

Are There Different Kinds of Content?

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The cup from which I am drinking water now is yellow, and I know that it is. Why does my belief that the cup is yellow count as knowledge? Presumably, the answer must involve some reference to my current perceptual experience: I see the cup, and I see that it is yellow. What is it for me to see *that* the cup is yellow? The obvious answer would seem to be that it is for me to stand in a certain relation—namely, the relation expressed by the verb ‘to see’—to a proposition, namely, the proposition that the cup is yellow: Perception, that is to say, is a kind of propositional attitude, like belief, though it is also different from belief in many ways. So my seeing that the cup is yellow, being a kind of propositional attitude I take towards that proposition, can count as my reason for believing that the cup is yellow. I’ve thus got a reason for that belief, and it’s a good one. No sort of inference from a prior judgement about my experience is necessary. Rather, I need only import the content of my perceptual state into cognition to believe it.

If one could accept that much, then—though there would no doubt be many problems left to discuss—it would make the question how perceptual experience justifies perceptual beliefs significantly more tractable. But the problem, as I see it, is that accepting that much threatens to impose high costs. If the ‘importation’ model of perceptual justification is to be extended to all perceptually justified beliefs, then every concept that figures in a belief that is perceptually justifiable for a given subject must also be able to figure in the content of her perceptual experience: Only what the subject can conceptualize can play any justificatory role for her. It does not, of course, follow that there is nothing in the content of one’s current perceptual experience that one cannot now conceptualize. But even if there is, it can play no role in thought: It cannot so much as figure in thought. *A fortiori*, non-conceptual elements of experience, if such there be, can play no role in one’s decisions about what to believe or, more generally, one might conjecture, in any rational process. Elements of one’s current perceptual experience that cannot be conceptualized would be of no significance for the thinking subject. Or, as Kant put it, in a famous passage:

It must be possible for the ‘I think’ to accompany all my representations; for otherwise something would be represented in me which could not be thought at all, and that is equivalent to saying that the representation would be impossible, or at least would be nothing to me. (*Critique of Pure Reason*, B131–132)

No verbal report, indeed, no rational act of any kind, could reflect the presence of unconceptualized elements of experience, if such there should be, because such elements of experience cannot figure in thought.

That the importation model makes non-conceptual content at best “nothing to me” was powerfully argued by John McDowell in *Mind and World*. McDowell, of course, does not regard this consequence as a cost of the importation model, let alone a high cost. He regards it, rather, as a straightforward and welcome consequence of reasoning’s essentially conceptual character. If reasons for belief must themselves be wholly conceptual, then no non-conceptual element there might be in perceptual experience can contribute to one’s reasons for one’s beliefs. Of course, there is a familiar way in which non-conceptual elements of experience could be *represented* in thought: We may regard the subject as thinking *about* the non-conceptual elements of her experience. In some cases—in particular, in cases involving qualitative aspects of experience—such a model seems to me appealing: If there is a purely qualitative aspect to, say, what a fifteen year-old Laphraoig tastes like—and if there isn’t, then I have wasted a lot of money—perhaps it can become an object of thought for me through a kind of ostension. So, although those who have wanted to defend views close to McDowell’s have often also wanted to reject the claim that there are non-representational aspects of experience, I do not see that there is any quick argument from the one view to the other.

On the other hand, I do agree with McDowell that this sort of maneuver is not generally viable. To suppose that non-conceptual elements of my experience can play a role in thought only by becoming objects of thought is to adopt a view sufficiently reminiscent of sense-datum theories to make me, anyway, dubious. If so, however, we are in a bind. As Gareth Evans famously remarked, one’s experience seems to represent much that one cannot antecedently conceptualize (Evans, 1982, pp. 227ff).

There are many ways out. One would be to deny that perception does give us reasons for belief. It need not follow that perceptual experience does not, in some sense, justify our perceptual beliefs: Perceptual states cause beliefs, and a suitably externalist epistemology—some form of reliabilism, say—could be invoked to explain under what circumstances perceptual beliefs count as knowledge. But I, anyway, do feel the pull of the intuition on which McDowell is relying: When I say that I believe that my cup is yellow because of how it looks to me, I do not

mean to be reporting a merely causal relation between my belief and my perceptual experience; on the contrary, I mean to be giving my reason for taking the cup to be yellow, and I am, as McDowell emphasizes, able to reflect on the deliverances of perception in deciding what to believe. The puzzle, then, is how non-conceptual aspects of my experience, if such there are, could play any role in a rational process of this kind. And the solution to the puzzle, or so I have argued elsewhere, is to reject the claim that all psychological states that may figure in something rightly described as ‘reasoning’ must be conceptual: There can be rational relations between states with conceptual content, such as beliefs, and states whose content is not conceptual, such as perceptions (Heck, 2000).¹

In his contribution to this volume, Jerry Fodor (2007) has argued that there is good empirical evidence that there are representational states of the visual system whose content is non-conceptual. Whether that is so is an empirical question, one on which I am not competent to pronounce, so for present purposes I shall assume Fodor is right that there are both iconic and discursive representations. The relevance of this claim to the literature whose central concerns I have just summarized is not obvious, however. It is tempting to dismiss it with the remark that those who have wanted to defend the view that perceptual content is wholly conceptual—whatever their own personal inclination may be—need not deny that *sub-personal* states have non-conceptual content. Their motivations are, after all, broadly epistemological,² so the question of interest is what kind of content *conscious* perceptual states have, that is, perceptual states that can figure as reasons for belief.³ But such a reaction would be too quick. If the experiments Fodor discusses involved something like MRI scans of subjects’ brains, that would be one thing. But they do not. They involve the investigation of subjects’ *beliefs*, for example, their beliefs about what letters are present in a given array. The belief that no ‘L’ was present in such an array can, I assume, be justified, and, if so, it is presumably justified by the subject’s perceptual experience.⁴ The results of such experiments thus cannot simply be dismissed as irrelevant to the question whether the content of (conscious)⁵

¹ Fodor expresses doubt about this view, suggesting that it confuses justifying a claim with justifying one’s making the claim, a contrast not unlike that McDowell draws between justification and exculpation. For my part, I think Fodor’s criticism itself confuses my believing that it seems to me as if *p* with its seeming to me as if *p*. That I *believe* that it seems to me as if *p* cannot be my reason for the belief that *p*. But that does not show that its *seeming* to me as if *p* is not my reason (Heck, 2000, pp. 518–19).

² Not everyone who has been interested in non-conceptual content has had such motivations. But I am concerned here with one tradition, namely, that originating with Evans, and his motivations are epistemological.

³ So the notion of consciousness that is in play here is *access* consciousness (Block, 1995).

⁴ Or her memory of it (Martin, 1993).

⁵ Henceforth, I will omit this qualification.

perceptual experience is conceptual.

That said, however, it is still not clear what the significance of such experiments is. Much of the early part of Fodor's paper is devoted to an attempt to transform the philosopher's question whether perceptual content is conceptual into one on which evidence from psychology can be brought to bear. I wholeheartedly applaud that effort. But why must a philosopher who is committed to the claim that perceptual experience is wholly conceptual deny that the representations that underlie perceptual experience are iconic? As it happens, this issue is related to one that has troubled me for some time.

In the earlier paper already mentioned (Heck, 2000), I distinguished two forms of the view that perceptual content is non-conceptual, which I called the 'state view' and the 'content view'.⁶ The state view is a view about the conditions required if someone is to be in a perceptual state with a given content: It is the view that the content of a subject's perceptual experience is not limited by the concepts she possesses; for example, it would be possible for a subject to be in a perceptual state that represented a surface as being of a particular shade even if she had no concept of that shade. The content view, on the other hand, is stronger: It is the view that perceptual states and cognitive states have different kinds of content.

It should be clear why this distinction is important. The state view is wholly neutral on the question what the contents of perceptual states should be taken to be. It is thus consistent with the state view that perceptual states should have the same kind of content that cognitive states, such as beliefs, have, and so the state view is also consistent with the importation model of perceptual justification. The kinds of arguments McDowell gives, then, in favor of the view that perceptual content is conceptual, must have as their target not the state view but the content view. Unless one wishes to abandon the view that perceptual experience does provide us with reasons for our beliefs, a defender of the content view must therefore explain how perception can provide us with reasons for belief if perceptual states do not even have the same kind of content that beliefs do. As said, I think this challenge can be met, but it is nonetheless the case that defenders of the content view have a problem that defenders of the state view do not necessarily have.

So the distinction between the state view and the content view is important, but recognizing it leads first to puzzlement, because one of the central arguments used by proponents of the content view simply does not establish it. The argument in question is the 'richness' argument, which begins, and pretty much ends, with the observation that the shades of color one can perceive a surface to have are not limited by the concepts one has available. It is clear that this argument, even if

⁶ I am now somewhat unhappy with how I drew that distinction, and so I shall redraw it here. Do not attempt to reconcile the two versions.

accepted, can establish no more than the state view. But what is worse is that proponents of the content view have not made it at all clear either what it is supposed to mean to say that perceptual states and cognitive states have different sorts of content nor why one should want to make this additional claim.⁷

Proponents of the content view have usually held that the contents of beliefs are conceptual in the very strong sense that they are *composed* of concepts, and they have also typically wanted to deny that perceptual contents are composed of concepts, in this sense. But what is it supposed to mean to say that contents are or are not composed of concepts? For that matter, what are concepts? It is here, I think, that Fodor's reflections have the most to offer the existing literature on non-conceptual content. What I am going to suggest is that the question what kind of content perceptual and cognitive states have is, ultimately, a question about what kinds of representations those states involve. The remainder of the paper will thus concern, primarily, abstract issues about the nature of content.

1 What Is Conceptual Structure?

I have often heard questions of roughly the following form.

According to the content view, perceptual states and cognitive states have different kinds of content. But these various sorts of content are simply various sorts of abstract entities that we use to characterize the representational properties of states: We have sets of possible worlds, Russellian propositions, Fregean thoughts, and the like. Can't we just use whatever we find convenient? Of what real significance could it be whether we make the same choice in the case of perceptual states and cognitive states or different ones?

It seems to me, however, that the question already contains the seed of an answer.

Let us start a step further back. Why should we attribute content to mental states at all? A common answer might be that mental states are representational: Talk of a state's content is short for talk of its representational properties. That is certainly true. But why trouble ourselves with the representational properties of mental states? What would we lose if we just ignored them? I take it that we would lose the very idea of psychological explanation. We are in the habit of explaining our own behavior, and that of other creatures, in terms of what we all believe: We explain why Bob ran across the room in terms of his believing that his stuffed dinosaur was on the other side. These explanations are typically causal and counterfactual supporting, which is to say that there is a law of one sort or another

⁷ This observation has been made by several people, among them, Alex Byrne (2004).

that, if a given explanation is correct, it instantiates. The explanations themselves are formulated not in terms of the neurological features of mental states but in terms of their contents, and the same is true of the laws. And so we might say: The reason we should attribute content to mental states is because there are things we wish to explain in terms of mental states, as individuated by their contents.

If so, then it is a condition on what we may take the contents of mental states to be that we should individuate them finely enough for our explanatory purposes. For example, it certainly would not do simply to take the content of a belief to be its truth-value. Beliefs that have the same truth-value need not play the same role in the production of behavior. But before we take the familiar next step to the view that the contents of beliefs are sets of possible worlds, we should pause to ask why that view seems so natural. The problem with the view that the content of a belief is its truth-value would seem to be that it conflates beliefs we need to keep separate. To avoid doing that, however, we simply need to make sure that we have enough ‘contents’ to go around. Why not just take the contents of beliefs to be (possibly transfinite) ordinal numbers? There are plenty of them.⁸

There are, I suppose, many different answers one might consider. But the best answer, it seems to me, is that mental states are not just distinguished from one another by their contents: They are also *related* to one another by their contents. For example, given any two beliefs, there are several other beliefs that are related to them in familiar ways: Their negations, their conjunction and disjunction, and so forth. These relations are not just logical but also psychological: Someone who believes two propositions will, *ceteris paribus*, also tend to believe their conjunction, at least when the question arises.

It is not, of course, that one could not state such generalizations if one took the contents of beliefs to be ordinal numbers: Given an assignment of ordinals to psychological states, it will be possible to define relations on the ordinals that mimic logical relations between contents. But the relation so defined is bound to seem arbitrary from a mathematical point of view. Contrast the treatment of belief-contents as sets of possible worlds: Treating belief-contents as sets of worlds makes it possible to state the sorts of generalizations mentioned above in terms of beliefs’ contents, because set-theoretic operations on sets of possible worlds correspond in a natural way to logical operations on the contents of the beliefs they represent.⁹

There are arguments of a similar sort against representing the contents of beliefs in terms of sets of possible worlds: Beliefs that are true in the same possible worlds—for example, any two logically equivalent beliefs—need not play the same

⁸ Ordinal numbers are numbers like first, second, and third. There are so many ordinals that (at least in standard set-theories), one cannot consistently suppose they form a set.

⁹ Something like this is the central insight behind George Boole’s revolutionary work on sentential logic (Boole, 1854).

role in the production of behavior. And again, beliefs are not just distinguished from but related to one another in ways the possible worlds account does not naturally capture. Someone who believes that a is F and also believes that all F s are G will tend to believe, at least when the question is raised, that a is G . Moreover, beliefs arguably satisfy what Evans called the ‘generality constraint’: A thinker who is capable of entertaining the thought that a is F and is also capable of entertaining the thought that b is G will typically also be capable of entertaining the thoughts that a is G and that b is F (Evans, 1982, pp. 100ff). Thought, that is to say, is productive and systematic in much the same way that language is.¹⁰

These sorts of considerations have tended to push people in the direction of the view that the contents of beliefs are structured in some way. It is once again worth pausing to ask why. The answer is that the treatment of contents as structured allows one to state the sorts of generalizations we have been discussing in a natural way, in terms of the contents of psychological states. By contrast, consider again the crazy view that simply takes the contents of beliefs to be ordinals. Given an assignment of ordinals to beliefs, there will be relations on the ordinals that correspond to the relations among structured propositions. The difficulty, however, is again that, from a mathematical point of view, these relations are likely to be quite arbitrary. And we can now see clearly that the concern I am expressing is not just aesthetic. There are *lots* of relations on the ordinals, and one could formulate all sorts of generalizations about beliefs in terms of these various relations. Some of these would be true, but most of them would be false, and there would be nothing in how we were representing the contents of beliefs that so much as suggested a reason for the difference. The generality constraint, for example, would just be one generalization among many, stated in terms of one relation on the ordinals among many, no different in principle from any of the others. If we represent the contents of beliefs as structured propositions, on the other hand, the generality constraint emerges as a natural consequence of the nature of cognitive contents.

Compare the case of temperature, which we measure using real numbers. Here again, there is a sense in which we could just as well measure temperature using ordinals.¹¹ Well, why don’t we? The temperatures of objects are related to one another in an important way: One object can be hotter or colder than another; more precisely, ‘colder than’ is a linear order. This feature of temperature is nicely represented by the natural ordering of the reals. Of course, given a one-one mapping between the reals and the ordinals, it would be easy enough to define a relation on

¹⁰ The generality constraint is usually stated so as to require unrestricted recombability. Recent work by Jacob Beck (2010) suggests, however, that this condition may be too strong. But I shall not pursue this point here, as I do not believe it affects the discussion to follow.

¹¹ Assuming, of course, that the reals can be well-ordered, which they can be if the Axiom of Choice is true.

the ordinals that mirrored the natural ordering of the reals: It is just the image of that ordering under the mapping. But this ordering of the ordinals is unlikely to be in any way a natural one. There are ever so many relations on the ordinals: Why should that one be of any special significance? Indeed, the ordinals themselves have a natural ordering, but it is very unlikely that it would have any significance at all as regards temperature.

Now, to be honest, I don't know that I have anything to say here that would move someone who was already committed to the view that it is merely *convenient* to measure temperature using the reals rather than the ordinals. But most of us, I hope, don't find this view very appealing. And my point is that, if we are going to reject it, then we should also reject the view that it is merely convenient to represent contents as structured propositions rather than as ordinals or what have you. The representation of contents as structured allows us to state certain generalizations, such as the generality constraint, in a natural way, in terms of beliefs' contents, by representing the relations among contents that figure in those generalizations as essentially syntactic. Moreover, by representing these relations as syntactic, we represent them as different in kind from other relations in which one belief might stand to another. Such a representation thus points us toward an *explanation* of the generalizations in question.

In the case of the generality constraint, for example, we want not only to observe that there is a certain pattern in people's ability to entertain various thoughts, we also want to explain this fact. The explanation Evans suggests is that the capacity to entertain the thought that a is F has a structure that corresponds to the structure of the thought itself: Thinking that a is F involves thinking of the object a and thinking of it that it is F . The ability to think such a thought thus depends upon, and is made possible by, one's ability to think of a and to think of an arbitrary thing that it is F .¹² That someone has these capacities, of course, is something that itself needs to be explained. But what matters at present is not what the correct explanation is: What matters now is just that, if the claim that the contents of beliefs are structured is to be understood as motivated in part by the generality constraint, then the hypothesis that the contents of beliefs are structured must contribute to the explanation of the generality constraint's satisfaction.

I have sometimes encountered a distinction between 'weak' and 'strong' forms of the generality constraint. In its weak form, the generality constraint simply states that there is a certain kind of pattern in our cognitive capacities. Satisfaction of this weak form of the generality constraint is not sufficient for states of a given kind to have structured contents. One can imagine that a creature's cognitive capacities should exhibit this sort of pattern even though there was no substantial sense in

¹² Note that this talk of abilities involves no commitment whatsoever to conceptual pragmatism.

which that creature's ability to entertain the thought that *a* is *F* involved the exercise of distinct abilities to think of *a* and to think of a thing as *F* (Wright, 1981). Such a creature is empirically implausible. It would be a total mystery why—failing magic or divinely established harmony—such a creature, upon acquiring the ability to entertain the thought that *a* is *G*, should also acquire the ability to think that *b* is *G*, that *c* is *G*, and so forth. And, if a creature's cognitive capacities do not have that sort of structure, then we have no reason to regard the contents of its thoughts as structured, either. For that, the generality constraint must be satisfied in the stronger form to which I've just alluded: The ability to think that *a* is *F* must decompose into the abilities to think of *a* and to think of a thing as *F*, abilities that are sufficiently distinct that one's being able to think that *a* is *F* may be *explained* by one's being able to think of *a* and one's being able to think of a thing as *F*.

What I am suggesting is thus that the claim that beliefs have conceptual content should be understood as the claim that the contents of belief are structured in this sense. Some philosophers will undoubtedly find this construal to be far too strong. Some philosophers, for example, have wanted to say that possessing a concept is just being able to have certain sorts of beliefs: To possess the concept *horse* is to be able to have such beliefs as that Trigger was a horse, that horses have four legs, and so forth. Such a philosopher would regard the claim that the contents of beliefs are conceptual as, in effect, true by definition. There is, of course, little point arguing terminology. My purpose here has been to explain what question the early participants in the debate over non-conceptual content meant to be discussing, and my point is that the claim that the contents of belief are conceptual—as they understood it—is very much *not* a triviality. And it is in part for that reason that the claim that perceptual content is conceptual—as these early participants understood it—is so strong.

Not all later participants in the debate have appreciated this fact—in part, to be sure, because the distinction that is supposed to be marked by the term 'conceptual' is rarely elaborated. In his paper "Perception and Conceptual Content", Alex Byrne (2004) carefully investigates various uses of this term. He notes, for example, that many of the early participants share the assumption that cognitive contents are Fregean, in the sense that the thought that *a* is *F* may have a different content from the thought that *b* is *F*, even if *a* is the very same object as *b*. In the writings of many of these authors—Evans, McDowell, and Peacocke, for example—the claim that the contents of beliefs are conceptual is often treated as equivalent to the claim that that these contents are Fregean. But, of course, the assumption that the contents of belief are Fregean is controversial, and it seems irrelevant to the question at issue between Evans and McDowell. As a way of setting that issue aside, then, Byrne uses the term 'concept' in a merely 'pleonastic' sense that makes that claim that the contents of belief are conceptual all but empty (Byrne, 2004, §1.1). As

a result, however, the claim that perceptual content is conceptual becomes correspondingly weak.¹³ And so, unsurprisingly, the arguments that have been offered against the claim that perceptual content is conceptual then seem to Byrne to be grossly inadequate (Byrne, 2004, §2.1).

If little in the debate over non-conceptual content turns upon the assumption that cognitive contents are Fregean, why does setting this assumption aside so distort that debate? Frege and Russell disagreed, of course, about what the constituents of our thoughts are: Frege took them to be senses; Russell, objects and properties. This disagreement is undoubtedly an important one, but, for our purposes, what is much more important is something about which Frege and Russell agreed, namely, that cognitive contents *have constituents* in a sense that is not just pleonastic. The claim that cognitive contents are Fregean thus includes the weaker claim that the contents of belief are significantly structured. We cannot without loss set this claim aside when attempting to understand what is at issue between Evans and McDowell, for it is central to their understanding of the claim that cognitive contents are conceptual. As Evans and McDowell understand it, that claim is very much not a triviality, since it incorporates the generality constraint in its strong form. Their understanding of the term ‘concept’ therefore cannot be the pleonastic one. In particular, for Evans and McDowell, grasping the concept *horse* is not just being able to entertain various beliefs about horses. To grasp that concept is to have a cognitive ability—the ability to think of a thing as a horse—an ability whose possession *partially explains* one’s ability to entertain various beliefs about horses. If one had no such ability, then Evans and McDowell would say that one did *not* grasp the concept *horse*.

Now again, one might want to object that we should not understand the term ‘concept’ in this way, perhaps on the ground that, if we do so understand it, it is epistemically possible that no one grasps any concepts. And again, I am not going to argue terminology. My purpose here has simply been to explain what the early participants in the debate over non-conceptual content took to be at issue. What was at issue was, for example, whether the cognitive ability one exercises when one thinks that tomatoes are red—and one’s possessing which partially explains one’s ability to think that thought—is also exercised when one veridically perceives a ripe tomato, and whether it would be impossible for one to perceive the tomato as one does were one not able to think as one is. To answer these questions affirmatively is, I hope it is clear, to make a very strong claim indeed.¹⁴ It is, indeed, an empirical claim, or so it would certainly seem, and I am as uncomfortable as Fodor is with

¹³ It is unclear to me whether it is then any stronger than the claim that perceptual content is representational, another claim that is not at issue between Evans and McDowell.

¹⁴ And just to be clear: I am not attributing *this* claim to Byrne.

the purely *a priori* arguments that have been offered for it.

I'll return below to the question whether we should understand the distinction between conceptual and non-conceptual content as I have here suggested. First, I want to look at how this distinction, so drawn, might be put to use.

2 What Non-conceptual Content Is: Cognitive Maps

The claim that psychological states of a certain kind have contents that are conceptually structured is defensible, or so I have argued, only if certain sorts of generalizations about states of that kind hold and if the fact that such generalizations hold is explicable in terms of structural features of the states in question: Thus, the generality constraint, for example, must hold in its strong form. The general idea behind this suggestion is that the kind of content we should take states of a given sort to have should reflect causally relevant structural features of such states. States that do not satisfy generalizations of the same kind that cognitive states satisfy will then be states whose content is not conceptual. The claim that perceptual content is non-conceptual thus amounts to the claim that there are sorts of relationships that hold among beliefs, and that are partly constitutive of their contents' being conceptual, that do not hold among perceptual states.

Let me illustrate this claim by first discussing an example about which I'm guessing we all have fewer theoretical commitments than we have about the perceptual case.¹⁵ There is strong empirical evidence that our ability to find our way about in the world depends upon our employment of what are known as 'cognitive maps'. Each of us has a mental map of our surroundings that places locations we encounter relative to other, known locations. Now, cognitive maps are obviously representational, and the term 'map' is used here because the representations in question are thought to be very much like more familiar sorts of maps. That is to say: We have and employ a mode of storing information about topographic features of our environment that is very different from storing individual beliefs about the relative locations of objects; it is not, in any sense, *sentential*. Rather, one's cognitive map is a unified and, one might say, organic representation of the environment that does not decompose in any determinate way into parts. Cognitive maps, that is to say, are icons, in Fodor's sense.

Cognitive maps therefore do not have conceptual content: Their content is not structured in the way the contents of belief are. That is not to say, of course, that a creature's cognitive map does not interact with its beliefs (and other higher cognitive states): One can come to have beliefs about where certain things are relative

¹⁵ The significance of this case was made clear to me by Michael Rescorla, who discusses it in some detail in unpublished work. [Some of this work has since been published (Rescorla, 2009a,b).]

to other things because one's cognitive map represents them as so located; one's beliefs can, presumably, also influence one's cognitive map. Nonetheless, having a cognitive map of one's environment is quite different from having a collection of explicit beliefs about it. One manifestation of this fact is that one can 'know how to get somewhere' and yet have no idea how to give someone directions for getting there—except, perhaps, by imagining the route one would take, thus putting one's cognitive map to use in imagination. Nor is it to say that explicit beliefs play no role in navigation: In trying to get, say, from my house to the new Institute of Contemporary Art, I might make use both of my cognitive map of the Boston area and of directions I got on the web. The point, rather, is simply that it is one thing to have a (mental) map of Boston and another thing to have a (mental) description of it, even if all and only the spatial relationships that are indicated on the map are included in the description. If one takes a moment to imagine what a descriptive equivalent of a map of Boston would be like, it will be clear enough how efficient the form of representation maps employ is.

If one wanted to represent the content of a map as a structured proposition, what structured proposition would it be? The only plausible answer would seem to be that the content of the map is given by a complete description of the relationships it indicates.¹⁶ It is no objection to this view that such a description is implausibly long. It is an objection that there is no *unique* such description. At the very least, there will be a question how to order the who-knows-how-many conjuncts that would occur in it. The point, however, is not simply that there is great indeterminacy. Rather, the point is why there is such indeterminacy: There is no unique structured proposition that gives the content of a map because there is no such structure in the map; a map lacks the syntactic structure present in a verbal description of what it represents. Hence, if we were to regard the content of the map as a structured proposition, the structure present in the content would be explanatorily idle. Contrast this case with that of belief: The fact that one of my beliefs has a structured content figures in the explanation of how that belief interacts with other beliefs, for example, in inference.

A second objection derives from the fact that cognitive maps can have only some structured propositions as their contents. One cannot, for example, form arbitrary Boolean combinations of maps: There is no map that is the negation of my cognitive map of Boston; there is no map that is the disjunction of my map and my wife's; and so forth. If the content of a cognitive map is a structured proposition, why shouldn't there be maps with such contents? Why can't the negations of the atomic formulae that figure in the content of a map also figure in its content? Why

¹⁶ Or should it be Fa , where F is a single predicate completely determining the content of the map a ?

can't these formulae be disjoined? This objection would also apply, of course, to the proposal that we should take the content of a map to be the set of possible worlds (parts of which) it correctly describes. Here again, there are only some sets of worlds that can be the content of a given map. The intersection of any two such sets can presumably always be the content of a map, but their union cannot. Why not? Or again—and ignoring statues and clay for the moment—no map can have a content that represents two objects as being at the very same location. But of course there is a structured proposition—indeed, just a conjunction of atomic formulae of the very sort that can occur in a description of a map—that represents just such a situation. Why can't it be the content of a map?

One may be inclined to brush such questions aside. But their significance rests upon the fact, noted earlier, that there are both relations and distinctions between contents. These relations are important to our account of the role states with such contents play in reasoning. Suppose, for example, that my cognitive map of Boston proves faulty: Experience has been recalcitrant; the map needs updating. To explain how such updating occurs—or to tell a more normative story about how it ought to occur—we must obviously rely upon a conception of what counts as an alternative to my current map. Suppose, for example, that my map had previously located an object *o* at location *l*. Now here I am at *l*, and *o* is not to be found; instead, *u* is there. What to do? It is clear enough what to say if we restrict our attention to the construction of a representation: I should remove the 'marker' that indicates *o* from its position on the map and put a 'marker' representing *u* there; I can then either put the *o*-marker somewhere else on the map or just leave it off. But if we wish to regard this transformation as a *rational* one—and I for one see no reason to suppose it should not be so regarded—then we must also be able to describe it in terms of *content*, that is, to describe it not just as a change in a representation but as a change in what is represented: Previously, I had taken my environment to be thus-and-so; now I take it to be so-and-thus.

The relation between the contents of my maps before and after this change cannot naturally be described in terms of possible worlds or structured propositions. In the case of structured propositions, the problem is that moving the *o*-marker, for example, does not simply change where *o* is represented as located; *o* was also located in relation to other objects, and many of those relations—though not necessarily all of them—will have changed as well. It is thus not as simple as swapping one conjunct for another: The sorts of changes involved will be on a much larger scale, and—or so I am suggesting—the nature of those changes can only seem obscure so long as one insists upon describing them as if one were describing a change in belief. Given these facts, it is therefore hard to see why—absent some strong theoretical commitments that dictated this course—one would care to represent the contents of cognitive maps in terms of structured propositions.

Similar remarks apply to the representation in terms of sets of possible worlds: To make any change to one's cognitive map is to swap one set of possible worlds for another, entirely different set. How are we to capture the relationship between the earlier content and the later one? Actually, that is not hard to do: If a given set of possible worlds is fit to be the content of a map, that must be because each of the worlds in the set contains a part that a single map could correctly describe. These parts must be isomorphic to one another as regards certain features of their topography, namely, those represented on the map.¹⁷ So, the content of the earlier map was a set of worlds containing an isomorphic part; the content of the later map is a different set of worlds containing a different isomorphic part; and the relevant parts are the same, except as regards the locations of *o* and *u*. But now it is clear that the possible worlds themselves are playing no significant role: The content of a map is wholly determined by the topography of the isomorphic parts of the sets of worlds in question; its content is what we might call a *spatial distribution*. The spatial distribution determines a set of possible worlds, to be sure, but it is the spatial distribution that is most fundamental.

Now, it is a nice question exactly what we should take spatial distributions to be.¹⁸ Very roughly, they are going to be geometrical entities. But their structure may be quite different from the structure of physical space. I am no expert on the relevant psychological literature—I am ignorant of most of it, in fact—but it is consistent with what I know of that literature that the relations represented on cognitive maps should be *local* in the sense that objects are located on such maps only (or at least primarily) relative to nearby objects and not relative to all the objects the map represents. Suppose, just for example, that one can only represent on one's cognitive map spatial relations between objects that are within some fixed distance of one another, say, ten yards. Perhaps object *o* is represented as being ten yards west of object *u*, which is represented as being ten yards north of object *e*; but no relation between *o* and *e* is explicitly represented. The locality of the explicitly represented relationships may lead to a given map's being, unbeknownst to its possessor, the mental equivalent of an Escher drawing, representing no possible spatial configuration, at least within a (nearly) Euclidean space. On the other hand, it may be that cognitive maps impose a Euclidean structure on the space they represent. I do not know. My point is simply that such questions are ones that would need to be answered before we could claim to have an adequate account of the contents of cognitive maps.

¹⁷ They need not be wholly isomorphic, because there may be different objects in different cases that are not represented on the map.

¹⁸ If modal realism were true, there might be ontological benefits to regarding spatial distributions as sets of worlds. But modal realism is not true.

3 What Non-conceptual Content Is: Visual Perception

Many of the points just made about cognitive maps have analogues for visual perception. Consider my current visual experience. There will be no unique structured proposition that might give its content, for my visual experience lacks the kind of articulation that is characteristic of structured propositions. Moreover, only some structured propositions, and some sets of worlds, are suited to be contents of visual experience. Neither of these ways of understanding perceptual contents gives us any purchase on why. In this case, of course, there is no need to speak of ‘updating’ my perception in response to experience. But I take it that we do have, for example, expectations about how our experience will change as we move, and an account of what those expectations are, and why they are rational, will again require an understanding of how perceptual contents are related to one another. The contents of visual experience are plausibly also akin to spatial distributions,¹⁹ though the properties represented in visual experience are of course different from those represented on cognitive maps. So the content of visual perception is also non-conceptual.

These sorts of considerations are obviously quite different from those deployed in the richness argument, mentioned earlier, which turns upon the observation that what colors, shapes, and so forth we can experience in visual perception are not limited by the concepts antecedently available to us. That observation, as noted earlier, has no tendency to show that perceptual contents are spatial distributions rather than structured propositions: Regarded as an argument for that conclusion—for the conclusion that perceptual states have a different kind of content than do cognitive states—the argument seems a complete *non-sequitur*. Did Evans just blunder because he was insufficiently sensitive to the distinction between the state view and the content view? Perhaps, but there is another way to understand the significance of his observations.

It is, to be sure, clear enough that the simple observation that the contents of visual experience outrun one’s antecedent conceptual capacities cannot by itself show that visual perception has non-conceptual content. But Evans was not, I think, simply observing that we do not have enough concepts adequately to characterize our visual experience. I take him, rather, to have been gesturing towards considerations that suggest that visual experience represents the world in a wholly different way. Evans’s point had, I believe, more to do with the *specificity* of visual experience than is usually recognized. His point, that is to say, was not that someone who did not have the concept *magenta* could not experience something as magenta: His point did not concern color concepts of that sort. His point, rather,

¹⁹ Peacocke (1992) develops a view with which I’m sympathetic.

was that we experience objects as having very specific shades of color. It is, for example, never a complete description of someone's experience of an object to say that it appears blue to her: The object will always appear a specific shade of blue, and it is no help to speak of 'light blue' or 'Carolina blue'. Our color concepts group similar shades, but visual experience does not: One's experience is always of a maximally determinate shade, and it is hard to imagine how that fact could be affected by what concepts one possesses.

Something stronger is arguably true. I have so far been ignoring the question whether the content of visual experience is wholly non-conceptual or only partially so. Evans seems to have held the former view: Concepts *never* figure in the contents of visual perception. Peacocke (1983; 1992) holds the latter view: According to him, there are always non-conceptual elements present in the contents of visual perception, but conceptual elements may also occur. Now, I am not going to try to resolve this issue here, but I do want to insist that, if there are conceptual elements that occur in perceptual experience, they are not color concepts like *blue*: I see no reason to suppose that, in the strictest sense, anything ever looks *blue* to anyone.²⁰ Of course, the key phrase is "in the strictest sense". Certainly, in a less strict sense, objects do sometimes look blue. But an object that looks blue, in that sense, always looks, in the strictest sense, to be some very determinate shade of color, a shade one might reasonably take to be a shade of blue, and what I am denying is that there is anything common to my perceptual experience of the clear blue sky and the deep blue sea. To make this point precise, we must appeal to a distinction between what is explicitly represented and what is only implicitly represented. As I said, I should certainly wish to allow that, in some sense, my perception of the sky represents it as blue. It does so implicitly: The sky is *implicitly* represented as blue in so far as it is *explicitly* represented as being a particular shade that is a shade of blue.

I am not going to attempt here to explain the distinction between implicit and explicit representation, and not for lack of space, but a few words about it are in order. Were I to try to explain it, I should try to ground it in the sort of consideration that motivates the distinction between explicit and implicit belief. This distinction, in the form in which I am interested in it, arises in early discussions of the hypothesis that beliefs are computational relations to sentences in a 'language of thought' (Fodor, 1975), sentences stored in the 'belief box', in the familiar image. Various people objected that each of us has far too many beliefs for this hypothesis to be true: I believe that Tony Blair is less than ten feet tall, that he is less than eleven feet tall, and so on and so forth. The response is that we must distinguish between explicit belief and implicit belief: Only explicit beliefs are stored in the belief box; implicit beliefs are those that can be inferred from explicit beliefs

²⁰ Austin would have loved that claim. Now, of course, I'll take it back.

via a short enough chain of reasonably obvious inferences (or something of the sort). One might object that the notion of implicit belief, so characterized, is far too vague to be of any scientific use, but that is part of the point: The distinction between implicit and explicit belief is central to any computational conception of cognition, and the notion of explicit belief is the important one. Explicit beliefs are the inputs to reason: Implicit beliefs are to be found among its outputs, and where ordinary language draws the line between what one can be said to believe and what one cannot is of no fundamental interest.

The distinction between what is explicitly and implicitly represented in perception has a similar significance. Consider (what I hope will be) an uncontroversial example. On the table in front of me, there are some coasters. I cannot tell how many coasters there are just by looking: I have to count them. So, although my current perceptual experience in some sense represents the number of coasters on the table, it is, or so it seems to me, no part of its content that there are six coasters there: That fact is represented at best implicitly; it is not represented explicitly. The distinction between what is explicitly and implicitly represented in perception is thus, like the distinction between explicit and implicit belief, one between the input to computational processes and the output of them. To answer the question whether the concept *blue* figures in the content of perceptual experience, we would thus need to answer such questions as whether, when I am asked what color the sky is and what color the sea is and answer on the basis of how things look, the perceptual input to these mental processes contains a common element corresponding to the concept *blue*. My suggestion that nothing ever looks blue is based upon the suspicion that there is not: Rather, what perception itself provides is different in the two cases; the similarity emerges only at some later stage, as a result of what we call conceptualization.

Many of the alleged counter-examples to Evans's view that perceptual content is wholly non-conceptual can be disarmed with sufficiently careful attention to the distinction between explicit and implicit representation. The ones that most impress me concern language and the way one's linguistic capacities can influence the character of one's perceptual experience. Someone who can read Hebrew, for example—'read' it just in the sense that she can recognize the letters and pronounce them—will experience a page of Hebrew text differently from how I would: The various marks on the page are organized into letters in her perception of it, whereas they are not in mine. But does she, strictly speaking, experience

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as an aleph? or even *as* a letter? That is obviously an empirical question, and I do not know the answer. In some sense, of course, she does experience the mark

as an aleph: She experiences it in such a way that the judgement that it is an aleph could reasonably be made by her wholly on the basis of her then current visual experience. But, unless we simply ignore the distinction between implicit and explicit representation, there is nothing in the mere observation that linguistic abilities *influence* perceptual content that shows that linguistic concepts actually *figure in* the contents of perception. More generally, the question whether what concepts one has can influence the content of one's perceptual experience needs to be kept separate from the question what concepts, if any, actually figure in the contents of perception.²¹

One might object that the specificity of visual experience is no less consistent with the claim that the content of visual perception is conceptually structured than its richness is. I doubt, however, that Evans would have held otherwise. Evans, it is important to remember, shared—indeed, he is to some extent responsible for—the view that I developed in Section 1 of what is required if contents of a certain kind are to be regarded as conceptually structured. I expect that Evans saw in the specificity of visual experience reason to believe that such conditions would not be satisfied, though he did not develop this thought in any detail. One possibility is that he suspected that the specificity of experience would give rise to violations of the generality constraint. There are passages in *Varieties of Reference*, for example, that suggest that Evans wanted to insist that, if a concept of some very particular shade can occur in my perceptual experience, it must also be able to occur in my beliefs and other propositional attitudes: If I can perceive a particular thing as having a particular shade, I must also be able to wonder whether some other thing I encountered last week might have been that same shade, and so forth. If that was Evans's worry, however, then McDowell's response is all but unassailable (McDowell, 1996, pp. 56–8): I can indeed wonder whether that other thing was *that* shade. But whatever Evans's view may have been, I suggest that our view now ought to be that the richness argument—or, perhaps better, the specificity argument—does not demonstrate, or even purport to demonstrate, that the content of visual perception is non-conceptual. Rather, the specificity argument directs our attention to differences between how the world is represented in perception and how it is represented in cognition, differences that are relevant to the question what kind of content visual perception has but that do not of themselves decide this question.

Still, reflection on these differences suggests that perceptual content might well fail to satisfy the generality constraint, even within the perceptual realm itself. Now, again, this question is an empirical one, and I remind the reader that I know

²¹ In fact, I suspect that linguistic concepts *do* figure in the contents of perception. The point is that the issues distinguished in the text need to be kept separate.

little of the empirical literature, so I am going to restrict myself to suggesting a couple ways that perceptual content *could* fail to satisfy the generality constraint. But for some purposes, that will be good enough. As mentioned earlier, most, if not all, of the familiar arguments that perceptual content is conceptual are *a priori*. If, as I am suggesting, the question whether perceptual content is conceptual is an empirical one, there must be something seriously wrong with those arguments.

Let me begin with a wholly invented example, one I do not claim has any application to human perception. It has, however, the advantage that it is easy to understand. In discussing cognitive maps, I mentioned the prospect that the spatial relations explicitly represented on such a map should be limited to local ones. One can imagine that something similar should have been true of depth-perception, that is, that relative distance from the subject should be explicitly represented only for objects that are near one another in the visual field. So one object might be represented as closer than another that was but a short angular distance from it, and that object as farther away than another a short angular distance from it. But no such relationship between the first object and the third might be explicitly represented at all. Such relationships might be implicitly represented, of course: If the second object had been represented as closer than the third, then, in virtue of the transitivity of *closer than*, the first object would be implicitly represented as closer than the third, but there is no contradiction in the supposition that it might not be so represented explicitly: That would be something one could, perhaps, figure out, but it would require figuring out. If it could not be represented explicitly, however, then the generality constraint would not be satisfied: It would not follow from the fact that one could perceive that *a* was closer than *b* and that *b* was closer than *c*, that one could also perceive that *a* was closer than *c*.

The feature of perceptual experience I now want to discuss is similar, in that it involves this same kind of locality, but it instead concerns the representation of sameness of color. There is a phenomenon known as *color constancy*: A white piece of paper can continue to look the same color even though the lighting changes in such a way that the light it is reflecting is predominantly red. Something similar is true of perceived surfaces: A paint chip, for example, might look to be uniform in color although different parts of it are reflecting light of different kinds, say, because one part is in shade and another part is partially reflecting a nearby object. (So there is a sense in which the surface looks all to be the same color, and a sense in which it does not.) I am now going to assume that it can be represented *explicitly* in one's visual perception of a surface that it is uniform in color and, further, that only a small, connected surface can be explicitly represented as uniform in color—that is, that neither a large surface occupying, say, half of my visual field nor two small surfaces that make no contact can be explicitly represented as being of the same color. Or maybe small gaps between surfaces are permitted but large ones

aren't. It doesn't matter. The point is that, if something along these lines were true, the generality constraint would fail: "x is the same color as y" would be explicitly representable only under certain circumstances, for example, when x and y were points on a small, connected surface.

These suppositions—that a surface's being uniform in color can be represented perceptually, but only in certain cases—are again empirical ones, and I am not qualified to make pronouncements concerning them. But they do have a basis in visual phenomenology. If I look now at the wall opposite me, there are certainly no obvious discontinuities in its color. And small regions of the wall do seem to be represented as uniform in color: When I look at a small part of the wall, my eyes themselves seem to be telling me that it's all one color. But the wall as a whole does not seem to be represented as uniform in color nor, for that matter, as not uniform in color: My eyes themselves seem silent on the question. Of course, if I am curious whether the wall as a whole is uniform in color, I can look at it carefully and try to decide. Maybe the right thing to decide, given the perceptual evidence, would be that the wall was uniform in color: In that sense, a large surface can look uniform in color. But it does not follow that such large-scale uniformities even *can* be explicitly represented in perception.

There is a closely related feature of perception that, to my mind, marks an even more significant difference between it and cognition. I believe both that my laptop is gray and that my car is gray. There is thus something I believe about both my laptop and my car, and that fact is transparent to introspection: It's something I can find out by just examining my beliefs. That I am deploying the concept *gray* when I think that my laptop is gray is something of which I am, or can be, consciously aware, and I can be aware that I am deploying that same concept when I think that my car is gray. Nothing of the sort seems to be true of perception. Imagine a 10×10 array of color patches of various shades of blue. Imagine looking at the patch in the upper left corner and then at the one at the lower right. Suppose that the two patches are in fact the same color and that they are actually represented in one's experience as being of the same color. We may even suppose that the lighting has been carefully controlled, so that the two patches reflect the same spectrum. Even under these ideal conditions, one need not be able to say with any confidence whether the two patches are the same color *nor even whether they look to be*. The content of perceptual experience is thus not 'transparent to introspection' in the way the content of belief is. At least to the subject, then, it does not seem as if a single 'concept' of a shade is being deployed in the characterization of both patches.²²

²² I suspect this observation bears upon the intransitivity of indiscriminability but have yet to figure out how.

4 Syntax and Semantics

I have argued for two claims. The first is that the question what kind of content we should take perceptual experiences to have should be answered by investigating structural features of the class of perceptual contents. The contents of perception will be conceptual—that is, will be structured—only if the generality constraint, for example, is satisfied. The second claim is then that there are indeed structural differences between perception and cognition that should lead us to reject the claim that perceptual content is conceptual. One might respond, however, that these differences—the failure of the generality constraint, the fact that only certain contents can be the contents of perceptions, and so forth—should be explained not in terms of facts about perceptual *contents* but in terms of facts about perceptual *representations*.²³ That is, suppose that, as Fodor suggests, the mental representations underlying perceptual experience are iconic, whereas the representations underlying propositional attitudes are discursive, and consider, for example, the fact that cognitive states satisfy the generality constraint. To say that the representations underlying these states are discursive is, roughly, to say that they are sentence-like, that is, that there is a language of thought (Fodor, 1975). So the belief that a is F comprises a representation of the form $\Phi(a)$, and the belief that b is G comprises one of the form $\Gamma(\beta)$.²⁴ It is a fact about these representations that their parts are, normally, freely recombinable, so, normally, someone who can form the two representations $\Phi(a)$ and $\Gamma(\beta)$ will also be able to form the representations $\Phi(\beta)$ and $\Gamma(\alpha)$ and so to think that b is F and that a is G . Since perceptual representations do not have this kind of syntactic structure, the corresponding story cannot be told about them, and so it is no surprise that they do not satisfy the generality constraint. The fact that cognitive states satisfy the generality constraint and perceptual states do not thus seems to be a consequence not of the kind of *contents* such states have but of facts about cognitive architecture: At no point in the preceding does it seem to matter whether the contents of these states are Fregean thoughts, Russellian propositions, or sets of possible worlds.

There is, I think, something importantly right about this line of thought. In particular, it is, I think, extremely plausible that the sorts of structural facts that determine what kind of content states of a given kind have will supervene on the nature of the representations that underlie such states. Martin Davies (1992; 1998) argues, for example, that, if we wish to regard the contents of beliefs as structured for the sorts of reasons sketched above, then we are committed—not on logical

²³ Thanks to Alex Byrne for pressing this question in a way that let me finally see how I should answer it.

²⁴ Of course, we are simplifying here by ignoring tense and the like, but not in any way that affects the substance of the discussion.

grounds, but on broadly empirical grounds—to the claim that the *state* of believing that *a* is *F* is similarly structured, that it too has parts that correspond to one's thinking of the object *a* and to one's thinking of a thing that it is *F*. If it is to be a *law* that the contents of belief are closed under certain sorts of operations—that is, if the generality constraint is to hold in the strong form—and if we wish to explain this law in terms of the structured nature of the contents of these states, then the common elements we claim to find in the contents of different beliefs—the concepts of which they are composed—must have explanatory work to do: The explanation of the fact that I can think both the content that my laptop is gray and the content that my car is gray must turn upon my possessing the concept *gray*. Similarly, the fact that this concept does figure in the contents of both these beliefs should facilitate explanations of why they have similar causal powers: They interact in similar ways, for example, with the desire to acquire gray things. The sort of explanation envisaged here is, of course, causal, so the belief that my laptop is gray must have some causally relevant feature in common with the belief that my car is gray. The existence of this common structural feature is then what explains their common causal powers. And what Davies then observes is essentially just that, given a suitably abstract conception of syntactic structure, the structure we have uncovered in these states can easily be seen to be *syntactic* structure. Thus, the thesis that the contents of belief are conceptual entails (a weak form of) the language of thought hypothesis.

A similar argument could be developed concerning cognitive maps and perceptual content. These states have different sorts of structural features, both from one another and from beliefs. But here too one would suppose that the relations between different such states is susceptible of causal explanation. I noted earlier, for example, that, when a cognitive map is updated in response to recalcitrant experience, the content of the map is, by and large, left unchanged. How one represents the topography of one's environment before such an update has much in common with how one represents it after the update—most objects are still located where they were—and so one acts in similar ways before and after the update, too. The natural explanation of this fact is that the representations that are involved here are structured much like real maps. Updating one's map may involve a marker's being moved from one place on the map to another, so that the map itself is largely unchanged by the update. And so generally: One would expect that the sorts of structural features that determine what kind of content a given sort of state has will supervene on the structure of the underlying representations.

Should we, then, explain the behavioral similarities we notice before and after the update simply in terms of the similarity between the representations before and after the update? Such a move may seem tempting at first, but it should not be tempting for long: We can only explain the 'behavioral similarities' in terms of the

similarity in the representations if we can explain the behavior itself in terms of facts about the representations. For example, suppose I would have looked for my keys in the kitchen both before and after a particular updating of my cognitive map. If this similarity is to be explained *purely* in terms of facts about the maps—that is, the representations—that can only be because the fact that I would have looked for my keys in the kitchen can itself be explained purely in terms of facts about my representations. This kind of view has been held (Stich, 1983), but few have found it attractive. Most of us suppose instead that my behavior is to be explained not just in terms of facts about representations but in terms of facts about what those representations represent, that is, in terms of facts about their contents. That the representations are similar in certain respects implies that the contents are similar in related respects because the contents of such representations depends in a regular way upon how they are composed of smaller representational parts. That is to say: The similarities in my behavior before and after the update are to be explained in terms of the similarities between my representations, before and after the update, and the fact that their common parts contribute in the same way, before and after the update, to determining the contents of the representations of which they are parts.

The explanation considered above, of why cognitive states satisfy the generality constraint, is incomplete for the same sort of reason. That someone capable of forming the representations $\Phi(\alpha)$ and $\Gamma(\beta)$ can also form the representations $\Phi(\beta)$ and $\Gamma(\alpha)$ is irrelevant unless the presence of the common feature α in $\Phi(\alpha)$ and $\Gamma(\alpha)$ signals some relevant similarity in the contents of these representations: If, that is to say, it is to follow that this person can think that b is F and that a is G , the representations $\Phi(\beta)$ and $\Gamma(\alpha)$ need to have the contents that b is F and that a is G . And to secure that conclusion, we need to regard the parts of these representations as having content in their own right and to regard the parts as contributing their contents to the content of the whole: We need, that is, to regard such representations as compositional. The sorts of structural differences I have suggested distinguish the contents of cognitive states from those of perceptual or topographical ones thus cannot be explained entirely in terms of differences between the representations such states comprise. That is not to say that such syntactic similarities are irrelevant: They are not. But the syntactic similarities are relevant only because of how the syntax is related to the semantics.

To put the point differently: The causal powers of a given mental state are not determined simply by the set of possible worlds with respect to which that state is true and the structure of the representation it comprises.²⁵ Rather, its causal powers

²⁵ Proof: The belief that water is H_2O and the belief that salt is $NaCl$ are true in the same worlds, and they are of the same structure, but their causal powers are different.

depend upon the semantic properties of the parts of that representation, as well. That does not, of course, imply that one cannot, if one absolutely wishes to insist upon doing so, use the expression ‘the content of a mental state’ to denote the set of possible worlds with respect to which a given state is true. What it implies is that, if one does so use this expression, then one will have to concede that mental states have explanatorily relevant semantic properties that are not determined by their ‘contents’, and that seems to me to be sufficient reason not to use the expression that way. What I am proposing is that we should instead regard the content of a mental state *S* as encoding not just *what S* represents but also *how*, that is, as encoding *S*’s compositional structure. Different sorts of mental states will then have different kinds of content if the contents of the representations underlying such states compose in different ways.

And so we can now see quite precisely how Fodor’s reflections bear upon the question whether perceptual states have conceptual or non-conceptual content. For what I have argued is that what kind of content states of a given sort have will be determined by how the representations underlying such states compose. And what Fodor has argued is that empirical psychology gives us excellent reason to believe that, while the sorts of representations underlying cognitive states and perceptual states are both compositional, they are structured very differently and so compose very differently, as well. If so, then empirical psychology gives us excellent reason to believe, as well, that cognitive states and perceptual states have different kinds of content.

But if so, then, as I said earlier, we do have a problem we would not have had if perceptual content were conceptual. Part of the problem here is simply to understand how non-conceptual representations are ‘translated’ into conceptual representations. That, of course, is an empirical question, and one in which psychologists have had some interest.²⁶ But it has a philosophical aspect, too, since—if we wish to regard certain of our beliefs as justified by our perceptual experience—then we need also to ask what relationship has to obtain between a state with non-conceptual content and a state with conceptual content if the former is to justify the latter. I do not myself see why this question should not have a sensible answer. But if we are to appreciate what Evans meant when he claims that perceptual content was non-conceptual, then it is, I think, important to see that, if he was right, this question needs asking.²⁷

²⁶ The importance of this issue was first made clear to me by Jerome Kagan.

²⁷ Portions of this paper were read at a symposium, held at the 2005 meeting of the Pacific Division of the American Philosophical Association. Jerry Fodor also read portions of his contribution to this volume, and Alex Byrne commented. Thanks to Alex for his insightful remarks, which made the paper much better, and to members of the audience for their similarly helpful questions and comments.

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