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Intellectualism and Psychology

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Abstract

Intellectualism – the thesis that know-how is a kind of know-that – has proved difficult to assess by the traditional philosophical method of conceptual analysis. Recently, some authors have argued that we should instead look to results in psychology – specifically whether all procedural knowledge is declarative knowledge. I argue that such an approach is unsatisfactory, since the concepts employed in psychology do not map onto our concepts of knowledge in any neat way. There is no straightforward psychological interpretation of the intellectualist thesis.

Keywords: Intellectualism; knowledge; know-how

1. Introduction

It's a widely held belief that conceptual analysis is an ineffective approach to understanding knowledge. And it's natural to think this deficiency extends to the question of intellectualism – that is, the claim that knowing-how is a kind of knowing that. But if we aren't to assess this thesis by examining our intuitions, then what should we do instead? An influential and exciting view is that we must look to psychology – I'll call this approach *psychologism*. Looking to our best scientific theory of the mind seems a sure-fire way to obtain interesting results relevant to both philosophy of mind and epistemology. According to many proponents of psychologism, the intellectualist thesis boils down to the claim that all procedural knowledge is declarative knowledge. This is a tractable empirical question – indeed, it's plausibly one that that has already been answered in the negative. Thus psychologism promises to resolve a long-standing seemingly intractable philosophical debate.

In this paper I will examine whether psychologism does provide an attractive solution to intellectualism. I will argue that it does not – at least not as advertised. Contrary to what proponents of psychologism claim, the know-that/declarative knowledge identification does not go through smoothly. Instead psychologism forces us towards either revisionism or even eliminativism about knowledge. The reason for this is that there is no *single* psychological kind that can be identified with know-that (or know-how). If all there was to know about attitude states was determined by psychology, it would appear there is no place for knowledge in a mature picture of the mind.

I suggest, in my final remarks, that this conclusion should be resisted, in virtue of the *practical* significance of knowledge attribution. Attributing knowledge to our peers is an incredibly useful practice, whether or not it latches onto a psychological kind. This suggests a new approach to investigating knowledge – and plausibly the folk psychological concepts more generally – one that builds upon the pragmatist tradition.

2. Articulating Psychologism

To begin, we must clarify the topic of investigation. We are looking at whether psychologism delivers an interesting verdict on the intellectualist thesis, which can be understood as follows:

Intellectualism: For S to know how to φ *just is* for S to know that p, for an appropriate proposition p.[1] (p will contain information on how one should φ)

This thesis is highly contentious, since paradigm cases of know-how and know-that are very different from each other. In particular, when a subject knows that p, she will typically assert that p if asked, whereas the same cannot be said for know-how. I know that Morpeth is a town in the north of England, and will say so if anyone asks. In contrast, though I know how to ride a bike, I am unable to articulate many of the essential features of this activity. For example, until recently I would confidently assert that one must lean right when approaching a turn to the right. However, I recently learned (from Elga & Rayo (ms)) that one must initially lean *left* – and of course I had been leaning this way all along.

On a traditional approach, one must weigh the intuitions counting for and against intellectualism, and go with those that seem, on balance, stronger. There is reason to be pessimistic about this strategy's prospects. It's unclear that there is a satisfactory way to balance the competing intuitions so the debate seems bound for an *impasse*. Further, even if we do come up with an answer that maximizes intuition satisfaction, it's unclear why such a thing is of serious philosophical interest.[2]

Psychologism seems to offer a remedy to these troubles. According to the view, intellectualism is an empirical thesis to be decided by investigation into our psychological structure. Know-how and know-that are psychological

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[1] The phrase 'just is' stands for some sort of equivalence between the two propositions flanking it. The minimal reading of this is as of having minimal truth conditions (i.e. as 'if and only if'). This will do for our purposes since even the minimal version of intellectualism is highly contested.
[2] This line of argument is forcefully pushed by Devitt (2011) and Kornblith (2002)

states, and thus it is for psychology to determine whether the former is an instance of the latter. This gives us the following:

Psychologism: Find the appropriate psychological kinds to be identified with know-how and know-that, then investigate (experimentally) the relationship between the two kinds of state.

The preliminary problem faced by psychologism is to give conditions for when a psychological kind is fit for identification with a folk concept such as know-how or know-that. What could justify identifying know-that and know-how with declarative knowledge and procedural knowledge respectively?[3] As Devitt notes, many cognitive scientists themselves make such identifications, so one might be tempted to think we should defer to the experts here – but this would be a mistake. [4] It is clear that psychologists can be pretty loose with the term 'knowledge' – they are rarely concerned with whether the states in questions meet a justification condition, and in some cases don't even care whether it's factive.[5] By analogy, we shouldn't conclude that fairly simple computers have mental states from the fact that computer scientists talk about what such systems 'know' – theorists will often use such terms *opportunistically*, if it allows them to communicate the gist of their ideas in a snappy way. This suggests we should have independent means to check whether their use is valid.

One needs to show that the relevant psychological kind possesses features that make it a suitable candidate for knowledge. The key question is: what are the criteria for something being a 'suitable candidate'? The standard line here is to look for the natural kind which roughly fits with the folk application conditions. Therefore, we need a psychological kind which is present in a good number of paradigm cases of knowledge, and that satisfies some of the central intuitive principles about knowledge states.[6] Crucially, these criteria of fit must be loose enough to remain neutral on the contested intuitions surrounding knowledge, otherwise we will fail to avoid the *impasse* that upset conceptual analysis.[7]

In a best case scenario, there will be a *unique* psychological kind meeting the uncontentious criteria for knowledge that – being present in (enough) paradigmatic cases of know-that, and not present in (too many) clear cut

cases of an absence of knowledge. One will be able to identify this state with know-that without begging any conceptual questions, and then go on to investigate whether such a state is present in typical cases of know-how – an empirical question!

If there are too many kinds in the ball-park, psychologism will be unable to select a candidate unambiguously. To see this, let's assume that in paradigm cases of knowledge, one can both assert the relevant information and use it to guide action. Take my knowledge that David Lewis taught at Princeton. I can both assert this when asked and use this information to guide action where necessary (for example, if a friend tells me to meet them at Lewis' university). So I have a token knowledge state which is an instance of both a restrictive type (call it F) which entails assertibility, and a broader type (call it G) which only requires action guidance. Now if only one out of F and G is a psychologically significant kind then psychologism tells us that this state is know-that – and we have a solution to intellectualism one way or the other, depending on whether it's the narrow or broad state. However, if both are psychologically significant kinds, psychologism will not deliver a verdict as to which is know-that – since both fit roughly with our ordinary concept of knowledge. Thus the plausibility of psychologism hinges on whether the uniqueness condition is met. In the next section, I'll argue that an examination of the evidence provides reason for scepticism.

3. Assessing Psychologism

We need to investigate whether the proposed psychological reduction is plausible. To do this, we must get clear on what the declarative/procedural distinction amounts to. As Stanley (2011) argues, it is not entirely clear how this distinction is to be understood in psychology – as opposed to computer science where it originated.[8] A first pass attempt at this would be to identify states of know-that with *sentential* representations – in contrast with the cognitive machinery that manipulates such representations.[9] This seems like a reasonable gloss on what it is for a state to be declarative rather than merely procedural.

Of course not just any sentential representation is fit to be identified with knowledge. A basic point is that not all sentences can be knowledge states since some of them will be *false* and others may function as desires rather than as *information*. So to get something plausible we need to add in the assumption that there is a psychologically significant distinction between those sentential representations that are information states and those that are desires or any other

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[3] This claim is made by Adams (2009), Devitt (2011) and Wallis (2008).

[4] See Devitt (2011). However, Stanley points to instances in which psychologists reject these identifications – see his (2011) ch 7.

[5] See Machery (2009) p 8

[6] This approach is defended by Kornblith (2002) and Weatherson (2003)

[7] Both Devitt (2011) and Adams (2009) move a little too quickly from the inaccessibility of procedural knowledge, to the conclusion that it is not know-that.

[8] Though Stanley raises some interesting problems for psychologism, I don't think he considers the strongest version of the view before dismissing it. I aim to remedy this here.

[9] And thus following in the footsteps of the traditional sentential account of belief proposed by Fodor (1975).

attitudes. Second, we need to assume that there is a psychological distinction between information states that are true and (appropriately) justified and thus knowledge as opposed to *mere belief*. The best bet for this, would be to single out representations formed as a result of non-defective (and so reliable) processes. If no psychological kind meets these rough criteria, it's natural to take psychologism to entail that there's no such thing as knowledge, only belief.

An old objection to this kind of view is that it holds our account of knowledge hostage to empirical assumptions about the nature of the mind – if it turns out there is no language of thought, it seems that there will be no knowledge states. However, since we're assuming (for dialectical purposes) conceptual analysis is mistaken, this argument should not impress us. We shouldn't expect to be able come up with conditions for knowledge that are *a priori* secure – this leads to futility. Instead, it's enough that our account be based on premises that are good working assumptions, given our current empirical knowledge. It's widely held that the claim that our mental system involves sentential representations *is* a good working assumption – at least I won't dispute this in what follows.

However, a sentential account is in danger of getting the scope of knowledge that radically wrong. All sorts of clearly sub-personal states quite possibly involve sentential representation, such as pre-perceptual visual processing (roughly, the process that turns the two-dimensional retinal images into a single 3D perception.)[10]

Fortunately, there is a psychologically significant distinction that promises to rule out such clearly sub-personal states: that between representations in *modules* and representations in the *central system*.[11] Thus, I think the best bet for a psychological state that lines up with know-that is, roughly, a sentential representation in the central system. It is not question begging since it doesn't build-in an articulation condition; it is a substantive empirical question whether we have conscious access to all centrally stored sentential representations. Further, this is the reduction Devitt seems to lean towards, which suggests we're on the right track.[12] Thus we arrive at the following:

Psychological Knowledge: S knows that p iff p is true, and S has a centrally stored sentential representation with p as its content and such that the representation is non-defectively formed.

If such an account were empirically secure – i.e. if its commitments were plausible working assumptions – and if it fit roughly with our intuitive notion of knowledge, then psychologism would be a promising approach. However, I will argue that this is not the case. There are a number of reasons to doubt the assumptions built into *Psychological Knowledge*.

The first problem concerns the notion of a *central system*. Though it seems safe to assume that mental processes involve sentential representations, the same cannot be said for the presence of a central system. On the one hand, there have been many challenges concerning the extent to which the perceptual systems do in fact constitute modules. As Prinz notes, there is a great deal of evidence suggesting there can be top-down influence on our perceptual states – for example when listening to a sentence with a deleted phoneme, we will hear the sound that makes for a coherent sentence. He notes that "If subjects hear, "The 'eel is on the axel," they experience a "w" sound in the gap. If they hear, "The 'eel is on the orange," they experience a "p" sound."[13]

On the other hand, many authors reject the idea of a single central system and suggest the mind is 'massively modular' so that even the representations involved in the various conscious processes do not constitute a single integrated system.[14] Pinker, for example, argues that the mind has separate modules dedicated to, among other things, humour, mindreading and sexuality. Together, this suggests that it is at the very least an open question whether psychology will present a clear cut distinction between central and non-central representational states, fit to mark the boundaries of know-that.

Another worry comes from junk sentences in the long-term memory. It's plausible to think that a whole lot of information gets stored in our long-term memory that is almost never employed. Mandelbaum (2014) argues that every proposition we ever *entertain* is stored in long-term memory, based primarily on the memory asymmetry results of Gilbert et al. (1990). The psychology of judgements and decision-making investigates whether and when various bits of information are employed in guiding action.[15] The key point for our purposes is that a sentential representation (even one in the central system) must stand in the appropriate relations to the mind's heuristic machinery to be of significance. It's not clear that there is a psychologically significant distinction between those representations apt to get called up in a range of situations and those which are generally idle – see Mandelbaum (2014) for an argument that all stored sentences are of a kind, from the perspective of psychological theory. This suggests that *Psychological Knowledge* would require radically expanding the extension of knowledge, to include all sorts of things we have no interest in.

A different set of empirical considerations arise from the fact that there are quite possibly many mental states which are not *sentential* representations – yet seem like instances of knowledge. One example of this is visual memory. Often

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[10] This problem is noted by Stich (1978).
[11] See Fodor (1983).
[12] See Devitt (2011) p 210.

[13] Prinz (2006) p. 31. The results on phoneme deletion come from (Warren & Warren, 1970).
[14] See Pinker (1997), Carruthers (2006).
[15] See, e.g., Payne and Bettman (2004)

our behaviour is guided by visual memory – this is both consciously accessible and has an action-guiding role. However, whether mental images involve purely sentential representation is an open question. It is rejected categorically by Kosslyn (1996), and in more moderate fashion by Tye (2000).[16]

A second example is that of *analogue magnitude states*. Beck (2012) has argued that a distinct type of representation is formed when we have to make a snap judgment about the magnitude (number, length etc.) of some object(s) – when we are not able to count or measure it. In his words we form a 'noisy, analogue' representation; one that allows us to make rough judgements but not fine-grained ones. If Beck is right, such states cannot be sentential representations but we might still want to classify them as knowledge. Therefore, even if there is a respectable psychological kind lining up with the notion of a sentential representation in the central system, it quite possible that such a kind will exclude much of what we want to count as knowledge.

This shows that it is far from a safe bet that *Psychological Knowledge* gets us a state that fits nicely with our concept of knowledge. Moreover, I think the discussion also shows that no amendment will be able to rectify this. It's plausible to think that our best taxonomy of psychological states will be very fine-grained. First, this will include different kinds of analogue and sentential states. Second, states can be classified according to which module they belong to – whether these are traditional perceptual modules or the modules involved in central processes entertained by Pinker. Third, states can be classified in terms of how likely they are to be *accessed* in different circumstances, in virtue of the agent's structure of heuristics. Any single one of the categories is going to be too narrow to identify with knowledge. Moreover, there doesn't appear to be a single theoretically privileged way of grouping together a certain collection of these fine-grained states as different kinds of know-that – there is no theoretically privileged place to draw the line.

4. Conclusion

At this point the hard-core psychologist might argue that the correct conclusion to draw is an error theory about knowledge. Either, we should go with *Psychological Knowledge* despite the radical consequences, or replace our single concept of knowledge with a family of more fine-grained notions – or perhaps we should scrap talk of knowledge entirely![17] If the only alternative is a return to conceptual analysis, this may be an alternative we have to live with.

A worry I have is that our current practice of knowledge ascription is incredibly *useful*. And it's not clear that the psychological loaded concepts we have to replace it can replicate this utility. I'm tempted, therefore, towards a view on which we move away from *both* conceptual analysis and psychologism, and instead focus on the practical role of knowledge. This suggest a view more in line with the pragmatist tradition, though it's most closely aligned with recent work by Edward Craig (1990) and Sally Haslanger (2012). Indeed this may prove a fruitful methodology for investigating folk psychology more generally – if psychological reductions are equally implausible for other folk concepts, which I suspect will be the case. Whatever one makes of this potential step forward, though, I hope to have shown that psychologism is not a comfortable resting place.

References

Adams, M. P. (2009). Empirical evidence and the knowledge-that/knowledge-how distinction. *Synthese*, *170*(1), 97-114.

Beck, J. (2012). The generality constraint and the structure of thought. *Mind*, *121*(483), 563-600.

Carruthers, P. (2006). *The architecture of the mind*. Oxford University Press.

Churchland, P. M. (1981). Eliminative materialism and the propositional attitudes. *The Journal of Philosophy*, 67-90.

Craig, E. (1990). Knowledge and the state of nature: An essay in conceptual synthesis.

Devitt, M. (2011). Methodology and the nature of knowing how. *The Journal of Philosophy*, *108*(4), 205-218.

Elga, A. & Rayo, A. (ms). Fragmentation and Information Access.

Fodor, J. A. (1975). *The language of thought* (Vol. 5). Harvard University Press.

Fodor, J. A. (1983). *The modularity of mind: An essay on faculty psychology*. MIT press.

Gilbert, D., D. Krull, and M. Malone. 1990. "Unbelieving the Unbelievable: Some Problems in the Rejection of False Information." Journal of Personality and Social Psychology 59 (4): 601–13.

Haslanger, S. (2012). *Resisting reality: Social construction and social critique*. Oxford University Press.

Kornblith, H. (2002). *Knowledge and its Place in Nature*. Oxford University Press

Kosslyn, S. M. (1996). *Image and brain: The resolution of the imagery debate*. MIT press.

Lewis, D. (1972). Psychophysical and theoretical identifications. *Australasian Journal of Philosophy*, *50*(3), 249-258.

Mandelbaum, E. (2014). Thinking is believing. *Inquiry*, *57*(1), 55-96.

Machery, E. (2009). *Doing without concepts* (p. 210). Oxford: Oxford University Press.

Payne, J. W., & Bettman, J. R. (2004). Walking with the scarecrow: The information processing approach to decision research. *Blackwell handbook of judgment and decision making*, 110-132.

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[16] Though Pylyshyn (1981) defends a sentential account of mental imagery.

[17] This is what Churchland (1981) proposes in the case of belief.

Pinker, S. (1997). *How the Mind Works*.

Prinz, J. (2006). Is the mind really modular. *Contemporary debates in cognitive science*, 22-36.

Pylyshyn, Z. W. (1981). The imagery debate: Analogue media versus tacit knowledge. *Psychological review*, *88*(1), 16.

Stanley, J. (2011). *Know how*. Oxford University Press.

Stanley, J., & Williamson, T. (2001). Knowing how. *The Journal of Philosophy*, 411-444.

Stich, S. P. (1978). Beliefs and subdoxastic states. *Philosophy of Science*, 499-518.

Tye, M. (2000). *The Imagery Debate*. Mit Press.

Wallis, C. (2008). Consciousness, context, and know-how. *Synthese*, *160*(1), 123-153.

Warren, R. M., & Warren, R. P. (1970). Auditory illusions and confusions. Scientific American, 223, 30-36.

Weatherson, B. (2003). What good are counterexamples?. *Philosophical Studies*, *115*(1), 1-31.