

Concepts, Belief, and Perception*

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At least in one well-motivated sense of ‘concept’, all perception involves concepts, even perception as practiced by lizards and bees. That is because all perception involves belief. Or so I will argue. Let us take concepts, belief, and perception in order.

1: Concepts

‘Concept’ is such a protean word that the question calls for a well-motivated stipulative answer, rather than catching some concepts and putting them under a microscope. On one use of the term, the concept DOG is a mental representation of some sort, perhaps a word in the language of thought that applies to all and only dogs (Fodor, 1998). Alternatively, a concept is a body of information (or misinformation) about dogs (Machery, 2009: 12¹); an ability to identify dogs (Sellars, 1956: §18; Dummett, 1993: 98); a mode of presentation of the property doghood (Peacocke, 1992: 2); the “reference of the predicate” ‘is a dog’ (Frege, 1951: 173); the meaning of the English word ‘dog’, the Italian word ‘cane’, and so on (Williamson, 2003: 253); or a constituent or part of thoughts about dogs (Margolis and Laurence, 2003: 190). Some of these stipulations are better motivated than others, and some seem rather unclear. Some are compatible with and/or are closely related to others, while some are not. In any event, the word ‘concept’ provides endless possibilities for theorists to talk past one another—not that any excuse was needed.

For our purposes, we make do with Fodor’s explanation of what it is to have (or “possess”) a concept:

* Thanks to the audience at Friedrich-Schiller-Universität Jena and especially to Eva Schmidt.

¹ Machery himself thinks that “the term ‘concept’ ought to be eliminated from the theoretical vocabulary of psychology and replaced with more adequate theoretical terms” (Machery, 2009: 230). Cf. Millikan (2017): 49.

To have the concept DOG is to be able to think about dogs as such; and conversely, to be able to think about dogs as such is to have the concept DOG. (Fodor, 2004: 31)

Fodor thinks that there really is such an item as “the concept DOG” (specifically, an interpreted expression in the language of thought) but his explanation does not guarantee that because it simply defines the entire phrase ‘having the concept DOG’. And that phrase might be syntactically misleading. ‘Having the concept DOG’ seems to stand for a relation to a particular thing, but Fodor’s explanation is compatible with it being an idiom, like ‘Jerry’s sake’ (cf. Fodor (1981): 178-9).

One way of thinking about dogs (in Fodor’s expansive sense of ‘thinking’) is to have beliefs about dogs “as such”. The belief that Fido is a dog, that dogs bark, that dogs are Martian robots, that either Fido is a dog or Fido is not a dog, are examples. Generalizing: someone has beliefs about dogs as such iff she believes that...dog..., for some filling of the dots. Since anyone who has any propositional attitudes about dogs as such will surely have *some* beliefs about dogs as such, we can put the Fodorian account of possessing the concept DOG as follows:

To have the concept DOG is to believe that...dog...., for some filling of the dots.

It is useful to have ‘the concept DOG’ as a genuine singular term. What is the concept DOG, then? Whatever it is, it is distinct from the concept CAT, because someone can have the concept DOG without having the concept CAT. (The concept DOG thus has a property that the concept CAT lacks, and so they are not identical.) On the other hand, there seems little point distinguishing the concept DOG from the concept HOUND (in the archaic sense of ‘hound’ on which it is synonymous with ‘dog’), since anyone who believes that...dog... also believes that...hound... (with the same filling for the dots), even though she might not put it that way.²

Given these points, the natural candidate to be the concept DOG is simply the semantic value of the word ‘dog’ (at least as it appears in ‘belief’ constructions). That has the benefit—skepticism about semantics aside—of securing the existence of the concept

² Even this is not entirely beyond dispute: Mates (1952) sets out a classic puzzle about whether substitution of synonyms always preserves truth. See also Soames (2005): 346.

DOG without recourse to speculations about the architecture of the mind. Thus Fodor and Dennett, for example, who disagree about the language of thought, can both agree that there is such a thing as the concept DOG, and that people possess or have it. In presently recommended usage, what they disagree about is *not* whether the concept *is* a word (type) in the language of thought, but whether having the concept DOG *requires having* a word-type in the language of thought which can be translated in English as ‘dog’.

2: Belief

We have just tied having concepts very closely to having beliefs. In particular, if someone believes that...X... then she possesses the concept X; more generally, belief implies concept possession, even if the relevant concepts have no corresponding English expressions. In this sense belief is a *conceptual* state. Assuming (as we will) that knowledge entails belief, knowledge is also a conceptual state: if someone knows that...X... then she possesses the concept X. Plausibly, knowledge is not analyzable in terms of belief, truth, and other ingredients. Arguably it is the other way around. Belief is to be understood in terms of knowledge—“[m]ere believing is a kind of botched knowing” (Williamson, 2000: 47). On this “knowledge-first” conception of belief, credence, familiar from Bayesian epistemology, is not in the picture. Credence $\frac{1}{2}$ that the coin lands heads never amounts to knowledge, botched or otherwise.³

As Stalnaker says, “[t]he semantics of belief attributions seems, at a certain level of abstraction at least, very simple: the transitive verb *believe* expresses a relation between a person or other animate thing and a proposition denoted by the sentential complement” (Stalnaker, 1988: 150). This can be further supported by two observations. First, there are *things we believe*, because we (apparently) quantify over them, resulting in valid arguments like: Moore believed everything Russell did, Russell believed that Wittgenstein was a genius, hence Moore believed that Wittgenstein was a genius. Second, these things we believe are presumably propositions, because one can substitute *salva veritate* *the proposition that Wittgenstein was a genius* for the ‘that’-clause in the second premise, yielding *Russell believed the proposition that Wittgenstein was a genius*.

³ For a contrary view, on which credences can amount to knowledge, see Moss (2018).

(See, e.g., (Schiffer, 2003: 12-4).) Although the simple relational view of belief is not secured quite so easily, alternative views will have to be passed over here.⁴

2.1 Occurrent and dispositional belief

Philosophers sometimes draw a distinction between *occurrent* and *dispositional* belief, along the following lines:

...a belief is occurrent if it is either currently before one's consciousness or in some other way currently operative in guiding what one is thinking or doing. A belief is merely dispositional if it is only potentially occurrent in this sense (Harman, 1986: 14)

Given the seemingly reasonable assumption that any non-occurrent belief is "potentially occurrent", the occurrent/dispositional distinction is exhaustive.

Whatever it means for a belief to be "currently before one's consciousness", Harman clearly supposes that it involves the belief being "currently operative"—that is, the belief is causally active in some way. But then the occurrent/dispositional terminology is inappropriate. The shape of a key is sometimes causally active, as when the key is turned in a lock, and sometimes inactive, as when the key is in one's pocket. This is not happily expressed by saying that shapes come in "occurrent" and "dispositional" varieties. Absolutely nothing is lost by dropping the 'occurrent' terminology, since believing is (going by the usual grammatical criteria) a state, not an occurrence or process. In particular, there is no progressive: *'I am believing that snow is white'/'I am throwing snowballs'/'I am skiing'.

2.2 Implicit and explicit beliefs

Philosophers are also partial to the distinction between *implicit* and *explicit* beliefs, which Harman explains as follows:

I assume one believes something explicitly if one's belief in that thing involves an explicit mental representation whose content is the content of that belief. On the

⁴ See, e.g., Moltmann (2003).

other hand something is believed only implicitly if it is not explicitly believed but, for example, is easily inferable from one's explicit beliefs. (Harman, 1986: 13)

Harman then adds:

It is a possible view that *none* of one's beliefs are explicit, that is, that none are explicitly represented and all are only implicit in one's mental makeup. This is a form of behaviorism about belief. (13)

This is a little puzzling, because Harman seems to suggest that if no belief is explicit, all beliefs are implicit ("implicit in one's mental makeup"). But since the one straightforward route to implicit beliefs is by inference from explicit beliefs, it's unclear how to square the existence of implicit beliefs with the non-existence of explicit ones.⁵

It is a good question how beliefs relate to mental representations—neural symbols of some sort. Philosophers usually reject behaviorism and suppose that *some* beliefs are "explicitly represented". But then they argue that not *all* beliefs can be explicitly represented, because the brain is finite and beliefs are infinite. This motivates the explicit/implicit distinction explained along Harman's lines: either beliefs are explicitly represented or else derived from explicitly represented ones, paradigmatically by being "easily inferable" from them.

Why think that there is a storage problem if all beliefs are explicitly represented? Harman gives the example of believing "that the earth does not have two suns, that the earth does not have three suns, and so on"—presumably without end. That is too many beliefs to be explicitly represented. (See also Dennett, 1975: 45.) Instead, Harman says, one believes these propositions *implicitly*, because one can easily infer them from the premise "that the earth has exactly one sun", which one does explicitly believe (Harman, 1986: 13). But it is hardly clear that people do have infinitely many beliefs of this sort. Of course, one can readily believe that for all $x > 1$, the earth does not have x suns, but this is to believe a single generalization, not all its particular instances. One might have a *disposition* to believe these instances (or at least some finite initial segment of them), but

⁵ Just before the previous quotation, Harman mentions "another way in which something can be implicitly believed—it may be implicit in one's *believing something else*" (Harman, 1986: 13; emphasis added).

Whatever this amounts to, it doesn't seem to help with the problem raised in the text.

having a disposition to believe p is not thereby to believe it, any more that having a disposition to break is thereby to be broken.

There are other examples of “obvious truths” that purport to massively inflate the totality of one’s beliefs, if not to break the finite barrier. Harman gives one he attributes to Dennett, the belief that elephants don’t wear pajamas in the wild (Harman, 1986: 13).⁶ Others in the same vein include the belief that no grass grows on kangaroos (Fodor, 1985: 89), and the belief that that there are no bicycles on the moon (Gertler, 2011: 131).⁷

However, these examples are not very persuasive. It is true that answering the question *Do elephants wear pajamas in the wild?* is pretty effortless, but it would not be unusual to hesitate if one’s negative answer is followed up with *Have you always believed that?* Similar hesitation is even more likely with the other two examples. Grass has been reported to grow on the backs of elephants, if not kangaroos. Astronauts have left a variety of vehicles on the moon, although not bicycles. Answering the questions *Does grass grow on kangaroos?* and *Are there bicycles on the moon?* could easily be accompanied by a palpable impression of reasoning. In fact, Fodor took his own example to be one of merely *potential* belief. Yet other cases of “obvious truths” elicit the opposite reaction: it is natural to say that we did *not* believe them before they were pointed out. Consider, for instance, the fact that a stopped clock is right twice a day, and that ‘Saturday’ contains ‘turd’.

There is no obvious storage problem for the view that all beliefs are explicitly represented.

2.3 Belief and dispositions

Uncontroversially, believing that it’s raining disposes normal subjects to do various things, given that they are in certain other mental states (e.g. wanting to stay dry). But this doesn’t show that belief is a dispositional state. *Being cylindrical* is not usually thought of as dispositional, but that state disposes pieces of metal to roll, given that they

⁶ Harman cites Dennett (1978), which does not contain anything about pajamas. Dennett does, however, give these two examples: the belief that “a grain of salt is smaller than an elephant” (45), and the belief that “zebras in the wild do not wear overcoats” (104).

⁷ See also Stalnaker (1984): 68-71.

are in certain other states (e.g. lying convex surface down). However, according to many philosophers, believing is not just closely connected with dispositions, it *is* a disposition. What sort of disposition? Here is one suggestion from Stalnaker:

Belief and desire...are correlative dispositional states of a potentially rational agent...To believe that P is to be disposed to act in ways that would tend to satisfy one's desires, whatever they are, in a world in which P (together with one's other beliefs) were true. (Stalnaker, 1984: 15)

This account does not purport to analyze *believing* p in non-mental terms, since 'desire' appears in the analysandum.⁸ Indeed, given the qualification about "one's other beliefs", it doesn't even analyze believing p in non-*belief* terms. In these ways the account is quite modest.

However, even modest accounts like Stalnaker's are hard to defend. Indeed, Stalnaker himself immediately goes on to imply that "some more sophisticated variant" will be required, so problems are to be expected. For example, suppose that one has a rich complement of beliefs, which happen to be entirely true. One truly believes that there is beer in the fridge, that one is permitted to drink any beer in the fridge, that the fridge is nearby, and so on. Given these true beliefs, we may suppose that one is disposed to satisfy one's desires—say, the desire to drink beer. But now consider some mundane truth q that one does *not* believe, and which has no bearing on the satisfaction of any of one's desires—say, that the fridge was once owned by Stalnaker. One is "disposed to act in ways that would tend to satisfy one's desires, whatever they are, in a world in which q (together with one's other beliefs) were true"; hence Stalnaker's account incorrectly predicts that one believes q .⁹

⁸ The elided part of the quotation contains Stalnaker's analysis of desire in terms of belief: "To desire that P is to be disposed to act in ways that would tend to bring it about that P in a world in which one's beliefs, whatever they are, were true" (Stalnaker, 1984: 15).

⁹ Note that this objection applies to two slightly different ways of spelling out Stalnaker's account. First, a simple counterfactual formulation: one believes q iff if q (together with one's other beliefs) were true one would be disposed to act in ways that would tend to satisfy one's desires. Second, a more elastic version in terms of "suitably close" worlds: one believes q iff, in worlds suitably close to the actual world in which q

For a counterexample in the other direction, suppose—as is surely possible—that one believes that one is not disposed to act ways that satisfy one’s desires. Call that believed proposition ‘*r*’. In a realistic case, *r* is false. But had *r* (along with one’s other beliefs) been true, one would *not* have been disposed to act in desire-satisfying ways, and so Stalnaker’s account incorrectly predicts that one does not believe *r*.

Schwitzgebel offers a quite different dispositional account:

Think of the dispositional stereotype for the belief that P...as consisting of the cluster of dispositions that we are *apt* to associate with the belief that P...The dispositional properties belonging to belief stereotypes fall into three main categories. The most obvious, perhaps, are behavioral dispositions, the manifestations of which are verbal and nonverbal behavior, such as, in the present case [the belief that there is beer in the fridge], the disposition to say that there is beer in the fridge (in appropriate circumstances) and the disposition to go to the fridge (if one wants a beer). Equally important, though rarely invoked in dispositional accounts of any sort, are what may be called *phenomenal* dispositions, dispositions to have certain sorts of conscious experiences. The disposition to say silently to oneself, “there’s beer in my fridge,” and the disposition to feel surprise should one open the fridge and find no beer are phenomenal dispositions stereotypical of the belief that there is beer in the fridge. Finally, there are dispositions to enter mental states that are not wholly characterizable phenomenally, such as dispositions to draw conclusions entailed by the belief in question or to acquire new desires or habits consonant with the belief. Call these *cognitive* dispositions...To believe that P, on the view I am proposing, is nothing more than to match to an appropriate degree and in appropriate respects the dispositional stereotype for believing that P.

(Schwitzgebel, 2002: 252)

Again, like Stalnaker’s account, Schwitzgebel’s does not analyze belief in non-mental terms, or even in non-belief terms (as he notes: 258). Belief enters the analysandum in a

(together with one’s other actual beliefs) is true, one is disposed to act in ways that tend to satisfy one’s desires.

few places, for instance: “dispositions to draw conclusions [i.e. to form beliefs] entailed by the belief in question”.

Is it true that “a person who possesses all the dispositions in the stereotype for...believing that ‘There is beer in my fridge’ can always accurately be described as believing that there is beer in her fridge”? (252). That is not so clear. Someone who does not believe that there is beer in her fridge might nonetheless be disposed to say that there is in order to deceive.¹⁰ She may also be disposed to go to the fridge if she wants a beer because she knows that frosted glasses are to be found there. She may utter ‘There’s beer in my fridge’ in inner speech merely to remind her to keep up the deception. Suppose, in addition, that she believes some propositions that entail that there is beer in her fridge: she believes, say, that there is Moosehead Lime in her fridge, and that Moosehead Lime is a kind of beer. Perhaps opening the fridge would prompt her to draw the obvious conclusion, and so form the belief that there is beer in her fridge. She is thus disposed to “feel surprise” on opening the fridge and finding no beer. Similarly, since she is disposed to conclude that there is beer in her fridge, we can also suppose that she is disposed “to draw conclusions entailed by the belief in question or to acquire new desires or habits consonant with the belief”. She apparently fits the stereotype of believing that there is beer in her fridge perfectly, despite not believing it.

What about the other direction? Could one believe p without “matching” the dispositional stereotype to an “appropriate degree”? *Pace* Davidson (1975), belief does not require language, so we can forget dispositions to engage in inner and outer speech. Presumably a sufficiently sophisticated languageless creature could believe that it is awake. Since it could not discover that it was asleep, the relevant “the disposition to feel surprise” is absent. Offhand, we may suppose that the creature is prone to reason poorly (including the acquisition of “new desires or habits”) from the premise that it is awake. Behavioral dispositions are then the only ones left. We may grant that the creature’s belief that it is awake has behavioral effects in *some* circumstances, but now the idea that belief requires matching the stereotype “to an appropriate degree” seems to have been lost entirely.

¹⁰ Schwitzgebel is of course aware of this possibility (Schwitzgebel, 2002: 253).

Both Stalnaker and Schwitzgebel helpfully describe dispositions that are often *associated* with belief. But there is a large gap between these observations and a credible account of belief *as* a disposition.

2.4 Belief and the space of reasons

Belief is *truth-normed* (Thau, 2002: 56): if a belief is false it is in some way defective. In this sense, someone who falsely believes p ought not to have this belief. That does not mean that believer herself deserves blame or criticism, since she may have an excellent excuse.

True beliefs can be defective too: if a belief is true but the result of reading tea leaves there is something wrong with it. Is it “wrong always, everywhere, and for anyone to believe anything on insufficient evidence”? (Clifford, 1947: 77). Not quite: one may know p without having (distinct) evidence for p , and there can hardly be something wrong with a belief that amounts to knowledge. Some perceptual knowledge is plausibly of this kind: if one knows by vision that a dark spot is moving, what is one’s evidence? “Appearances” was once a popular answer, but that arguably requires too much sophistication and is ill-motivated for other reasons. And even if that answer could be made to work, what about knowledge of the appearances themselves? A regress is in the offing if knowledge of appearances requires evidence. Either way, it is not always wrong to believe something on no—a fortiori insufficient—evidence.

Sometimes believers don’t have excuses. One believes p , and compelling evidence against p is presented. Given the evidence, one does not know p , but if one stubbornly persists in believing p then blame may be deserved. This relatively bland point should be distinguished from the Sellarsian view that belief is in the “logical space of reasons, of justifying and being able to justify what one says” (Sellars, 1956: §36). Beliefs may be defective, and believers may be blameworthy, even if they are unable to justify what they say—and even if they are unable to say anything at all. Although McDowell quotes Sellars approvingly, the following passage contains no implication about the ability to justify:

A belief ... is an actualization of capacities of a kind, the conceptual, whose paradigmatic mode of actualization is in the exercise of freedom that judging is.

This freedom, exemplified in responsible acts of judging, is essentially a matter of being answerable to criticism in the light of rationally relevant considerations (McDowell, 1998: 434; quoted in Gendler, 2008: 565, fn. 21).

(Note that one may be “answerable to criticism” while being unable to answer.) Gendler endorses something similar:

[B]elief...is normatively governed by the following constraint: belief aims to ‘track truth’ in the sense that belief is subject to immediate revision in the face of changes in our all-things-considered evidence. (Gendler, 2008: 565)

She appeals to this to argue that a trembling man “suspended in a cage” does not believe that he is in danger, because he persists in trembling despite having convincing evidence that he is perfectly safe:

Beliefs change in response to changes in evidence...If new evidence won’t cause you to change your behavior in response to an apparent stimulus, then your reaction is [not] due to...belief. (Gendler, 2008: 566)

In this passage Gendler shifts from a plausible *normative* constraint (beliefs *should* change in response to evidence) to a much less plausible *descriptive* constraint (beliefs *do* change in response to evidence). Clearly beliefs *sometimes* change as they ought. But sometimes they (apparently) don’t: beliefs are retained despite the believer having decisive evidence to the contrary. Gendler has not bridged the gap between the normative constraint and the descriptive one; for all she has said, the trembling man in a cage believes that he is in danger.¹¹

Summing up so far: *believing* p is a relational state of a person or other animate thing, a state that can sometimes be causally active, and sometimes not. Whether or not belief requires mental representations, the explicit/implicit distinction should be rejected. Although beliefs typically bring dispositions in their wake, the case that *believing* p is identical to a dispositional state has yet to be made. Finally, sometimes beliefs do not respond as they should, remaining immune to the blandishments of evidence.

¹¹ Indeed, Gendler mentions the phenomenon of recalcitrant belief in a footnote, saying that “[a]s stated, the principle [in the above quotation] is too strong” (Gendler, 2008: 566, fn. 26).

3: Perception

What is perception good for? Perception enables the organism to find food, shelter, and mates, and ultimately to reproduce its kind. Plausibly, perception has these benefits because it provides the organism with knowledge about its environment. Sometimes it will fall short, and the organism will merely end up with environmental beliefs. In Thomas Reid's metaphor of the testimony of the senses, sometimes the senses *knowledgeably* testify and sometimes they don't.

In contemporary parlance, the testimony of the senses is "the content of perception". We will assume, along with many contemporary philosophers of perception, that Reid's metaphor is appropriate and that experience does "have content". There are notable dissenters, however.¹²

The basic assumption of orthodoxy can usefully be put in terms of a propositional attitude, *exing* (Byrne, 2009). ('Exing' is intended to suggest 'experiencing', although it should not be taken to be equivalent to any ordinary English expression.) If one's senses testify to p (in the intended interpretation of Reid's metaphor), one *exes* p . If one *exes* p and vision is the operative modality, then we can think of vision scientists as trying to explain how the visual system derives p from retinal stimulation, a notoriously under-constrained problem.¹³

Exing provides an appealing treatment of the difference between veridical perception and illusion. In the "good case", where one veridically perceives, one *exes* p and p is true. In the "bad case", where one is the subject of an illusion, one *exes* p and p is false. (Hallucination, however, is especially tricky, because it is unclear whether there is any suitable proposition available to *ex*; for present purposes we can leave the proper treatment of hallucination open.)

What sorts of propositions can be *exed*? Suppose, to borrow an example from Reid, a man takes "a counterfeit guinea for a true one". Is vision (falsely) testifying that this golden disc is a guinea? Or is the man simply *exing* a (true) proposition about "low-

¹² E.g. Travis, 2004, Brewer, 2011. A useful survey is Fish, 2010.

¹³ Information from the various senses is pooled (this is particularly clear for smell and taste), hence a single attitude of *exing* is arguably all that is needed, rather than different ones for different sensory modalities.

level” properties of the coin—its color, shape, and so forth—from which he concludes that it is a guinea? Reid held the latter view:

Did your sense give a false testimony of the colour, or of the figure, or of the impression? No. But this is all that they testified, and this they testified truly: From these premises you concluded that it was a true guinea, but this conclusion does not follow. (Reid, 1785/2002: 244, quoted in Van Cleve, 2015: 139)

Reid was on the “thin” side of the rich/thin debate about perceptual content (Siegel and Byrne, 2016).

Although exing is a common factor of the good case and the illusory bad case, that is not to say that one’s perceptual state in the good case is simply a veridical version of one’s perceptual state in the bad case. For example, one possibility is that exing is a determinable of a factive propositional attitude, which we can call *sensing*, and it is sensing that explains how the good case differs epistemologically from the bad case. In the good case, when everything is working well, one senses (and exes) *p*, and ends up knowing *p*. In the illusory bad case, one merely exes *p* and the corresponding belief is excusable but unjustified.¹⁴

Metaphors are rarely perfect, and the testimony of the senses is no exception.¹⁵ In an ordinary case of testimony one doesn’t just come to believe what one’s testifier is saying. One is also aware that the testifier is speaking (in, say, Hindi-Urdu) and thereby is asserting something—one is aware of testimony to *p*. But in an ordinary case of exing *p* one is not (or need not be) aware of exing *p*. A closely related point was emphasized by Dretske long ago, that seeing should be distinguished from saying that one sees (Dretske, 1969: 35-43). It is safe to say that that exing *p* and awareness of exing *p* come apart completely in the case of many animals, who always perceive without knowing that they do.¹⁶

¹⁴ This is close to the view in McDowell (2011). See Byrne (2014) for discussion.

¹⁵ Reid notes that the “analogy between the evidence of sense and the evidence of testimony” is imperfect (Reid, 1785/2002: 231), but not for the reason about to be given.

¹⁶ On metacognition in animals, see, e.g., Smith et al. (2012).

Such animals—perhaps including some primates—immediately raise an issue about the relation between exing p and believing p . Since there is little motivation to deny them perceptual knowledge, there is little motivation to deny them perceptual belief. Although we humans sometimes resist the testimony of our senses, as when we insist that the lines in the Müller-Lyer illusion are the same length, they never do. For these less sophisticated animals, perceiving is always believing. When evolution designed their perceptual systems there was no need for a *transition* between the senses testifying to p and the acceptance of that testimony: building belief in to the testifying would do.

Unless humans are brought into the picture, the simplest hypothesis is therefore that believing is a component of exing, as it is a component of knowing; exing p thus entails believing p . Call this view *belief-dependence*. The parallel view for knowledge does not imply that knowing can be analyzed in terms of believing; likewise, belief-dependence does not imply that exing can be analyzed in terms of believing. (For early attempts at such a reductive account, see Armstrong, 1968 and Pitcher, 1971.) Still, belief-dependence is almost universally rejected.¹⁷

We have already alluded to the chief reason for denying belief-independence—resisted perceptual illusions. As Evans puts it: “It is a well-known fact about perceptual illusions that it will continue to appear to us as though, say, one line is longer than the other (in the Müller-Lyer illusion) even though we are quite sure it is not” (Evans, 1982: 123). But that doesn’t quite show that one can ex p without believing p . We need the further assumption that if one believes that the lines are equal, one does not also believe that they are unequal. And since people sometimes have contradictory beliefs, the assumption isn’t obvious.

What’s more, less sophisticated perceivers give us some reason to resist the assumption. If their perceptual states have belief as a component, then given the incremental way evolution works, one would expect that we have preserved the same basic architecture. This suggests that, as in our more primitive cousins, when we perceive

¹⁷ Reid seems to have held it (Van Cleve, 2015: 19-21). Contemporary exceptions include Craig (1976), Gluer (2009), and Quilty-Dunn (2015); see also Lewis (1980): 239. (On Glüer’s idiosyncratic view, perceptual experiences are *identical* to beliefs with “phenomenal” contents: “visual experience has contents of the form x looks F ” (311).)

we also believe. But unlike them, we have developed the ability to inhibit the beliefs which are components of perceptual experience. Despite believing that the lines are unequal, we can allow the contrary belief that they are equal to guide our behavior. Delusory beliefs are a useful model here (Bortolotti, 2010). Of course the beliefs that are entailed by exing are not usually false, but they are like delusions in two respects: they may be inferentially isolated, and will persist despite evidence to the contrary. Section 2 provided some reassurance that genuine beliefs may be quite impervious to evidence.

Section 2 helps a defense of belief-dependence in two other ways. If beliefs come in implicit and explicit varieties, then so does knowledge. One *explicitly* knows, say, that the earth has exactly one sun, and *implicitly* knows that it does not have two suns. Given belief-dependence, and the parallel between exing and knowing, one would expect exing to come in the same two flavors: one *explicitly* exes, say, that this patch is red, and *implicitly* exes that this patch is either red or triangular. But this is an unwanted result. By the usual tests, being either red or triangular is not a *perceptual* feature. For example, seeing red—hence red or triangular—patches will result in adaptation to *being red*, not to *being red or triangular*.¹⁸ But how to avoid saying that one exes that this patch is red or triangular? Given the collapse of the implicit/explicit distinction, the problem does not arise.

Second, because the content of perceptual experience is typically rich and exed fleetingly, the belief-dependence does not fit particularly well with dispositional accounts of belief in the literature. These accounts normally take relatively sparse and enduring beliefs—say, about the location of beer—as paradigm cases. If some such account worked for the paradigm cases then this would be problematic. The discussion in Section 2 suggests that there is little reason to worry.

The argument so far is hardly decisive, but there are other considerations supporting belief-dependence. One (rather indirect) argument is that belief-dependence is required for an appealing “transparent” account of perceptual self-knowledge—how one knows that one sees a spoon, for example (Byrne, 2018: ch. 6). Another (also indirect)

¹⁸ On adaptation as a test for perceptual representation, see Block (2019).

argument is that it allows an explanation of why we have perceptual experiences at all (Byrne, 2016). (For yet other arguments, see Byrne, 2018: 144-6.)

If perception requires belief, then belief must appear in the phylogenetic tree whenever perception does. For simple organisms like paramecia there is no evident need to posit any perceptual representation of the environment—“registration of proximal stimulation” is sufficient (Burge, 2010: 422). But on any credible view, insects like bees perceive (Tye, 2017: 148-56; Burge, 2010: 375). Do bees believe? Despite their tiny brains, they can learn to fly through mazes and distinguish two objects from three objects; attributing “knowledge” to them seems perfectly natural (Srinivasan, 2010: 274). Given that knowledge entails belief, bees believe.

As argued in Section 1, belief is sufficient for concept possession. And if perception requires belief, then it requires concepts. On the view defended here, it’s concepts all the way down.

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