

Precis of Fixing Reference

Fixing Reference is about how we manage to represent ordinary objects (things like tables, trees, dogs, and people) in thought and speech. I take it for granted that we *do* manage this. In a straightforward situation involving no cognitive or perceptual funny business, and no special stage-setting, the belief you express by saying ‘That is round’ on the basis of uptake from a perceptual link with an orange on the table in front of you is about the orange. And, in an ordinary situation, the belief you express when you say ‘Bertrand Russell was gaoled for sedition’ is about Russell. But the claim that we *do* manage to think and speak about ordinary things leaves completely open the question of *what makes it the case* that a particular thought or utterance is about anything at all, and about one thing rather than another. The central project of *Fixing Reference* is to answer this ‘What makes it the case?’ question.

Though it would have made for a more elegant precis had I found an answer to this question with a single central element, the answer in *Fixing Reference* is built around two. I shall explain each in turn, then sketch how they combine into the overall picture.

The first central element is a principle connecting the aboutness of our ordinary ‘that’ and ‘Bertrand Russell’ beliefs with how they are (or might be) justified. This principle is derived from two other principles which I take to be basic – one connecting aboutness and truth the other truth and justification:

Aboutness and truth principle – If a belief that $\langle \alpha \text{ is } \phi \rangle$ is about object o , it is true iff o is ϕ .

Truth and justification principle (approximate version) – Justification is truth conducive – in general and allowing exceptions, if a belief is justified the subject will be unlucky if it is not true.

Given these two principles, one connecting *aboutness* and *truth*, the other *truth* and *justification*, I suggest that it will be sad – and surprising – if we cannot find an argument which cuts the intermediate term to yield a third principle connecting *aboutness* and *justification*: a principle which brings out the significance for accounts of aboutness of the fact that justification is truth-conducive. Here is the principle that I propose:

Aboutness and justification principle (approximate version) – A body of beliefs is about an object iff its means of justification converges on the object, so that, given how the beliefs are justified, the subject will be unlucky if they do not match the object and not merely lucky if they do.

To consolidate what this principle says, consider a telescope focussed on a particular object in the night sky. The fact that the telescope is focussed on the object does not guarantee that the data stream it delivers will match what the object is like. But it does guarantee that where the data stream does not match the object, this is because some unlucky spoiler – a grubby lens; a cloud of cosmic dust – intervenes. The *aboutness and justification* principle treats the aboutness of our ordinary beliefs about ordinary things as a kind of focus – what I call ‘cognitive focus’. According to this principle, an aboutness-fixing relation does its aboutness-fixing work by providing a means of justification that converges on the object; a means of justification such that the subject will be unlucky if beliefs formed by this means do not match what the object is like, and not merely lucky if they do.

The second central element of the *Fixing Reference* proposal is a view of where the justification for our most basic beliefs about particular things comes from. The formation of bodies of such beliefs – a body of beliefs you would express using ‘this’ or ‘that’ formed by uptake from a perceptual link; a body of beliefs you would express using a proper name formed by uptake from testimony – is an information-marshalling activity. And I suggest that the justificatory story for these beliefs is a version of the story that applies to activities in general. In general, the moves comprising an activity are justified insofar as they are apt to the activity’s guiding motivational state: insofar as they are appropriately causally dependent on the motivational state, and are reliable generators of its fulfilment. For example, suppose that a skilled archer is shooting at a target. Her moves as she prepares to release her arrow are ‘justified’ in that they are both guided by her target-hitting intention, and reliable generators of this intention’s fulfilment. I argue that the information-marshalling moves that generate a body of ordinary <that> or <NN> beliefs are justified in something like this way: they are guided by a motivational state, and are reliable generators of this state’s fulfilment. The guiding motivational state in these cases is (I argue) like an intention in that it guides behaviour and has fulfilment conditions, but unlike an intention in that it is not a propositional attitude. I call such non-propositional motivational states ‘needs’. It is an inescapable observation that much of our behaviour is motivated by needs – the need for food; the need for freedom from pain; the need to avoid loneliness. I suggest that as well as these emotional needs there are also rational needs, and that one such rational need is the mind’s need to think about things outside itself.

These two elements combine to give the following picture of our most basic thoughts about ordinary things. The mind needs to achieve cognitive focus on things outside itself. It is bombarded with incoming information – from perception; from the testimony of others. Marshalling this information into bodies of <that> or <NN> beliefs is an activity which is guided by the need for cognitive focus: we are trying to tune in on the world around us. The information-marshalling moves, and, derivatively, the beliefs they generate are justified because, given our skill as cognitive agents, these moves do generally result in cognitive focus, so are reliable generators of fulfilment of their guiding motivational state. The beliefs are about ordinary things in the world – your <That is round> belief is about the orange rolling along the table in front of you; your <Bertrand Russell was gaoled for sedition> belief is about Russell – because these are the individuals upon which their respective means of justification converge. (If your first response to the subtle non-linearity of this picture is to worry about circularity, you are in the company of two participants in this symposium. I respond to the circularity objection in ‘Reply to Hofweber and Ninan’ below.)

Chapters 1-3 of *Fixing Reference* explain and defend the two basic elements and the picture of the aboutness of our ordinary thoughts that they generate, and say a little to locate this picture relative to the extant ‘causalist vs. descriptivist’ tradition. Chapters 4-7 work out the details for the cases of perceptual demonstrative thought (the kind of thought standardly made available by a perceptual link with an ordinary thing); proper-name-based thought (the kind of thought standardly made available by receipt of a stream of testimony containing a proper name); and descriptively mediated thought (the framework entails that grasp of a description can enable cognitive focus on a particular thing, not necessarily the description’s satisfier). Chapter 8 is about the relation between thought and consciousness: if you ask whether a computer can (really) think, Chapter 8 answers ‘Only if it can (really) need to’.

Though *Fixing Reference* is not a short book, I have tried to reduce the imposition on potential readers by making the chapters as self-standing as possible. The first half of Chapter 1,

Chapter 2, and Chapter 3 establish the proposal's foundations. Once equipped with these foundations, a reader will find that each of the later chapters can be understood alone, or the set tackled in any order.

Reply to Hofweber and Ninan

Both Hofweber and Ninan concentrate on a threat of circularity which, they suggest, renders the project of *Fixing Reference* either unsuccessful or (if successful) unambitious. The threat of circularity is obvious. *Fixing Reference* proposes that a right account of aboutness-fixing for our ordinary beliefs about ordinary things should be built around my *aboutness and justification* principle:

Aboutness and justification principle (approximate version) – A body of beliefs is about an object iff its means of justification converges on the object, so that, given how the beliefs are justified, the subject will be unlucky if they do not match the object and not merely lucky if they do.

Given the central role it assigns this principle, a reader might well be tempted to regard the proposal as explaining the aboutness of the target range of beliefs in terms of what it takes for them to be justified. But there is a familiar connection between the notions of justification and truth – justification is truth conducive; a proposed account of justification that leaves it a matter of chance whether 'justified' beliefs are true is not genuinely an account of justification at all. (The *justification and truth* principle on p* is a version of this claim). In addition, there is a familiar connection between truth and aboutness: if a belief is about an object, its truth or falsity depends on what this object is like. (Again, see the *aboutness and truth* principle on p*.) If these familiar connections are read as claims of explanatory priority, they combine with the 'aboutness is being explained in terms of justification' reading of the *aboutness and justification* principle to generate an unlovely circle:

Aboutness is explained in terms of justification.

Justification is explained in terms of truth.

Truth is explained in terms of aboutness.

I shall summarise the response to this obvious threat of circularity that is already contained in Chapter 3 of *Fixing Reference*, then consider what I take to be the most interesting question raised by Hofweber's and Ninan's remarks. Neither thinks the response works. What are the differences in background presuppositions that make the response to the circularity objection already provided in *Fixing Reference* – a response which appears at least reasonably obviously successful from my perspective – so apparently unsatisfactory from theirs? (I should add that Hofweber and Ninan are by no means alone in raising issues about explanatory priority with respect to the project of the book. This is an intricate and, therefore, potentially befuddling matter. I am grateful to have such thoughtful presentations of the circularity worry out in print, and for the opportunity to attempt to clarify my response.)

It will be easier to present the response to the threat of circularity in terms of one specific kind of thought about ordinary particular things. I shall focus on the case of perceptual demonstratives.

The *Fixing Reference* account of perceptual demonstratives is generated by the two framework elements introduced in the precis – the *aboutness and justification* principle; the claim that the mind needs to represent things outside itself – and an empirical reliability claim: the claim that when you are attending perceptually to an ordinary thing and forming beliefs by uptake from the attentional perceptual channel, the resulting beliefs tend to match what the attended object is like. (<That is round>, <That is rolling> you think, forming beliefs by uptake from your attentional link with the orange rolling along the table in front of you. It is a matter of fact that when you form beliefs in this way – by uptake from an attentional perceptual channel – you end up with beliefs that match what the attended object is like unless some unusual factor intervenes.) Given the framework elements and this empirical claim, we can explain aboutness-fixing and justification for perceptual demonstrative beliefs like this¹:

1 The mind needs to think about things outside itself.

2 Formation of a body of <that> beliefs in response to attentional perceptual input is an information-marshalling strategy guided by this need. Because the information-marshalling strategy is guided by a motivational state of the subject, it is a justified strategy.

3 Given the empirical claim and 2, uptake from an attentional link with an ordinary object is a route to formation of justified beliefs that reliably match what this object is like.

4 Given the *aboutness and justification* principle, these beliefs are about the object.

5 Given that in most cases where we get as far as forming <that> beliefs, the attended object is an ordinary object, the beliefs are also ‘justified’ in a stronger sense than is registered at 2: the strategy by which they are formed is not just guided by the need at 1, but is a reliable generator of this need’s fulfilment.

As I note in *Fixing Reference*², the 1-5 story invites an equivocation challenge, which I shall now describe. (The response to the obvious threat of circularity and the response to this equivocation challenge go hand in hand). The equivocation (as the challenger sees it) is an equivocation between theoretical and practical senses of ‘justification’. The sense of ‘justification’ relevant to the *aboutness and justification* principle is ‘theoretical’ justification – justification for beliefs. So it is only if the fact that they are formed by a guided strategy confers theoretical justification on our perceptual demonstrative beliefs that it is legitimate to read 3 in a way that will sustain the move to 4. But the justification conferred by guidance is (obviously!) practical justification – justification for behaviour. So why (the challenger asks) is the 1-5 proposal not just an obvious cheat?

The response to this challenge that I offer in *Fixing Reference* rests on a methodological decision about how the question of what justifies our most basic beliefs about particular things should be approached. I suggest that it is a mistake to approach this question carrying doctrinaire

¹ 102-104 and 120-130.

² 105

assumptions concerning what the account of justification for our <that> and <NN> beliefs is going to look like. Formation of <that> beliefs by uptake from perception, and <NN> beliefs by uptake from testimony, are among the most primal transactions in our cognitive lives. There are various less primal transactions which also (surely...) yield justified beliefs: deductive inference; inductive inference; inference to the best explanation. It *may* turn out that the right justificatory story for our <that> or <NN> beliefs ends up being some version of the story that seems right for these more reflective cases. But a legitimate claim of similarity between primal and reflective cases must be arrived at as a conclusion of inquiry rather than assumed at its outset: to suppose that what we are looking for in an account of how perception and testimony justify our <that> and <NN> beliefs is some thinned-out form of the story that applies in some more reflective case is a failure of open-mindedness with respect to how theoretical justification in the less reflective cases might really work. So I suggest abandonment of what has often been the standard procedure for philosophers seeking accounts of justification for our <that> or <NN> beliefs. This standard procedure is to start with a template that it is supposed (rather than argued) that a justification-conferring path to belief-formation must fit, then try to show that, despite appearances, the ordinary paths to formation of <that> and <NN> belief fit this template. What I suggest instead is that we start with an account of what the respective paths to belief formation actually involve; examine this account to see how beliefs formed by these paths might count as having a kind of positive normative status; then ask whether beliefs having this kind of positive normative status could count as theoretically justified.³

Relative to this methodology, the *truth and justification* principle takes on the status of a test for right accounts of theoretical justification: one criterion to use in deciding whether a kind of positive normative status can count as a species of theoretical justification – perhaps the only one – is that a factor that confers theoretical justification be conducive to truth.

Now let us return to the equivocation challenge. In the terms I have just put in place, the challenge is to say with what right the positive normative status for our <that> beliefs conferred by the fact that they are formed by a strategy guided by the need for cognitive focus counts as theoretical justification. And the response to this challenge provided in *Fixing Reference* is that, given the empirical claim, the suggestion that beliefs with this kind of positive normative status should count as theoretically justified meets the test that the *truth and justification* principle lays down: it gives us an account of theoretical justification for perceptual demonstrative beliefs which entails that theoretical justification for these beliefs is truth-conducive.⁴

To reinforce the role the *truth and justification* principle is playing in this story – licensing the claim that beliefs formed by moves that are *practically* justified by the need to represent should themselves count as *theoretically* justified – it is useful to consider a case where, rather than licensing the upgrade from practical to theoretical justification, the *truth and justification* test forbids it. Suppose that some people have a need to believe in hypothesis X: if you are one of these people, you will not be at cognitive rest unless you have a secure-feeling X-belief. Guided by the need, you subject anti-X evidence to greater scrutiny than pro-X evidence, and tend to avoid potential anti-X sources and seek out potential pro-X ones. Provided that there is a reasonable amount of potential X-evidence to be had by looking in appropriate places, this belief-management strategy has both kinds of practical justification invoked in the 1-5 story: it is guided by a motivational state of the subject, and it is a reliable generator of this state's fulfilment. But in this case, practical justification of belief-forming strategies does not convert to

³ I defend this methodological decision at 14-19.

⁴ 105-107

theoretical justification for the resulting beliefs: the beliefs you form have a kind of positive normative status, but this kind of positive normative status cannot count as theoretical justification because it is not truth conducive.

I have taken the time to go through this response to the equivocation challenge because I think it clarifies how the various principles in play fit together in the overall explanatory project of *Fixing Reference*. The target of this project is the question identified in the first paragraph of both the book and the precis that appears with this symposium: How do the relations to ordinary things that enable us to think about them do their aboutness-fixing work? The first stage of the project is to use what I take to be familiar connections between aboutness and truth and truth and justification to derive a connection between aboutness and justification. With this first stage complete, we have a template for answers to the initial question: An aboutness-fixing relation between a subject and an object is a relation that makes available a means of justification which converges on the object. The second stage of the project is to show how the relations that we know *are* aboutness-fixing relations meet this condition. In the perceptual demonstrative case, the relation that we know *is* an aboutness-fixing relation is the relation of having a body of beliefs formed in the ordinary way by uptake from an attentional perceptual channel focussed on the object. The 1-5 story isolates two key features of the relation – the information-marshalling behaviour that generates the beliefs is guided by the mind’s need to represent things outside itself; the resulting beliefs reliably match the properties of the attended object – and shows how, in virtue of these two features, the relation secures justificatory convergence and, therefore, aboutness.

All of this is there in *Fixing Reference*, so it is rather dismaying to find myself facing the Hofweber-Ninan objection. Let me use the terms in which Hofweber puts his version of the objection to try to characterize what may have gone wrong. Hofweber distinguishes between what he calls the view that reference is an ‘epistemically relevant relation’, and the view that it is an ‘epistemic relation’. In Hofweber’s terms, to say that reference is an ‘epistemically relevant relation’ is just to say that ‘what our thought are about is connected to something epistemic’. As Hofweber points out, this is a very weak and (therefore) not particularly interesting claim. (For example, if you think that being in a position to know that Russell was a philosopher requires being in a position to think about Russell, that is enough to commit you to this claim.) In contrast, Hofweber thinks the claim that reference is an ‘epistemic relation’ is stronger and more interesting. But what exactly does he take the claim that reference is an ‘epistemic relation’ to be? Discussing the nearby question of what it would be to uphold an epistemic theory of truth, he writes ‘The radical few [who uphold an epistemic theory of truth] assert that truth just is being reasonably believed at the end of inquiry’ [p #; see similar at # #]. So what he seems to have in mind when he talks about ‘reference is an epistemic relation’ views is a family of views according to which to think about an object *just is* to stand in some relation R to the object, where R is an epistemic relation itself explicable in terms that do not appeal to reference or any of its cognates. In these terms, an ‘epistemic relation’ reading of the *aboutness and justification* principle will treat the left hand side as reducible to the right: reference and aboutness as reducible to justificatory convergence.

Given this distinction, we can state Hofweber’s version of the circularity challenge like this:

1 Either Dickie is treating reference as an epistemic relation, or she is treating it as a (merely) epistemically relevant relation.

2 If she is treating reference merely as an epistemically relevant relation, she is (a) not telling us anything surprising (most people will agree that reference and aboutness have some connection with knowledge), and (b) not delivering anything that deserves to be called a ‘theory of reference’.

3 If she is treating reference as an epistemic relation, she is guilty of vicious circularity: she is reducing aboutness to justificatory convergence, but justification must itself be explained in terms of truth and (therefore) aboutness.

So

4 Either Dickie is failing to provide anything interesting and, in particular, failing to provide a theory of reference, or she is guilty of vicious circularity.

When the objection is put like this, I take it that is obvious where the weak point lies. 1 as is not an exhaustive description of the options. As Hofweber seems to be understanding the terms he has introduced – and Ninan seems to be thinking along similar lines – to count as genuinely explanatory, the project of *Fixing Reference* would have to be reductionist, and if the project is reductionist it is doomed to circularity. But why should this suggestion be accepted? I hope that I have said enough to bring out the alternative explanatory strategy that *Fixing Reference* in fact pursues. *First* clarify a range of connections between aboutness, justification, and truth, without trying to reduce any of these to the others. *Then* use these connections to establish a necessary and sufficient condition that a relation to an object must meet if it is to be an aboutness-fixing relation: the relation must make available a means of justification that converges on the object. *Finally*, examine the features of the relations to objects that we know do enable us to think about them, and show how, in virtue of these features, the relations meet this necessary and sufficient condition.⁵

Reply to Heck

Many thanks to Richard Heck for his extremely illuminating comments. I shall focus on two of the points Heck raises. The first concerns the status of what I have called ‘the mind’s need to represent things outside itself’. The second concerns the *Fixing Reference* discussion of the relation between thought and consciousness.

The first point I shall discuss is the suggestion that the need to represent should be regarded as somehow ‘emergent’ from others less highfalutin – needs like the need for food; the need for shelter; the need for freedom from pain. A ‘need’, as I use the term in the book, is a non-conceptual motivational state: it is like an intention in having fulfilment conditions and pushing us towards actions which meet them, and unlike an intention in that a subject may be motivated by a need while lacking the conceptual sophistication to know what it is a need for.

⁵ The circularity objection as I have encountered it in the wild often turns out to arise from the dictum – part of some people’s education, but not mine – that in order to do epistemology ‘you have to start with the truth conditions’ taken as given. The line of thought sketched here and developed in much greater detail in the book emerges only when this dictum is set aside.

Heck is happy (for the purposes of this symposium) to allow that some of our behaviours are motivated by needs. He is even (for current purposes) happy to allow that we need to represent things outside our minds. But he rejects the claim that this need is a non-derivative part of our motivational architecture. An ‘emergent’ property of an entity is a property the entity’s possession of which consists partly in, but is not reducible to, its possession of other properties. Heck suggests that our need to represent things outside our minds stands to our more fundamental needs in some such emergentist ‘unpacking into but not reducible to’ relation.

Now, I do not think anything in *Fixing Reference* that is incompatible with this suggestion. The discussion in the book is intended to be neutral on the question of whether the need to represent is what we might call a ‘ground level’ aspect of our folk psychology, neither emergent from nor reducible to other aspects, or whether its status is, in one of these ways, derivative.⁶ To Heck’s suggestion that the need to represent might be emergent from needs of a more earthy variety, the author of *Fixing Reference* replies ‘Well, yes, it might be’. So I take Heck’s emergentist suggestion to be an invitation towards further exploration of the claim that the mind needs to represent things outside itself rather than a point of genuine disagreement.

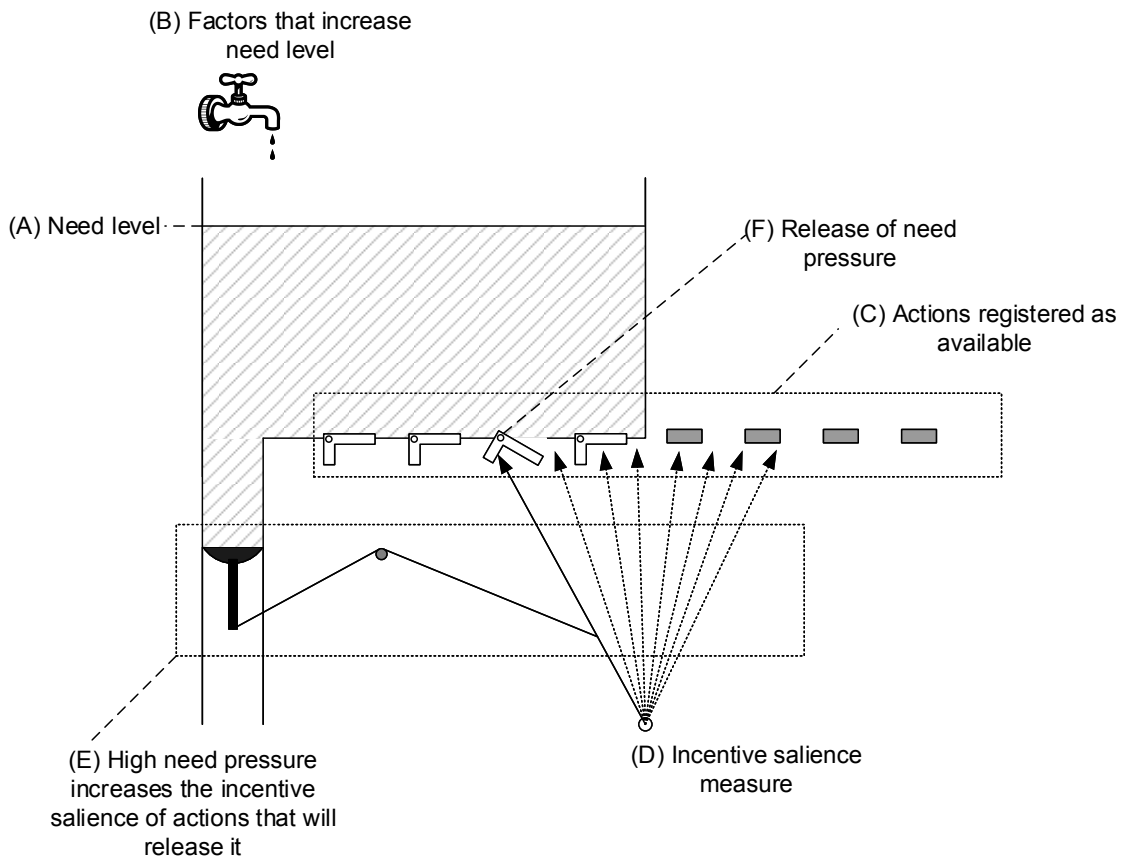
The next few pages take some preliminary steps towards this further exploration. I shall first say a little about the causal structure of motivation by needs. Then I shall consider how Heck’s emergentist suggestion might be filled out. Finally, I shall say a (very) little about how the issue Heck raises – whether the need to represent is a ground-level component of our folk psychological architecture, or whether its status is derivative – might be resolved.

The claim that some of our behaviours are motivated by needs is (among other things) a causal claim – the claim that the relevant behaviours are upshots of a specific kind of causal mechanism. Exactly what such mechanisms look like is an empirical matter upon which there is a growing body of empirical research. I shall sketch what I take to be the basic agreed elements of this developing empirical story.⁷

Consider a low-brow need of the kind Heck is suggesting should be accorded ground level folk psychological status. This diagram sets out the central structural components of the basic empirical story of how such needs operate, with the key below walking through the mechanism for the case where the need at issue is the need for food. In broad-strokes terms, the idea is that for this kind of case, having the need for X – sustenance; security – involves a way to monitor X-levels, and a mechanism which, when X-levels fall too low, raises the incentive salience of behaviours that will restore them. If nothing intervenes, the raised incentive salience of X-delivering behaviours results in an increase in these behaviours and (therefore) in X-levels, at which point the boost in incentive salience for X-delivering behaviours falls away. So motivation by a need operates like a pressure-and-release system: high need levels generate pressure towards actions that will fulfil the need; these actions fulfil the need and the motivational pressure is released:

⁶ Hindsight reveals ‘basic need’ as a poor choice of terminology given this intended neutrality. I say ‘basic need’ rather than just ‘need’ to distinguish ‘needs’ in my sense – nonconceptual motivational states – from ‘needs’ construed as conditions for the attainment of ends. (6n, 100). So in the intended sense of ‘basic’, there is no barrier to an emergentist account of a basic need.

⁷ The central elements of what follows are drawn from Berridge 2004.



| | |
|---|---|
| A | Level of hunger |
| B | Detection of stomach-emptiness; monitoring of time since last meal; seasonal factors; and so on. |
| C | Actions that are registered as available given current sensory input; these will include a range of behaviours including doing things other than eating. |
| D | The need-independent incentive salience of eating a food you do not particularly like is low. The need-independent incentive salience of eating a food you like a lot is high. If there are no other needs pressing upon you, you may well eat something you like a lot even if you are not hungry. |
| E | High hunger raises the incentive salience of eating foods that satisfy hunger; given sufficiently high hunger, you will choose X (which you normally don't like, but which is filling) over Y (which is not filling at all but which you like a lot). |
| F | Registration of eating diminishes hunger. |

The empirical studies which have generated this model have all concerned what we might call (following Heck) the 'non-luxurious' aspects of human nature. However, it is not hard to see how the claim that the mind needs to think about things outside itself might be grafted onto the extant empirical picture. The idea would be that we have a 'pressure and release' motivational system where the quantity being monitored and kept above some (moveable) threshold is the level of cognitive focus:

(A) Our minds have some mechanism for monitoring the level of cognitive focus being attained.

(B) This level depends on factors such as unused capacity for concentration, deprivation (or not) of food for thought, and priming with ‘curiosity’ words like ‘What is it?’, ‘How many?’, ‘Which one?’ (this is not intended to be an exhaustive list).

(C) Given current sensory input, a range of competing actions (including mental actions) are registered as available.

(D) These actions have various face-value incentive saliences (where an action’s face-value incentive salience is inversely proportional to the level of need pressure required to make it the most likely action to be performed).

(E) High need levels (having not enough cognitive focus) skews incentive salience in favour of marshalling incoming information in ways that will generate and sustain cognitive focus relations.

(F) Performance of this kind of information marshalling – formation and maintenance of bodies of belief of the kind we standardly express using ordinary demonstratives and proper names – releases the motivational pressure (though this pressure will rise again).

If this (A)-(F) story is true, it vindicates the most straightforward version of the claim that the mind needs to represent things outside itself. According to this version of the claim, cognitive hunger is as ground-level an aspect of our psychological architecture as is literal hunger: we need literal food; we also need food for thought; the second need is no more derivative an aspect of our psychological lives than the first.

But the pressure-and-release diagram also suggests other, less straightforward ways that the claim that we need to think about things outside the mind might be understood.

Here is one possibility. Suppose that there is some creature in whom guidance of behaviours by non-conceptual motivational states works as the initial diagram lays down. And suppose that this creature has a range of ground level needs – the needs for X, Y, and Z: for each of these needs, there is a need level (A), which is increased by relevant factors (B), and which generates pressure towards the relevant kind of action. But given the creature’s capacities and environment, the only method that allows it to keep the X, Y, and Z levels within an acceptable range is one that generates X, Y, and Z *by first generating W*. For this reason, the creature is set up in such a way that when the absence of X, Y, and Z generates motivational pressure, the actions whose incentive salience is raised (C) are W-generating actions which also generate X, Y, and Z. And in fact the creature is set up in such a way that it is only when the levels of needs for X, Y, and Z are being kept in check by W-generating-behaviours that the combined motivational pressure is released.

This is one way the suggestion that the need to represent is emergent from ground level needs might be understood. The idea would be that the ground level needs are the needs for food, shelter, freedom from pain and fear, companionship, the raising of young, and so on. Then the suggestion would be that (a) it is only by managing to represent things outside the mind that we are able reliably to generate behaviour patterns keep up with these basic demands; and (b) it is only when the ground-level ends are attained by the ‘first attain cognitive focus’ path that the motivational pressure generated by the ground-level needs is genuinely released (perhaps we are

set up to look for non-lucky means to filling of our ground-level needs, and it is only where the path to getting some required X goes by way of representation of things outside the mind that it is registered as getting X non-luckily).

A second emergentist possibility is most easily brought out using a parallel example. Consider an endurance swimmer attempting to cross the English Channel. The swimmer's output behaviour – arm over arm for many cold hours – is the causal upshot of the intention to get to the other side (perhaps broken down into the intentions to keep going for an hour, then the next hour, then the next...). But it would be a mistake to think that the motivational story for the athlete's behaviour is exhausted by the goal this intention encodes – if the athlete finds herself on the other side of the channel having swum all the way but without having encountered the characteristic suffering-overcoming-euphoria pattern that endurance athletes describe, the motivational package that was driving her to do what she did will remain unfulfilled. The full motivational story will recognize that, though the actions are the upshot of the intention, what the swimmer is after is something more layered – to swim the channel in a way that generates a characteristic suffering-overcoming-elation sequence.

Similarly, the suggestion might be, the achievement of cognitive focus is an upshot or byproduct of behaviours motivated by ground level needs, but one without which the motivational pressure associated with these needs will not be released. (Again, maybe the point is that it is only where food, shelter and so on are got in a way that also generates cognitive focus that the means by which they are got are at all reliable, and prudent nature has set us up in such a way that genuine release of the motivational pressure requires not just getting X, but getting it in a way that will reliably deliver X again.)

We now have in place three accounts⁸ of how the mind's need to represent things outside itself might sit relative to our overall motivational architecture: an account that treats the need to represent as having the same ground level status as the needs for food and for freedom from fear, and two emergentist alternatives. Though it would extend this reply beyond allowed limits to argue for this point, I assert that each of these accounts is consistent with the role played by the need to represent in the *Fixing Reference* framework. (Heck provides an accurate and economical account of this role on p#. I add some detail at pp##.)

But the fact that the project of the book is consistent with various accounts of the need to represent does not make the question of which option is right go away. So which option *is* right? Is there cognitive hunger which is as non-derivative as real hunger? Or is the need to represent merely emergent from the needs that really underlie our acting as we do?

I take this to be an empirical question – the question of whether the (A)-(F) story on p# captures a genuine part of our psychological architecture. At the time of writing I know of no empirical work that will close this question one way or another – though I hazard the claim that the empirical work there is contains no grounds for denying that what I call in the book 'rational' needs, like the need to represent, have non-derivative, ground level status. Under these circumstances, rather than speculating on how the empirical enquiry, should anybody undertake it, will turn out, I shall rest with pushing back a little against what I take to be the intuitive thought behind Heck's reluctance to accord the need to represent non-derivative status.

⁸ I do not mean to shut off the possibility of other emergentist or reductionist possibilities. I have laid out only the options that strike me as most obvious with respect to Heck's suggestion that the need to represent is emergent from needs like the needs for food, shelter, and so on.

Heck writes ‘My main worry about this story is that cognitive hunger...seems to be far too luxurious a need to be necessary for aboutness. I suspect that most people who have lived would have relished the sort of leisure that left them craving food for thought.’ (p#).

Here are two thoughts that I take it lie behind this remark. Firstly, we are very busy scurrying around doing things other than just thinking about objects outside the mind. Secondly, any situation in which the needs that are motivating this busy scurrying are met, and we can pause to notice the need to represent – to be aware of needing food for thought, or to be aware of a relation to an object as fulfilling this need – will be a situation of rare luxury relative to the lives most of us lead.

I take it that both these claims are right. But I do not see that they really generate a reason to deny the need to represent non-derivative status. Compare the need to breathe. We are usually busy doing many things in addition to breathing. And a situation in which you are able to sit back and notice your need to breathe doing its regulatory work is rare: it might be a situation involving some kind of duress (not *enough* air...) or one of comparative luxury (shut your eyes and focus on your breath). The need to breathe is usually unnoticed because usually met. But it is there nevertheless, generating the behaviour that meets it. We notice it when we are unable to fulfil it, or when we have the luxury of sitting back – other needs met for the moment – to feel it playing its pressure-and-release role.

If the need to represent has non-derivative status, it is a need to which the parallel story applies. The many things we are scurrying around doing ourselves involve thinking about things outside the mind, so the need to represent is generally met as we go about our busy lives. Because the need is generally met, it usually goes unnoticed, except at times of overload (you have too much to think about, so that the pressure-and-release mechanism that lies behind our ordinary thoughts about ordinary things breaks down) or deprivation, or when you have the luxury of just sitting and letting thoughts formed by uptake from perception and testimony take shape, in which case if you try hard (compare ‘focus on your breath’) an aspect of your motivational architecture which normally goes unnoticed can be brought into introspective view.

The second element of Heck’s commentary that I shall discuss concerns the relation between thought and consciousness. In Ch8 of *Fixing Reference*, I raise the question of what is missing from an account of thought that leaves consciousness out. Heck declares himself puzzled by my answer, for which I blame myself and apologise. In the rest of these comments I attempt to clarify the proposal.

Let me start with Dretske’s coke machine⁹. You put your dollar in; the coin moves through the machine the way it does; a coke rolls out. If we now ask *why* the coke rolled out, Dretske observes that there are two answers that might suggest themselves. One appeals to monetary value: the coke cost a dollar; that is why you got a coke out when you put a dollar in; had you put in only 90 cents you would have remained cokeless. The other answer is in terms of the coin’s intrinsic properties, and the way the machine responds to them. The machine is configured in such a way that detection of ingress by something with *this* combination of weight, size, shape, and whatever else (inscription? density?) causes opening of the coke-release trapdoor. As Dretske points out, these two answers are addressing different ‘Why did the coke roll out?’ questions. It is only the second answer – the answer in terms of the coin’s weight, size, shape, and so on – that is getting at the causal mechanism by which coin ingress causes coke egress. The first answer is actually addressed to the question ‘Why does the mechanism by which coin ingress causes coke egress exist?’ The mechanism exists (partly) because the having of this

⁹ Dretske 2000. See also Dretske 2010, and elsewhere.

shape, size, and weight is, in our environment, reliably correlated with being produced in a way which is mandated by law as a means of production for things that may be used to play the ‘use to buy something declared to be worth a dollar’ role in monetary exchange. If the coin’s weight, size, shape, and so on were *not* reliably correlated with ‘worth a dollar’ causal antecedents, the machine would not be configured to respond to them by releasing a dollar’s worth of coke. In Dretske’s terms, the explanation for the coin-ingress-coke-egress transaction in terms of the machine’s response to the coin’s weight, size, and shape is a ‘triggering cause’ explanation – an explanation laying down the causal mechanism by which one event generates another. The explanation in terms of the coin’s value is a ‘structuring cause’ explanation – an account of why the triggering cause mechanism exists.

Dretske argued that there is a strong parallel between the relevance of monetary value facts to the causal story that underlies the ‘coin in; coke out’ transaction, and the relevance of intentional facts to accounts of the causal story that underlies our behaviours. Think of a propositional attitude, for example a belief, as a vehicle, and ask yourself why having this attitude, in combination with various others, causes you to act as you do. Dretske, following many others, suggested that the nuts-and-bolts causal story here will not appeal to the fact that the belief represents the world as being one way rather than the other. He contended that the belief plays the causal role it does in virtue of intrinsic physical properties of the vehicle (compare the weight, size, and so on of the coin), properties that can be characterized without even mentioning the kinds of links with external world objects and properties in virtue of which the vehicle has the representational content it does. One option at this point is to argue that the content-conferring properties of beliefs are in fact intrinsic properties of beliefs construed as vehicles: the now unpopular suggestion that a vehicle has an intrinsic qualitative nature and represents things in the world in virtue of a qualitative resemblance between mental vehicle and worldly entity is one version of this kind of view. Dretske’s innovation was to point out that we can recognize a belief’s representational content as relevant to the story about why it causes the behaviours it does without commitment to any such extreme internalism. He suggested that a mental vehicle’s representational content is relevant to the story about causation in the mind in something like the way the coin’s value is relevant in the coke machine case. In general, vehicles whose intrinsic properties generate *this* kind of causal pathway in the mind also have *these* content-conferring relations to external world entities: the causally relevant intrinsic properties of mental vehicles supervene on the content-determining hook-ups between these vehicles and external world entities. And it is only because this supervenience holds that the vehicle plays the kind of causal role it does: a state of the brain whose intrinsic properties do not supervene on the kinds of relations with external world entities which are content-determining does not play the kind of causal role characteristic of the propositional attitudes. So, though an accurate triggering cause story of causation in the mind – the story of why state s_{n+1} succeeds state s_n – will make no appeal to the fact that these states have representational content, it is because the states have the representational content they do that they figure in this kind of nuts-and-bolts story.

This much is just summary of Dretske’s wonderfully illuminating work in this area. Ch 8 of *Fixing Reference* uses Dretske’s discussion as the backdrop for a new answer to the question of what is missing from accounts of thought that leave consciousness out – an answer to this question that the framework of the book makes available. I argue that if, but only if, we embrace a version of the framework that assigns an essential role to subjective consciousness, we can see the fact that our mental states are about things in the world as playing a genuine role in the story of causation in the mind: a role that parallels the role played by the facts about a coin’s weight,

size and shape in the ‘coin in; coke out’ transaction, rather than the role played by its monetary value.

I shall try to bring out the intuitive line of thought behind the argument.

Consider a body of beliefs that the subject would express using a singular term – what some philosophers call a ‘mental file’.¹⁰ A mental file is generated and maintained by information-marshalling activity. In the *Fixing Reference* framework, this activity is guided by a motivational state of the subject, the mind’s need to represent things outside itself: we are trying to achieve cognitive focus on things in the world around us; that is why our mental files develop the way they do. If this suggestion is right, there are mental vehicles which develop the way they do because we are trying to achieve aboutness. This aspect of the *Fixing Reference* proposal brings us tantalising close to the claim that the notion of aboutness has the kind of role Dretske says it cannot have – a role in the triggering cause story of our mental lives. But whether the proposal will take us all the way to this conclusion depends on the role that is assigned to subjective consciousness.

To see how, suppose for the moment that we strip subjective consciousness out of the picture. The result will be a naturalistic version of the *Fixing Reference* proposal. The need to represent will be regarded as playing a role analogous to that of a thermostat in a heating system: we have a setting which determines required levels of cognitive-focus-generating activity; this setting generates pressure towards the information-marshalling activities that give rise to our <that> and <NN> mental files. I describe this naturalized version of the framework in more detail in §8.1. But the important point here is what happens if we try to assign the need to represent a triggering cause role against this naturalistic background.

Take the thermostat first, and consider the following question: ‘Why did the furnace turn on and off and up and down the way it did?’ A triggering-cause answer to this question will involve some version of walking through the circuit diagram: the sensor picked up 16 Celsius as the ambient temperature; the ‘16’ result was fed into *this* switch; when 16 (or any number below 20) is provided as input to the switch, the switch flips, closing the circuit, so that the furnace comes on. This is a longer answer than most of us would usually give. The more usual answer would be ‘Because the system was set at 21 degrees’. But this shorter answer is providing a structuring cause account of why the furnace’s day unfolded the way it did. One way to bring this out is to ask *what makes it the case* that the system is set at 21 Celsius. It is tempting to say ‘the fact that the dial is set at 21’, but anybody who has dealt with an institutional heating system is familiar with the gap between where the system is *actually* set, and where its screen or dial says that it is set. What makes 21 the temperature at which the system is *actually* set is the fact that this is the temperature around which the system settles – the temperature that the furnace’s activities will tend to maintain. So we have the following:

Claim A – What makes 21 Celsius the temperature at which the system is set is the fact that this is the temperature the furnace’s activities will tend to maintain.

Suppose we now try to appeal to the fact that the system is set at 21 Celsius to provide a triggering cause account of why the furnace followed the sequence it did, saying something like this:

¹⁰ I usually avoid this term for reasons explained in Dickie (forthcoming), but in this case I think it helps to bring out the comparison with Dretske’s coke machine more clearly.

Claim B – The furnace followed the sequence it did because the system was set at 21 Celsius.

Given Claim A, Claim B – the attempted triggering-cause explanation – collapses into the unexplanatory Claim C:

Claim C – The furnace followed the sequence it did (a sequence which maintained the temperature at 21 Celsius) because 21 Celsius is the temperature that the furnace’s activities tend to maintain.

Claim C is the unlovely result of trying to force a factor whose home lies in a structuring-cause account of the furnace’s trajectory to play a triggering-cause explanatory role. The fact that the system is set at 21 Celsius explains why the triggering-cause mechanism exists (why the system is in a state such that *these* inputs flip *this* switch, and so on). Treating this structuring-cause factor as part of the triggering-cause story is treating a factor which explains a mechanism’s existence as a part of the mechanism whose existence is being explained – hence the unlovely Claim C.

I have suggested that if we strip out all talk of subjective consciousness, the role played by the level of the need to represent becomes analogous to the role played by a heating system’s thermostat setting. So let us ask a parallel to the question about the thermostat: *What makes it the case* that the information processing that generates our <that> and <NN> mental files is guided by the need to represent? If we are doing without appeals to subjective consciousness, the answer will have to be Claim A:

Claim A – What makes aboutness (cognitive focus) the goal of the information-processing systems that generate our <that> and <NN> mental files is that these systems tend to generate cognitive focus.

And now suppose we attempt to weave the need for aboutness – the fact that we are trying to achieve cognitive focus – into a triggering cause account of why our mental lives unfold as they do, saying things like this:

Claim B – A <that> file develops as it does because it is generated by an information-processing system whose goal is cognitive focus.

Putting Claim A and Claim B together, we get the unexplanatory Claim C:

Claim C – A <that> file develops as it does (in a way that establishes and sustains cognitive focus) because cognitive focus is what the information-processing system that generates it tends to establish and sustain.

Like the parallel claim about the heating system, Claim C is the unexplanatory result of trying to force a structuring cause notion to play a triggering cause role. In the naturalistic version of the *Fixing Reference* framework – the version which makes no appeal to subjective consciousness – the fact that we need to achieve cognitive focus explains why we have the mechanisms for formation of <that> and <NN> beliefs that we do: because we need cognitive focus, and these mechanisms deliver it. But in the naturalistic framework, the need to represent

can play no role in the triggering cause, nuts-and-bolts story of what moves a mental file from one state to the next.

If I have made myself sufficiently clear, this conclusion will be recognizable as a variant on Dretske's claim that the representational properties of mental vehicles have a role only in the structuring cause story – not the triggering cause story – of why our mental lives unfold as they do. So from a naturalistic point of view, what the discussion of Ch 8 offers is a new route to an old conclusion.

That is what happens when we take subjective consciousness out of the picture. What happens when we put it back in?

Now, there are numerous points in the story about formation, deployment and communication of singular thoughts where the question of whether it matters that some relevant mental state is subjectively conscious becomes live. (For example, one topic in recent work on perceptual demonstrative thought is whether 'blindsight'-type perceptual contact with the world, usually regarded as delivering information without awareness, could underpin <that> thoughts about the object at the other end of the perceptual link. I address this issue in §8.4.) But for present purposes the important question is what happens within the *Fixing Reference* framework if we allow subjective consciousness back into our account of motivation by needs.

Consider again the (A)-(F) diagram on p#. Scientists working in this delicate area locate a role for subjective consciousness at two distinct points relative to this diagram. Firstly, subjective consciousness shows up at (E) – the pressure generated by high need level intrudes on consciousness; a state of high need level is a state that it is uncomfortable-because-unstable and unstable-because-uncomfortable to be in. Secondly, subjective consciousness shows up at (F): an action that releases need pressure is felt by the subject as generating a characteristic kind of satisfaction (if the feeling of satisfaction is blocked, the need pressure is not released). For the case of the need to represent, the point will be that a state of deprivation of food for thought is a state that is uncomfortable-because-unstable and unstable-because-uncomfortable, and that forming and maintaining a <that> or <NN> file carries a characteristic kind of satisfaction: the satisfaction of reaching and occupying a stable-because-comfortable and comfortable-because-stable state.

Against this background, with consciousness woven back into the picture, we are no longer stuck with Claim A-type characterization of what makes aboutness the goal of the information processing which generates our <that> and <NN> mental files. Rather, we can say something like this:

What makes aboutness (cognitive focus) the goal of the information-marshalling that generates our <that> and <NN> mental files is that we are pushed towards cognitive-focus-generating information marshalling by the felt instability of states where there is not enough of it going on, and it is by the achievement of cognitive focus that the felt instability is relieved.

And given this account of what makes cognitive focus the goal of the information-marshalling that generates our <that> and <NN> mental files, the need for cognitive focus emerges as playing a triggering-cause role in our mental lives. Suppose that you are receiving an attentional perceptual feed. Your need for cognitive focus pushes you to respond to the feed by forming and maintaining a <that> mental file. You form and maintain the file because doing so generates the satisfaction characteristic of achievement of cognitive focus.

So when we build subjective consciousness into the account of motivation by needs, the *Fixing Reference* framework generates the conclusion towards which I gestured as tantalizing but as yet unattained a few pages ago: the conclusion that there are mental vehicles which develop the way they do *because we are trying to achieve aboutness* (in a triggering-cause sense of ‘because’). We now have an answer to the central question of Ch 8 – the question of what is missing from an account of the intentionality of thought that leaves subjective consciousness out. In the *Fixing Reference* framework, the fact that we are trying to achieve cognitive focus – to tune in on things in the world around us – emerges as part of the triggering-cause story of why our mental lives unfold the way they do if, but only if, we tell a story about needs which recognizes that they are motivational states of subjectively conscious subjects.¹¹

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¹¹ In my eagerness to explain myself I am aware of having failed to engage fully with the detail of Heck’s last few paragraphs. Heck writes ‘The question Dretske raises is whether we have to mention the contents of our mental states (as opposed to their neurology) in characterizing the triggering causes of our behavior. And, so far as I can see, this is independent of the question what it is for those mental states to have the content they do. More precisely, even if the need to represent is only a structuring cause of our being in the representational states we are, surely our being in those states could still be a triggering cause of our behavior.’ I take the issue to be which properties of the mental states that in fact are representational states are relevant to these states’ triggering-cause histories. All parties should agree that the states *do have* representational properties. The question is what the relevance is of these properties to the triggering-cause relations in which these states participate. §§8.1-8.3 of *Fixing Reference* – summarized here – attempt to establish that *if* we treat the need to represent as (in Heck’s terms) a ‘felt’ need, their possession of representational content emerges as a property of our mental files that does determine (in the triggering-cause sense of ‘determine’) why they develop as they do.

Heck also suggests that an emergentist account of the need to represent might illuminate how the relations between thought and subjective consciousness plays out in the *Fixing Reference* framework. Though this might be right, my current view is that the central point is whether the need to represent is regarded as generating felt motivational pressure which is felt to be released, and the claim that the need does show up in subjective consciousness in this way is consistent with both the emergentist and ‘ground level’ accounts of how the need fits into our psychological architecture.