably quite unlike their actual appearance. Aquinas would call it a lack of natural, not representational, likeness.

27 See Ockham's analysis of 'representation' in *Quodl.*, 4.3 (OTh, 9, 310.9–19). There are nuances having to do with whether a mental representation leads to what it represents immediately or through a mediating notion, and if the latter whether memory must be involved, but they aren't essential to Ockham's general attack on pictorial resemblance.

Ockham claims that impressions and images, by their very nature, represent no one individual any more than another individual that is extremely similar to it (*simillimum*: 546.6–8). A moment's reflection on pictures illustrates why his contention is correct. A photograph by itself will not determine whether it is a picture of Socrates or a picture of Socrates's twin brother. Whether Socrates has a twin brother is a fact about the world, not about the photograph, and so is not settled by the intrinsic features of the photograph. Ockham returns to this claim in *Reportatio*, 2, qq. 12–13, pointing out that the intellect couldn't distinguish which of two extremely similar whitenesses might be the individual quality a pictorial mental representation was trying to represent (OTh. 5, 281.24–282.12). Nothing turns on the particular example; Ockham repeats it in a more detailed version using two equal amounts of heat (287.19–289.7), and once again with two men (304.6–20).[28] Yet the problem isn't due to indiscernibility, in the sense that we inspect the image and can't then determine what it is an image of. We needn't be consciously aware of our mental representations. Ockham's point is that images, conscious or not, are by their nature applicable to many-that the correspondence-rules aren't guaranteed to have unique inverses (i.e. the rules don't in general yield one-to-one mappings).[29] But since we can and do think about individuals, mental representation must not be solely a matter of pictorial resemblance. The upshot is that 'likeness isn't the precise reason why we understand one thing rather than another' (*similitudo non est causa praecisa quare intelligit unum et non aliud*: 287.17–19). Images do represent things, but they aren't sufficient to represent individuals as individuals. Given the lack of detail about how the transformation-rules in fact work, the net result of Ockham's attack is to make the siren-call of pictorial resemblance even less attractive. Despite their Aristotelian credentials, neither (R1) nor (R2) can, in the end, provide a satisfactory account of mental representation. Hence medieval philosophers turned elsewhere to clarify representation. namely the second-string choices: covariance and linguistic role. whose combination at the start of the fourteenth century marked a new departure.

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28 Ockham makes the same claim, in the same context, with regard to intuitive cognition in *Quodl.*, 1.13 (Oth. 9, 76.89–98); see §3 below.

29 Does Ockham's argument work in general? There's certainly no reason in principle why transformation rules can't be one-to-one. But given that we're interested in mental representation, we might argue from the known limits of perceptual distinguishability to limitations on the information the intellect can make use of, at least under the assumption that mental representations are preprocessed by the senses. We could always grasp the other horn of Ockham's dilemma, too, and deny that we have singular thought. But there is a better reading of Ockham's argument available. He could be taken as pointing out that knowledge of the (inverse of the) transformation-rule is distinct from knowledge of the mental representation itself, and thus, to the extent that representation is encapsulated in the image, it does not of its nature determine what it represents. (It might represent many things.) Put a different way, Ockham is objecting that the representationality of the representation isn't a matter of its intrinsic features but depends on further knowledge of transformation-rules. On that score he seems right.

3 Covariance and Linguistic Role

According to (R3), a mental representation represents an object, at a first approximation, just in case it is *caused* by that object. The mental representation is present in the presence of the item and absent in its absence: the object and the representation 'co-vary.' Unlike (R1) and (R2), there was a rich body of theory on causality available, ready to be used to supplement the causal account account of representation. Furthermore, covariance fits nicely with the (largely) causal account of perception and thought in which it is to be embedded, as noted at the start of §1.1 above. The horse's hoofprint represents the horse, as the impression in the sealing-wax represents the seal. The hoofprint or impression is a sure sign that the appropriate causal agent has been at work in the vicinity. Now obviously this net is cast too widely; we might balk at saying that a sunburn represents the Sun, that smoke represents fire, that the child represents the parent. We can loosely speak of the result of any causal activity as an 'impression,' but more strictly an impression is only something left behind as the consequence of some proper causal activity (and better yet left through the causal activity of only part of the agent such as the hoof), as Ockham tells us in *Ordinatio*, 1. d. 3, q. 9, so that we don't count ordinary univocal causality as representational (OTh, 2, 548.20–549.2). A mental event that occurs as the result of an object's causal activity counts as an impression in this restricted sense, so that the thought Socrates has upon seeing the sheep. as an impression, *represents* the sheep – at least, so long as Socrates's thought covaries with the sheep. The intuition behind (R3). then, is that the thoughts we have when we look at sheep are thoughts *of* the sheep in virtue of the fact that they are the thoughts sheep naturally and regularly cause us to have.[30] There is no need to suppose further that such thoughts involve the sheep's form in any substantive way, as required by (R1). Likewise, there is no need to suppose further that such thoughts 'resemble' the sheep, as required by (R2), except for the trivial case where the projection-rule is just causal impression. Hence (R3) is independent of (R1) and (R2).

According to (R4), a mental representation represents an object whenever it *signifies* that object, i.e. to the extent that it functions as the (mental) 'word' for the object. Christian doctrine provided a source for interpreting thought as a form of 'inner language'; by Ockham's time it was well-understood that angels were telepaths who communicated in the language of thought.[31] Now the idea that thoughts are somehow language-like has a long history and was exploited for various purposes, not always mutually compatible, and a lot of work needs to be done to clarify the vague outlines of the proposal. What is relevant to our purposes is the suggestion that a concept represents what it does – it is the concept it is – only if it is connected

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30 I've adapted the characterization of covariance given in Cummins (1989), 36, there attributed to Locke; it fits the medieval case as well or better than the early modern case.

31 Aristotle's suggestion in *De interpretatione*, 1, 16ᵉ, 3–4 that thoughts are another level of language was taken to provide independent philosophical confirmation of this Christian view, despite the fact that on Aristotle's account thoughts were more like the semantics of a language than like language itself.

to other contentful concepts in the appropriate ways, as words in a language are. Roughly, Socrates's concept |sheep| represents a sheep in virtue of its having the right (linguistic) role: it is subordinate to |animal| and |living creature|, able to be the subject in propositions, a constituent of the belief that sheep are edible, and the like. Anything that plays this complex role is *ipso facto* the concept |sheep|, that is, represents sheep. There is no need to suppose further that whatever fills this role will somehow exemplify the sheep's form, as (R1) would have it; nor that it 'resemble' the sheep, as (R2) would have it. Hence (R4) is independent of (R1) and (R2). It is clearly independent of (R3) as well, since it is no part of the linguistic role played by a mental item how it came to be; nor does the simple covariance sketched in the preceding paragraph determine that the relations among concepts will work out appropriately.

Although (R3) and (R4) are distinct, their combination is powerful. It is no less than a medieval version of *functionalism*, the idea that determinate content is fully specified by inputs (covariance) and outputs (linguistic role).[32] Unlike modern functionalism, medieval functionalism is holist only in a shallow sense, since human mental structure was understood to be innate and fixed rather than individually variable. But the meaning of terms is cashed out by their place in the (determinate) structure of thought, which itself constitutes a language. The efflorescence of theories of Mental Language and the flurry of research on causality at the beginning of the fourteenth century – in each of which Ockham played an important part – underwrite this new approach in psychology to mental representation.

Mental Language, especially Ockham's theory of Mental Language, has been the subject of intense investigation for several decades; there are several high-level accounts of it available.[33] In addition to providing a framework for logic (to which Ockham devotes the *Summa logicae*), Mental Language also claims to be the truth about cognitive psychology, making good on the claim that there is a 'language of thought' in staggering detail. For our purposes, it's enough to note that mental representation is going to be generally explained, at least on its functionalist 'output' side, in terms of Mental Language. Covariance will be needed to explain the 'input' side and, in particular, to resolve the problem Ockham took to be fatal for (R2): how singular thought is possible, or, linguistically, how we can explicate proper names in Mental Language.

As we've seen in §2, Ockham maintains that likeness isn't 'the precise reason' why we think of one thing rather than another. He argues instead that covariance is the correct explanation. He begins his discussion in *Ordinatio*, 1, d. 3, q. 9 by making the point that impressions (*vestigia*) by their nature are general, just as images are:

32 Likewise today: Fodor (1987) combines his 'Language-of-Thought hypothesis' (namely that mental representations are language-like symbols) with the 'crude causal theory' that symbol tokenings denote their causes and symbol types express the property whose instantiations reliably cause their tokenings. Fodor's theory is exceptional in recognizing (R3) and (R4) as distinct components, though the theory is common enough.

33 See for example Adams (1987), Chapter 10, and Normore (1990).

a hoofprint might have been made by any horse, and no amount of inspection will determine which horse made a given hoofprint (OTh, 2, 546.6–8). But impressions differ from images in that 'it's part of the very notion of an impression that it be caused by that of which it is the impression' (547.6–7). An image or resemblance need not be fashioned from the original, whereas an impression must be. More exactly, Ockham holds that it is the nature of an impression to be producible by a given individual rather than another, i.e. that it is apt to be so produced, even if God supplants the causal chain. He states his view succinctly in *Quodl.*, 1.13 (76.89–96):

> Intuitive cognition is a proper cognition of a singular not because of its greater likeness to one than another but   because it is naturally caused by the one and not by the other; nor can it be caused by the other. If you object that it can be caused by God alone, I reply that this is true, such a sight is always apt to be caused by one created object and not by another; and if it were caused naturally, and if it is caused naturally, it is caused by the one and not by the other, and it is not able to be caused by the other.

The point is reiterated in *Reportatio*, 2, qq. 12–13 (OTh, 5, 289.8–18):

> Suppose you were to object that a given concept (*intentio*) can be immediately and totally caused by God, and so through that given concept the intellect would no more understand one singular than another extremely similar one, since it would be as much similar to one as to the other; nor does causality make it be of one and not of the other, since it is caused by neither but rather immediately by God. I reply that any given concept of a creature that is caused by God can be partially caused by the creature, even if it weren't actually so caused. Hence a given singular is cognized through that cognition by which it would be determinately caused were it caused by a creature; this is a feature of one thing and not another; therefore, etc.

(Ockham says 'partially' in his reply because he holds that God is a necessary co-cause of any effect.) Thus Ockham rejects (R2) in no uncertain terms, insisting on a counterfactual causal account of singular thought, that is, he endorses a causal theory of proper names in Mental Language.[34]

Thus Ockham epitomizes the philosophical struggles of his generation in bringing psychology to a new functionalist paradigm in place of the old conformality and likeness theories. Beginning in the fourteenth century, philosophers had a new way of thinking about mental representation, one that may have had less pure Aristotelian roots but looked more promising as a theory. Yet there is a sense in which they gave up on the notion of representation entirely.

34 Pasnau (1997) says that 'Ockham is *at best tentatively* moving away from a likeness account of mental representation' (105 my emphasis). There isn't anything tentative about it. (He mentions this on 105 n.45 but doesn't give the point its due.) Tabarroni (1989) gets it right when he claims that Ockham 'abandoned the iconic model' of mental representation (214).

Conclusion: Against Representation

Ockham is notorious for his attack on the intelligible species, arguing *inter alia* that the intelligible species isn't needed for the purposes of mental representation, one of its traditional roles (*Reportatio*, 2, qq. 12–13; OTh, 5, 272.17–20). Although he preserves the traditional terminology, declaring that 'the act of understanding (*intellectio*) is the'likeness' of the object' (287.15), it's clear that this is an empty formula: as noted in the citation at the beginning of this paper, 'the object sufficiently represents itself in a cognition' (274.4–5), a point Ockham later repeats: '[the object] can be present *qua* object to the intellect, without any species' (300.1–2). It's not that Ockham thinks there are no mental events. Rather, there is no need for mental representation as traditionally conceived. There are mental acts of thinking, but there is no need to postulate independent contents, or indeed any discernible intrinsic structure to the mental act; it is what it is in virtue of its functional inputs and outputs, not because of its inner nature. On his mature theory of mind, Ockham countenances only the spartan ontology of mental acts of thinking, which are then paired with their external objects directly, not requiring any mediation. In short, Ockham, at least in his mature view, argues against what is traditionally called a 'representationalist' theory of mind and for what is usually called 'direct realism.'

The final result of rethinking representation in the Middle Ages, then, is to junk it. Final logically, that is, not historically; Ockham had few followers in psychology, and the discredited accounts of representationality hung around long enough to be the targets of abuse from Hobbes, Descartes, and Locke.[35] Direct realism is sometimes portrayed as the simple initial position, the shortcomings of which lead to more complex forms of representationalism. The history and development of medieval philosophy of psychology shows otherwise.

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35 It's an interesting historical question why Mental Language seems to have played itself out, and for that matter why the discredited accounts of representation weren't immediately discarded – it's even a good question why Ockham had few followers in psychology – but these are historical questions whose answers don't alter the logic of the positions sketched here.

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Chapter VI

William Ockham and Mental Language

Mikko Yrjönsuuri

In many different connections throughout his whole oeuvre, William Ockham puts forward the program of an ideal mental language. This language is presented as a universal representative system in which all thinking takes place and which lies at the background of all communication. In addition to people, it is used by all possible thinking beings, angels as well as the God. Most obviously, Ockham would have supposed machines to use this language as well, if he had presented fantasies of thinking machines. Also, Ockham clearly thought that everything that can be expressed in any language could also be expressed in the mental language. This is because all expressions of the spoken languages are subordinate to expressions of mental language, so that all meanings of spoken words are derivative upon those of mental terms. My claim in this chapter is that not only everything that there is in the world, but also everything true or false that can be said about the world, can be expressed in this language.

In the twentieth-century debates, Ockham's theory of mental language has often been interpreted in relation to the concept of logical form. In the background, there has been the idea that the mental language reveals with complete transparence the true content of the linguistic expression, unlike the sentences of spoken language. From such a point of view, Ockham's theory appears primarily as a theory that explains the deductive relations of sentences and gives the keys to define the truth-values of sentences. Thus, the theory appears to belong to the field of logic in the twentieth-century sense.

The recent interpretive debate of Ockham's theory has led to many problems. It seems to me that they largely arise from leaning on a comparison with logical analysis in the interpretation. This strategy doesn't do justice to Ockham's intentions in drafting his theory of mental language. In this chapter, I try to examine Ockham's theory from another kind of perspective – from the perspective of a universal language. I want to sketch Ockham's mental language as an ideal representational system, and look how the program would work for that purpose.

In his book *Cartesian Linguistics* (1966), Noam Chomsky discusses seventeenth-century theories of language. Chomsky's main aim is to point out in what way the forerunners to his own notions of the universal deep structure of all languages can be found in the seventeenth-century linguistic theories, which he calls Cartesian – though acknowledging the problems of that label. In this chapter, my aim is to