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Understanding without Justification or Belief

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Abstract

In recent years there has been a resurgence of interest among epistemologists in the nature of understanding, with some authors arguing that understanding should replace knowledge as the primary focus of epistemology. But what is understanding? According to what is often called *the standard view*, understanding is a species of knowledge. Although this view has recently been challenged in various ways, even the critics of the standard view have assumed that understanding requires justification and belief. I argue that it requires neither. If sound, these arguments have important upshots not only for the nature of understanding, but also for its distinctive epistemic value and its role in contemporary epistemology.

1. Introduction

In recent years there has been a resurgence of interest in the nature of understanding among epistemologists, with some authors arguing that understanding should replace knowledge as the primary focus of epistemology. (Zagzebski 2001; Kvanvig 2003; Elgin 2006; Pritchard 2010) But

what is understanding?¹ According to what is often called *the standard view*, understanding is a species of knowledge, where the knowledge in question stands in some intimate relation to explanatory facts or relations. (Kitcher 2002; Lipton 2004; Brogaard 2005; Grimm 2006, 2014) A number of authors have argued that understanding is unlike knowledge in various ways, e.g., by being transparent (Zagzebski 2001), by being immune to Gettier problems (Kvanvig 2003, 2009a, 2009b; Pritchard 2009, 2010), or by not requiring exact truth. (Elgin 2009, Riggs 2009)

However, all of these arguments against the standard view have been challenged in the recent literature (see, e.g., Kvanvig 2009a, Pritchard 2009; Khalifa 2013b), leaving the standard view with at least some plausibility. More importantly, these arguments do not threaten what may be taken as the core of the standard view, viz. that understanding requires approximately true justified belief. This paper aims to challenge this core of the standard view by arguing that understanding requires neither justification nor belief. So while I agree that understanding requires grasping of approximate truth, I will be arguing that understanding has much less in common with knowledge (as standardly conceived) than has been previously recognized, even among critics of the standard view.

¹ It is common to distinguish between different kinds of understanding, some of which are not relevant to epistemology and thus clearly would not replace knowledge as the primary focus of the field. Kvanvig (2003, 2009a, 2009b) takes the kind of understanding that is of special interest to epistemology to be *objectual understanding*, i.e. the understanding that is grammatically followed by an object (as in ‘she understands economic depressions’). By contrast, Pritchard (2009, 2010) is primarily interested in *understanding-why*, i.e. the kind of understanding typically expressed in the form ‘I understand why such-and-such is the case’. Although I will use the locution suggested by objectual understanding, what I have to say will apply *mutatis mutandi* to understanding-why as well. (For discussion on objectual understanding versus understanding-why, see Khalifa (2013a).)

I will proceed as follows. In section 2, I argue that one can understand something without having justification for one's beliefs about it. In section 3, I argue that one can understand something without believing the relevant propositions about it. Finally, in section 4, I conclude by outlining the upshots of these arguments concerning the distinctive epistemic value of understanding and its role in contemporary epistemology.

2. Understanding without Justification

Given a standard analysis of knowledge as justified non-Gettierized true belief, those who take understanding to be a species of knowledge are committed to justification being necessary for understanding. Similarly, at least some of those who reject the view that understanding is a species of knowledge are explicitly or implicitly committed to a justification requirement on understanding. For example, Kvanvig argues that understanding is more valuable than knowledge in virtue of being partly constituted by subjectively justified true beliefs that are systematized and organized in particular ways. (Kvanvig 2003, 202)^{2,3} Agreeing with Kvanvig on this point, Elgin claims that understanding something involves grasping how it 'fits into and is justified by reference to a more comprehensive understanding that embeds it.' (Elgin 2009, 323)⁴

² The restriction to *subjectively* justified belief will not be relevant in what follows, since the argument given below shows that no kind of justification is required for understanding (although see note 10).

³ In a related discussion, Kvanvig puts the same point by saying that 'understanding is composed of beliefs which ... must be justified in order to constitute objectual understanding.' (Kvanvig 2009b, 311)

⁴ In giving her own positive view, Elgin also says that understanding is 'responsive to evidence'. (Elgin 2009, 327) I take this to mean that understanding requires some kind of justification. In any case, the argument given below shows that understanding need not be responsive to evidence (except perhaps in an extremely watered-down sense).

Similarly, Pritchard claims that ‘it is hard to make sense of how an agent could possess understanding and yet lack good reflectively accessible grounds in support of that understanding.’ (Pritchard 2009, 33)^{5,6}

Against all of these authors, I submit that it is possible to have understanding without justification in any relevant sense of the term. Perhaps this point has not been appreciated so far because it can seem as though the very things that make us understand something are also what make us justified in our beliefs about it. Thus Kvanvig claims that understanding something involves grasping how it fits into a system of beliefs in a way that increases its overall explanatory coherence, which in turn justifies one's beliefs about the object of understanding. For example, Kvanvig suggests that one understands the Comanche dominance of the southern plains of North America during much of the 17th, 18th, and 19th centuries if one grasps the various explanatory relations between that dominance and related historical facts about the Comanches and North America. Moreover, according to Kvanvig, the very fact that one grasps these relations in turn justifies one's beliefs about the Comanches in North American, including the

⁵ Again, the restriction to *reflectively accessible* grounds will not be relevant in what follows, since the argument below shows that one may lack good grounds altogether for what one understands, including reflectively accessible grounds (although see note 10).

⁶ Zagzebski (2001) and Riggs (2009) -- who are both virtue epistemologists -- do not explicitly endorse a justification requirement on understanding, but they do not deny it either. Given their frequent comparisons between understanding and knowledge in other respects, this suggest that they might endorse some sort of justification requirement on understanding, perhaps in terms of exhibiting the right kind of epistemic virtues. If so, the argument below will apply to their positions as well.

belief that the Comanches dominated the southern plains during this period. (Kvanvig 2003, 193-202)⁷

While this connection between understanding and justification may seem plausible in many cases, I submit that it does not hold universally. One possible way to argue for this would be to examine whether sentences that affirm understanding but simultaneously deny justification seem defective or contradictory. Consider, for example:

- (1) ‘S understands the Comanche dominance of the southern plains, but S is not justified in believing that the Comanches dominated the southern plains.’

It does not seem to me that there is anything defective or contradictory about sentences like (1). Of course, upon hearing or reading (1), we might find S’s epistemic status lacking in an important respect, but the sentence does not seem defective in the same way as the corresponding statement involving knowledge and justification:

- (2) ‘S knows that the Comanches dominated the southern plains, but S is not justified in believing that the Comanches dominated the southern plains.’

Although this does suggest that understanding and epistemic justification can come apart, I do not want to rely entirely on intuitions about what sorts of linguistic constructions are defective in my argument that understanding does not require justification.

Instead, I will argue that understanding does not require justification by presenting two hypothetical cases in which, intuitively, an agent grasps the explanatory relations required for understanding, and yet fails to have justification for her beliefs about the object of understanding:

⁷ A similar point is made by Elgin (2009, 322-323).

Case 1. Alice is a struggling middle-school student who is yet to find her true academic calling. Having failed miserably at every school assignment this year, Alice now encounters geometry for the first time in her life. Unbeknownst to her, Alice has an innate knack for geometry and therefore (rather impressively) succeeds in deriving the Pythagorean theorem using a version of Pythagoras's original proof without consulting any teacher or textbook. However, from Alice's point of view, her proof of the Pythagorean theorem is no different than her previous attempts at understanding new subject matters in school this year (all of which were failures). So Alice has good reasons to believe that *this* attempt at understanding a new subject matter in school is a failure as well as all past attempts this year, and thus she is not justified in believing that the Pythagorean theorem is true (or that the proof is correct).⁸

This case involves an inductive argument about the cognitive abilities of the agent herself.⁹ The inductive argument in question (or, if you like, the fact that such an argument could easily be given) precludes Alice's beliefs about the Pythagorean theorem from being justified by strongly

⁸ If you think understanding requires belief, then you may (for now) suppose that Alice irrationally forms this belief in spite of his being aware of her dreadful track record in school. (In section 3, I will argue that Alice need not have this belief in order to understand the Pythagorean theorem.)

⁹ The argument is structurally similar to the pessimistic meta-induction against scientific realism (Laudan 1981), except in that this induction can be made as strong as one likes by strengthening the inductive base (e.g. by making Alice's track record even worse). For this reason, the standard objections to the pessimistic meta-induction do not apply here.

suggesting that her proof is mistaken. Nevertheless, Alice clearly understands the Pythagorean theorem.¹⁰

Case 2. Bernie is a retired automobile mechanic living in a very small town in rural America. One morning Bernie reads in the local newspaper that a convicted confidence man is coming to town. The story included a picture of the man and the following warning: ‘This man will try to scam you, so don't believe a word he says.’ The next day, the con man is driving past Bernie's house when his car suddenly breaks down. The con man rings on Bernie's doorbell, and Bernie opens the door. Recognizing the con man face from the newspaper, Bernie decides to stay inside his house while conversing with the con man. The con man tells Bernie what appears to be wrong with the car and solicits Bernie's assistance. Based only on the con man's description of the car's behaviour immediately before the breakdown (all of which is

¹⁰ An anonymous reviewer points out that my description of Alice as having an ‘innate knack’ for geometry suggests that Alice’s beliefs about the Pythagorean theorem result from a reliable process. Therefore, it might be objected, Alice would have justification on some externalist theories of justification. This objection, even if successful, would of course only help those who have a view of understanding on which it requires justification only in this externalist sense. (Note that Kvanvig and Pritchard explicitly characterize the kind of justification involved in understanding as ‘subjective’ and ‘reflectively accessible’ respectively. See notes 2 and 5.) More importantly, although it is convenient to describe Alice as having an innate knack for geometry since that underscores the fact that Alice is really able to prove and explain the Pythagorean theorem, this is not in fact an essential feature of the case. We could easily stipulate that Alice, for whatever reason, got lucky in her attempt to prove the Pythagorean theorem and that she fails to construct similar proofs in geometry on other occasions (and/or that she would have failed to construct the proof of the Pythagorean theorem in most nearby possible worlds), in which case her belief-forming process would not have been reliable. The important point about the case is really just that Alice herself grasped how to prove the Pythagorean theorem, realizing how later steps in the proof follow from earlier steps, as opposed to (say) merely memorizing the steps of a proof provided by someone else.

accurate), Bernie immediately diagnoses the problem as a broken timing belt (which is correct). Yet Bernie is not justified in believing this, since he should know better than to trust a convicted con man.¹¹

This case involves testimony from a source that is known to be untrustworthy. Since the con man's testimony is known to be untrustworthy, Bernie is not justified in believing what he says about how the car broke down. Since Bernie's diagnosis of the problem as a broken timing belt is based entirely on the con man's description of the car's behaviour before it broke down, he is not justified in believing that the timing belt is indeed broken. Nevertheless, Bernie clearly understands what's wrong with the con man's car.

One might object that in the cases given above, the grasping of the explanatory relations required for understanding nevertheless provides some defeasible or *prima facie* justification for the corresponding beliefs. The idea, then, would be that the problem that arises in the two cases is that this defeasible justification is in fact defeated by further information. I offer two replies: First, this objection might not apply to case 2, since it is at least doubtful whether an agent who bases a belief on testimony from sources she knows to be unreliable has defeated justification or whether such an agent just lacks justification altogether. On a standard reductionist view of justification from testimony, beliefs based on testimony are justified only when the agent has some reason to trust the person who provides the testimony. Since Bernie plainly does not have such a reason to trust the con man, Bernie is not even defeasibly justified in believing what he says on such a reductionist view of testimony. Second, and more importantly, even if both cases were examples

¹¹ Again, if you think understanding requires belief, then you may (for now) suppose that Bernie irrationally forms this belief in spite of his being aware of the con man's untrustworthiness. (In section 3, I will argue that Bernie need not have this belief in order to understand what's wrong with the car.)

of defeated justification, it would be irrelevant to the thesis that understanding, like knowledge, requires justification. After all, if defeasible justification for an agent's belief is in fact defeated in a given instance, then that belief is simply not justified in that instance. So, since the defeasible justification that (we can grant) comes with understanding can in fact be defeated without loss of understanding, justification is not necessary for understanding.

Let's turn to a diagnosis of the two cases. In each case, the agent has an impeccable grasp of the explanatory relations that directly concern the object of understanding. In case 1, Alice understands the Pythagorean theorem because she grasps the relevant explanatory¹² relations between the theorem and other geometrical facts. Similarly, in case 2, Bernie understands what's wrong with the con man's car because he grasps the relevant explanatory relations between the car's breaking down and various facts about the functioning of the car. What's peculiar about both Alice and Bernie is that they possess evidence that is not explanatorily relevant to the objects of understanding, but which nevertheless undermines the justification for their respective beliefs. In case 1, Alice's dismal academic track record, which undermines her justification for believing her proof correct, forms no part of the proof for the Pythagorean theorem. Similarly, in case 2, the con man's lack of trustworthiness, which undermines Bernie's justification for believing his testimony about the car, forms no part of the explanation for the car's breaking down. In sum, then, the agents in each of our two cases fail to be justified in their respective beliefs in virtue of possessing evidence that is explanatorily irrelevant to the objects of understanding.

¹² I am assuming here that there are such things as mathematical explanations of mathematical facts, and that the Pythagorean proof of the Pythagorean theorem counts as an explanation of this sort. (For different accounts of mathematical explanations, see Steiner (1978), Kitcher (1989), and Lange (2014).)

This diagnosis allows us to produce a ‘recipe’ for generating further counterexamples to the thesis that understanding requires justification: For an agent S who understands X, we need only locate (or invent) some evidence E such that (i) E is explanatorily irrelevant to X, and (ii) E prevents S from being justified in her beliefs about X. Condition (i) insures that S still understands X in spite of possessing E, while condition (ii) insures that S's beliefs about X are indeed unjustified. The general moral of the two cases, then, is that understanding is possible without justification because some pieces of evidence that an agent may come to possess are explanatorily irrelevant to an object of understanding X despite being (negatively) justificatorily relevant to the agent's beliefs about X.

This moral has not, to my knowledge, been drawn before in the literature. However, in a very recent paper, Alison Hills (2015) argues (among other things) that understanding¹³ differs from knowledge in virtue of being compatible with epistemic defeat. Hills does not draw the conclusion that understanding is compatible with a lack of epistemic justification, but it is worth noting that her primary example is at least superficially similar to my case 2 (concerning Bernie and the con man):

Suppose that you read in your [history text] book that Napoleon was tactically astute, and so on, and on the basis conclude that he was a great leader. But now your history teacher, whom you regard as extremely trustworthy, tells you that Napoleon was not a great leader. Your teacher is not basing this judgement on other information or on a different interpretation of what it takes to be a great general: he simply irrationally dislikes

¹³ Hills is concerned with understanding-why as opposed to objectual understanding (which is my primary concern), but as mentioned in note 1 I do not think this difference is important for the purposes of the arguments of this paper.

Napoleon. You have no idea about any of this, but even so, you ignore your teacher and continue to maintain your conclusion. [...] You have the abilities required for understanding, your beliefs are correct and in short, you understand why Napoleon was great. (Hills, 2015: 12)

In contrast to Hills, I would not merely describe this as a case which shows understanding to be compatible with epistemic defeat, but also as a case of understanding without justification. Hills's case is thus, in my view, further support for the thesis defended in this section. However, it is worth noting some relevant differences between Hills's case and my case 2 that make Hills's case less than ideal for illustrating how understanding and justification can come apart.

First, I have argued above that my case 2 would not involve epistemic defeat on reductionist views of testimony; by contrast, Hills's Napoleon case clearly involves epistemic defeat even on reductionist views of testimony. So one possible reply to the objection that understanding provides defeasible justification in my case 2 would not be available for an analogous objection to Hills's case. Second, and more importantly, even if both cases involved epistemic defeat, the two cases would involve importantly different *kinds* of epistemic defeat. In Hills's case, your history teacher's testimony is a *rebutting defeater* in that it provides a direct reason to believe that Napoleon was not a great leader rather than providing a reason to distrust what you read in the textbook. By contrast, in the case of Bernie and the con man, what Bernie reads in the newspaper is an *undercutting defeater* (assuming that it is defeater at all) in that it prevents the con man's testimony from providing support for the belief that the car broke down because of a broken timing belt. (The piece in the newspaper would have been a rebutting defeater if it had

announced, for example, that the con man had just changed his car's timing belt, since brand new timing belts almost never break.)¹⁴

This is important because if understanding were only compatible with rebutting defeaters for the corresponding beliefs (and not compatible with undercutting defeaters), then those who believe in a tight connection between understanding and justification could retreat to the position that the justification that (on their view) necessarily comes with understanding can be outweighed by other pieces of justification for a contrary conclusion. This position is not available if we agree that Bernie has understanding of the fact that the con man's car broke down in case 2, since undercutting defeaters do not merely outweigh other epistemic considerations but instead prevent information that normally provides justification from doing so in the case in at hand.

3. Understanding without Belief

If understanding does not require justification, does it at least require belief? A positive answer is implied by the standard view on which understanding is a species of knowledge, given a standard analysis of knowledge as non-Gettiered justified true belief. Moreover, at least some of those who reject the standard view have explicitly claimed that understanding implies belief. For example, Kvanvig claims that understanding is partly composed of beliefs that stand in the right kind of

¹⁴ See Pollock and Cruz (1999: 196-197) for discussion and precise definitions of rebutting and undercutting defeaters.

explanatory relations to one another. (Kvanvig 2003) Similarly, Pritchard says that it is plausible that understanding ‘involves a coherent set of relevant beliefs’. (Pritchard 2009, 32)¹⁵

Now, understanding clearly has a psychological component of some sort. One cannot understand something unless one has a certain kind of attitude towards the object of understanding. In the literature, this attitude is usually referred to as ‘grasping’ (and I have followed this choice of terminology so far in this paper). The question, then, is whether grasping something in this sense requires that one have the relevant beliefs about the object of understanding. By appealing to a distinction between belief and acceptance, I will now argue that it does not.¹⁶ So if knowledge requires belief (as it does on standards views of knowledge), it follows that understanding is not a species of knowledge. But first I need to say more about the relevant distinction between belief and acceptance.

Philosophers have carved out the distinction between belief and acceptance in various ways,¹⁷ but the particular distinction to which I will appeal is due to L. J. Cohen (1992). On

¹⁵ Other authors, such as Zagzebski (2001), Elgin (2009) and Riggs (2009), do not say explicitly that understanding requires belief, but in their discussions of particular examples of understanding agents are typically said to believe certain propositions about the object of understanding.

¹⁶ Here I am using ‘grasping’ as a way of referring to the psychological component involved in understanding (whatever it is). Since belief and acceptance are clearly both psychological states, it follows trivially that if belief and/or acceptance is involved in understanding, then belief and/or acceptance is involved in grasping (in this sense). Of course, one could instead take ‘grasping’ to refer to some specific psychological state defined in some other way, in which case it would be an open question whether it follows from belief and/or acceptance being involved in understanding that belief and/or acceptance is involved in grasping. In this paper, I am not taking a stand on this issue.

¹⁷ For some of the distinctions between belief and acceptance that I will *not* be appealing to, see (van Fraassen 1980), (Bratman 1992), and (Maher 1993).

Cohen's distinction, one *believes* that p just in case one is *normally disposed to feel it true that p* (and false that not-p) when one is attending to issues raised by p or items referred to by p. By contrast, one *accepts* that p just in case one *treats it as given* that p, i.e. just in case one 'adopts a policy of ... including [p] among one's premisses for deciding what to do or think in a particular context'. (Cohen 1992, 4) As Cohen emphasizes, belief and acceptance will coincide in most cases. However, they can also come apart, viz. when one decides to adopt a policy of treating something as given despite being indisposed to feel that it is true. For example, a defence attorney may decide to adopt the policy of treating it as given, in the context of her legal work, that a particular defendant is innocent, even though she is not disposed to feel that it is true.

I submit that understanding may be accompanied by mere acceptance rather than by belief. More precisely, understanding something may merely involve treating certain propositions or theories as given in the context of explaining something, as opposed to being disposed to feel that the propositions or theories are true. As before, I will not be arguing for this by examining whether statements that affirm understanding but simultaneously deny belief seem defective or contradictory.¹⁸ Instead, my approach will be to consider a hypothetical case in which an agent does not believe the relevant propositions although she does accept them (in Cohen's sense):

¹⁸ I fear that there is too much ambiguity in ordinary usages of 'belief' to provide any reliable means of evaluating the thesis that understanding requires belief by considering linguistic intuitions about defective usages. That said, there does not seem to me to be anything defective about sentences such as:

(3) 'S understands the Comanche dominance of the southern plains, but S does not believe (i.e. is not disposed to feel that it is true) that the Comanches dominated the southern plains.'

Case 3. Carrie is a theoretical physicist in a nearby possible world (perhaps this one) in which string theory is true. Carrie has built her career around using string theory to explain various known phenomena about the natural world, and has become one of the world's leading contributors in the field because of her unmatched insight into the theory and its applications. Moreover, she has adopted the policy of treating string theory as given in her scientific endeavours – using it in explanations of various natural phenomena – and thus accepts string theory for explanatory purposes. However, like many other physicists, Carrie has significant methodological reservations about string theory in its current form, and therefore is not disposed to feel that string theory is even approximately true. In other words, Carrie does not believe that string theory is even approximately true.

In this case, it seems clear that Carrie understands the fundamental structure of her world that string theory is meant to describe. After all, Carrie can use the theory to explain any fundamental physical phenomena just as well as someone who also believes string theory (and better than someone who does not accept string theory). We might describe Carrie as lacking confidence, resolve, or even courage for not believing the theory with which she operates in her scientific work, but we would not say that she lacks understanding for this reason.

Case 3 is a particularly clear case of understanding without belief, but (as the reader may suspect) I think variations of cases 1 and 2 illustrate the same point. In case 1, suppose that Alice never formed the belief that the Pythagorean theorem is true, or that her proof of it is correct. Suppose, instead, that she merely accepted this, i.e. treated it as given in the context of studying geometry. I submit that Alice would still have understanding in this version of the case, given that her proof of the Pythagorean theorem is indeed correct. Similarly, suppose Bernie never formed

the belief that the con man's description of the car's behaviour immediately before it broke down was correct, or that the car's timing belt really is broken. Suppose, instead, that Bernie merely decided to treat it as given for the purposes of diagnosing the car's problem. Again, it seems to me that Bernie nevertheless understands what's wrong with the car in this case, given that the diagnosis which he accepts is indeed correct.¹⁹

One might object that while understanding may not require that agents believe the relevant propositions, it does require that one does not believe the negation of those propositions. For example, according to this objection, if Carrie had believed that string theory is false, then she would not have understood the fundamental physical phenomena of her world, despite the fact that string theory is true in her world. The idea, then, would be that understanding is compatible with suspension of belief but not with belief in the negation of the relevant propositions. I find this implausible, since it seems to me that Carrie would still understand fundamental physical phenomena if she believed that string theory is false, as long as she truly accepted it. However, even if what the objection says were true, it would be irrelevant to the thesis that understanding, like knowledge, requires belief. After all, knowing that *p* is not just incompatible with believing not-*p*, but also incompatible with suspending belief with regard to *p* and not-*p*. Indeed, on standard accounts of knowledge, knowing that *p* requires a high degree of

¹⁹ Admittedly, these cases are not as clear examples of understanding without belief as case 3, since it is not as easy to imagine that the respective agents do indeed accept the relevant propositions without believing them. Case 3, by contrast, was designed specifically to make it straightforward to imagine that the agent (i.e. Carrie) accepted the relevant propositions without believing them. Thus skeptical readers are advised to return to case 3 for a clear counterexample to the thesis that understanding requires belief.

confidence in p . The cases we have considered show that understanding does not require anything like this high degree of confidence – if, indeed, any degree of confidence at all.²⁰

Now, given the distinction between acceptance and belief, we have a straightforward diagnosis of what is going on in examples, such as case 3, in which an agent understands something without having the relevant beliefs. Such agents have adopted a policy of treating the relevant propositions as true, and they have mastered the relevant subject matter in such a way as to enable them to correctly explain the relevant facts about the object of understanding. Since one need not believe that the propositions in question are true in order to do this, such agents will have understanding without having the corresponding beliefs (provided of course that other conditions for understanding are present). This diagnosis also allows us to produce a ‘recipe’ for generating further counterexamples to the thesis that understanding requires belief: For an agent S who satisfies all other conditions for understanding X , we need only suppose that (i) S treats the relevant set of true propositions about X as given in the context of explaining X , and yet (ii) S is not disposed to feel that these proposition are true. Since condition (i) in effect states that S accepts the relevant propositions (in Cohen’s sense), while condition (ii) in effect states that S does not believe them to be true, the general moral here is that the kind of attitude required by understanding can be acceptance as opposed to belief.

A final comment: I suppose it could be objected that case 3 shows not that understanding differs from knowledge in not require belief, but that knowledge itself does not require belief. The

²⁰ That is, it seems to me that understanding is compatible with one’s confidence being completely indeterminate with regard to the relevant propositions. (In a Bayesian framework, this amounts to saying that the credences assigned by the agent to the relevant propositions may be spread out between 0 and 1 inclusive.)

idea here would be that knowledge and understanding are alike in not requiring that the agent in question believes the relevant propositions, provided that she instead accepts those propositions. I find this implausible, since it seems to me that Carrie does not really know that string theory is true in case 3, given her lack of belief in the theory being true. Moreover, this would conflict with the standard view of knowledge as non-Gettiered justified true belief, which has been assumed for the purposes of this paper. Most importantly, my main concern here is not to argue that understanding differs from knowledge, but that it differs from (approximately) true justified belief. This conclusion is not threatened by the possibility that Carrie knows that string theory is true in case 3.

4. Conclusion

I have argued that understanding does not require justification by showing how an agent's grasp of explanatory relations, which is required for understanding, need not bring with it justification for the agent's beliefs about the object of understanding. I have also argued that understanding does not require belief by showing how an agent's understanding may be based on her acceptance of the relevant propositions rather than her believing that those propositions are true. If we accept a standard account of knowledge (on which knowledge requires belief and epistemic justification), this refutes the standard view on which understanding is a species of knowledge. While other authors have argued against this view before, even the critics of the standard view have assumed that understanding requires justification and belief. If the arguments given above are sound, a much greater departure from the standard view of understanding is called for.

I will make two brief concluding remarks on the upshots of the above arguments for the philosophical study of understanding. First, the above arguments make the prospects for

refocusing epistemology around understanding rather than knowledge even more radical than we might have otherwise thought. In particular, if justification is required for knowledge but not for understanding, then replacing the former with the latter as the primary focus of epistemology would also shift the focus away from belief and justification as traditionally conceived towards the quite different topics of the nature of acceptance and the nature of the explanatory relations that an agent must grasp in order to understand. Given the centrality of belief and justification in contemporary epistemology, it may be more plausible for epistemologists interested in understanding to argue for a disciplinary pluralism on which knowledge and understanding should coexist as two separate focus points for epistemology.

Another consequence of the arguments given above concerns the *value* of understanding. It is sometimes argued that knowledge is distinctively valuable, and even the highest epistemic good. If understanding is not a species of knowledge, then the value of understanding cannot simply be derivative of the value of knowledge. Rather, the value of understanding must come, at least in part, from some other source than the value of knowledge. Since I have argued that understanding does not even require justification or belief, my argument implies that the value of understanding must come from something other than the value of justification or belief. Although it lies far beyond the scope of this paper to argue for an account of the value of understanding, it may be worth briefly suggesting what a promising account satisfying this constraint might look like.

In short, it seems to me that the value of understanding can be straightforwardly accounted for by the connection between understanding and (approximately) correct explanation. That is, to understand X is valuable in part because it involves grasping an (approximately) correct explanation of some aspect of X, and this grasping of (approximately)

correct explanations is distinctively epistemically valuable. It is distinctively epistemically valuable because (approximately) correct explanations represent the explanatory structure of the world more fully than a set of true propositions that are not structured or organized in such a way as to constitute an explanation. Since not all justified true beliefs are structured in this way in an agent's mind, it follows on this suggestion that understanding is an epistemic good that is distinct from the epistemic good common to justified true beliefs.²¹

For example, someone may justifiably believe all the relevant historical facts about the Comanches in North America and yet fail to grasp how these facts hang together so as to explain the Comanches' dominance of the southern plains. Such an agent clearly lacks an epistemic good that is possessed by the agent who understands the Comanche dominance of the southern plains. Of course, if my arguments above are sound, the agent who understands the Comanche dominance of the southern plains may also lack the relevant justified true beliefs about the Comanches in North America. On the plausible assumption that having justified true beliefs is valuable, the latter agent (the understander) may lack an epistemic good that the former agent (the justified believer) possesses, viz. justified true beliefs about the Comanches. The picture that emerges, then, is an epistemic value pluralism on which understanding and justified true belief are two distinct epistemic goods that can be achieved independently of one another.²²

²¹ See also (Grimm 2012: 109-111) for a suggestion along similar lines.

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