

OBJECTUAL UNDERSTANDING AND THE VALUE PROBLEM

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§ 1. THE VALUE PROBLEMS FOR KNOWLEDGE

A key thread of thought in the recent literature on epistemic value recognizes *three* distinct value problems for knowledge—problems generated by the widely held insight that knowledge has a special or distinctive epistemic value¹ not shared by epistemic states that fall (even marginally) short. Following Pritchard (2010) here, the *primary value problem* is the problem of accounting for how knowledge is more epistemically valuable² than *mere* true belief. The *secondary value problem* is the problem of accounting for how knowledge is more epistemically valuable than any proper subset of its parts (e.g., justified true belief that falls short of knowledge), and what he calls the *tertiary value problem* is the somewhat less discussed problem of accounting for why we prefer (from an epistemic point of view) knowledge to whatever would fall just *incrementally* short of knowledge (for example, on a continuum of epistemic value).

Though the primary and secondary value problems have received a great deal more attention than the tertiary—thanks in no small part to Kvanvig’s Swamping Problem (2003)³—the tertiary value problem is in a sense the most important to resolve. As Pritchard puts it, solve the tertiary value prob-

lem and you have, at the same time, solved the other two by extension⁴—a point that can be illustrated with reference to the following continuum:



Figure 1. Epistemic Value Continuum.

Having set the stage this way, Pritchard distinguishes three broad approaches we might take toward the insight that generates these problems—the insight that knowledge is distinctively epistemically valuable. These are the *validationist*, *revisionist*, and *fatalist* approaches. The many epistemologists who have engaged directly with the swamping problem have typically attempted to *validate* the insight that knowledge is distinctively valuable by showing how (e.g., on their own theories of knowledge) knowledge can be defended as distinctively (epistemically) valuable (e.g., Goldman and Olsson 2009; and Greco 2010). Fatalists (e.g., Ridge 2013; and Baehr 2009), on the other hand, argue that we don’t have to answer the value problems because the original insight was wrong.⁵ On the fatalist view, neither knowledge *nor* any other related epistemic state is distinctively valuable in the way suggested by the value problems. The *revisionist*, however, agrees with the fatalist that the original insight was wrong but goes further

and suggests that something else possesses the distinctive sort of epistemic value mistakenly attributed to knowledge.

Perhaps the most promising *validationist* approach on offer is that offered by *robust virtue epistemology* (RVE), according to which knowledge is a kind of *cognitive achievement*—namely, a cognitive success primarily creditable to the exercise of cognitive ability. Why this approach (e.g., Zagzebski 1996; Greco 2010, forthcoming; Sosa 2009; and Turri, forthcoming) is so promising is that it elegantly aims to resolve all three problems in two simple steps. First, proponents of RVE claim cognitive achievements, *qua* achievements, are *finally* valuable. Greco (2012) explains this claim as a *genus-species* claim: in any domain of endeavor, success *through* or because of ability is valuable in a way that lucky successes (or successes produced by, but not because of, ability) are not. Secondly, proponents of RVE *identify* knowledge with cognitive achievement. From these two claims, a solution to the tertiary value problem follows: knowledge is more valuable than that which falls just incrementally short because knowledge is a cognitive achievement, and cognitive achievements (*qua* achievement) are valuable *for their own sake*.

Robust virtue epistemology is an especially attractive validationist strategy because (unlike, for instance, standard process reliabilism) it has the kind of resources to attend to the tertiary value problem, rather than merely the first two. Unfortunately, RVE is successful only if cognitive achievements really are finally valuable *and* knowledge can be identified with cognitive achievements. Even if the claim that cognitive achievement is finally valuable is granted,⁶ this doesn't help the validationist approach unless finally valuable cognitive achievements are *essential* to knowledge. Pritchard, in a series of recent works (e.g., 2010, 2012), challenges RVE on

precisely this point. Specifically, he argues that knowledge and cognitive achievement come apart in *both* directions, a point he takes to be exhibited by cases of testimony (e.g., Lackey 2007) and barn facade cases, respectively.⁷ If that's right, then the best attempt to validate the insight that knowledge is distinctively epistemically valuable—namely, the proposal offered by RVE—comes up empty-handed.

However, the next move need not be fatalism. Notice that the observation about the final value of cognitive achievement suggests what a *revisionist* account might look like. After all, if cognitive achievements are finally valuable, then if there is an epistemic state in the neighborhood such that cognitive achievement *is* essential to that state, then perhaps it's *that state* (rather than knowledge) that is distinctively epistemically valuable. If such a state can be identified, then the guiding insight wasn't entirely wrong after all—just the part about knowledge. But what would such a state be?

§ 2. PRITCHARD'S REVISIONIST SOLUTION TO THE VALUE PROBLEMS FOR KNOWLEDGE

Pritchard (e.g., 2010) urges us to consider adopting a revisionist view of epistemic value that claims we mistakenly thought that knowledge was distinctively valuable because *understanding* bears final value. It is a closely related epistemic state, but (as Pritchard points out), “we would surely rather understand than merely know” (2010, p. 101). We place ourselves in the camp that is sympathetic to this view of understanding,⁸ though our version parts ways from Pritchard's in some very important respects.

Our critique of this attempted solution to the value problem first requires a brief foray into the distinctions between the three different types of understanding that are most commonly discussed in epistemology:

Propositional understanding:⁹ ‘I understand *that* X’

Understanding-why:¹⁰ ‘I understand *why* X’

Objectual understanding:¹¹ ‘I *understand* X’

Pritchard’s revisionist view features *understanding-why*, so we should take a closer look at the particular characterization that he endorses. First, he agrees with the popular claim that understanding-why is factive¹²—you cannot understand why X is the case if your relevant beliefs are false (though you may well justifiably *think* that you understand). Second, you need good reflectively accessible grounds in support of your understanding. Third (and importantly), Pritchard holds that understanding-why differs from propositional knowledge in its resilience to epistemic luck.

Although Pritchard does not want to claim that understanding-why is *entirely* immune to being undermined by epistemic luck,¹³ he holds that it is compatible with a certain type that undermines knowledge—*environmental luck*, for example, the luck at play in barn facade cases. The paradigmatic case Pritchard appeals to in making this point involves someone who speaks to (unbeknownst to them) the one genuine fire officer (firefighter) in a group of liars in fancy dress, and finds out from this fire officer that the house burned down because of faulty wiring—suppose the fake fire officers would all have given a false answer. Pritchard argues that although the agent lacks knowledge due to the inhospitable epistemic environment, it is not obvious that he also lacks *understanding*—“after all, the agent concerned has all the true beliefs required for understanding why his house burned down, and also acquired this understanding in the right fashion”¹⁴ (2010, p. 108). In addition, Pritchard holds that such environmental luck cases are ones in which the relevant cognitive success qualifies as a cognitive achievement.¹⁵

Assuming that understanding-why is compatible with environmental luck, we can revisit the final-value-of-achievements thesis with reference to *understanding-why* rather than knowledge, because understanding-why—unlike knowledge—does not appear to come apart from cognitive achievement. Pritchard further supports the unity of understanding-why and cognitive achievement by aiming to show that there are certain cases of testimony in which knowledge is present and yet both understanding *and* cognitive achievement are lacking because “the truth of [the agent’s] belief is not sufficiently creditable to his cognitive ability” (2010, p. 112). For example, if a young child listens to an explanation of the house burning down and is told that faulty wiring was the cause, his knowledge does not obviously constitute a cognitive achievement and (claims Pritchard) nor does he obviously attain understanding-why.¹⁶

Crucially, though, there’s a further step to Pritchard’s revisionist argument. As he sees it, the value of achievements thesis depends on recognizing a more fine-grained view of cognitive achievements (e.g., 2010, p. 69):

Weak cognitive achievement: Cognitive success that is because of one’s cognitive ability.

Strong cognitive achievement: Cognitive success that is because of one’s cognitive ability where the success in question *either* involves the overcoming of a significant obstacle *or* the exercise of a significant level of cognitive ability.¹⁷

Pritchard claims that the value of achievements thesis is implausible on the weak account because some things seem too simple or passive to be finally valuable and are nonetheless successes that are because of ability.¹⁸ So, he argues, understanding needs to be a *strong* cognitive achievement if we are to claim that understanding is finally valuable because of its connection to cognitive achievement. As it happens, Pritchard thinks that “the kind of cognitive achievement in play when one

has understanding seems to explicitly be the sort at issue in the strong achievement thesis” (2010, p. 113), and he advances several points to support this suggestion. Firstly, note that one often gains understanding after undertaking an obstacle-overcoming effort to piece together the relevant pieces of information (e.g., when one tries to comprehend why someone with a complex personality has chosen to take some particular action). Secondly, when one gains understanding easily, it is often because one brings to bear significant cognitive ability (e.g., when an expert only needs a brief amount of time in order to grasp a complete new explanation of data relevant to his or her area of specialization).

If Pritchard is right that understanding-why is always a strong cognitive achievement, and if we accept the popular view that achievements are finally valuable, understanding-why will inherit the final value of achievement. This is the rough shape of Pritchard’s revisionist solution to the value problem.

§ 3. OBJECTION:

UNDERSTANDING-WHY WITHOUT STRONG COGNITIVE ACHIEVEMENT

3.1. A Closer Look

at Pritchard’s Framework

Recall that, by Pritchard’s lights, RVE is an inadequate approach for resolving the value problems because, even though cognitive achievement is finally valuable, knowledge and cognitive achievement come apart. A similar kind of argument can be run against Pritchard’s own revisionist approach if it turns out that *understanding-why* and *strong cognitive achievement* come apart.

We will set aside the matter of whether strong cognitive achievement always involves understanding-why,¹⁹ and turn our attention to the direction most pressing for Pritchard’s revisionism: the matter of whether understanding-why always involves strong cognitive achievement. Cases that threaten

Pritchard’s proposal on this score will be ones in which an agent understands why something is so, while *neither* (i) overcoming a significant obstacle, *nor* (ii) exercising any significant level of cognitive ability.

We grant that, often, understanding-why involves the piecing together of information—a piecing together that constitutes a kind of obstacle that the agent overcomes upon attaining understanding-why. We also grant that, when obstacles are overcome with little effort (in cases of understanding-why and more generally), the best explanation will often reference one’s possessing significant ability. For example, an otherwise highly difficult golf shot may be an obstacle, though no *significant* obstacle for Rory McIlroy (who performs the shot with ease), and what makes this otherwise difficult shot no significant obstacle is McIlroy’s significant level of skill.

So, there is a kind of *inverse* correlation at play between obstacle-overcoming and skill in Pritchard’s view, to the effect that the *less* an instance of understanding-why involves the overcoming of an obstacle, the *more* significant the ability manifested. Accordingly, on his picture, one who pieces together the information needed to attain understanding-why will either (i) overcome a significant obstacle in doing so; *or* (ii) if the obstacle overcome is *not* significant, this will be because one exhibits *significant* skill. With these assumptions in play, we can see how this view is well-situated to account for how understanding-why always involves strong cognitive achievement, as it guarantees that understanding-why will always satisfy one of the two disjuncts of his disjunctive account of strong cognitive achievement.

Notice, though, that this framework only generates the result Pritchard needs if a certain assumption is in place: namely, that the obstacle in question—the obstacle of *piecing together*²⁰ *the information relevant to acquiring understanding-why*—is an obstacle not

easily overcome for one with merely *average* ability. For if it were, then we couldn't infer from the fact that one didn't overcome a significant obstacle in attaining understanding-why, that, therefore, one must have exhibited significant skill; nor could we infer from the fact that one did not exhibit significant skill, that one must have thus overcome some significant obstacle.

Accordingly, if the piecing together of information needed for understanding-why is akin to a difficult golf shot—a significant obstacle to overcome *unless* one has significant ability—then the position that understanding-why always involves strong cognitive achievement is on safe ground. However, in some cases, isn't attaining understanding-why much more akin to a straightforward or simple shot—say, hitting a wide fairway—given that the piecing together of the relevant information is uncomplicated or straightforward?

3.2. Problem Cases

In order to block the line of worry we are raising, Pritchard will need to insist that the piecing together of information requisite for understanding-why is, essentially, more akin to a difficult task than to a simple one. The grounds for such a view look shaky if it turns out that the piecing together of information required for understanding-why *does not always* involve a similar level of difficulty. After all, if it doesn't, then there's little motivation for the position that there is some level of difficulty involved in the piecing together of information required for understanding-why that can't be overcome easily *except* by one with significant skill.

There are two kinds of cases that we think press Pritchard's position at this point. We'll explore them in turn.

3.2.1. EASY VS. HARD UNDERSTANDING

In the first problem case, let's contrast two epistemic obstacles, each requiring piecing

together of information in the sense Pritchard takes to be required for understanding-why. Our hero, Lauren, is faced with each in turn: the first obstacle consists in working out why M-Theory requires the postulation of 11 dimensions (no less, no more), rather than the 10 dimensions required by string theories. The second obstacle consists in working out why the tumble-dryer stopped working. While only one with (at least) significant intellectual ability²¹ could piece together the information required for understanding why M-Theory requires the postulation of 11 dimensions (a significant obstacle), it's plausible that by manifesting unremarkable ability, one can work out quite easily why the tumble-dryer stopped working in this case: it was unplugged. But if this evaluation is right, then clearly the piecing together of information required for understanding-why does not always involve the same (or even a similar) kind of obstacle. Though indeed *sometimes* attaining understanding-why will require the overcoming of a significant obstacle or the display of significant ability—as in the case of working out why M-Theory requires 11 dimensions—it does not always. But if that is correct, then understanding-why does not essentially involve strong cognitive achievement after all.

Note that one wishing to maintain that strong cognitive achievement is essential to understanding-why might attempt to avoid the problematic commitment of counting humdrum cases of understanding-why as cases of strong-cognitive achievement by simply *denying* that these humdrum cases are bona fide cases of understanding-why. However, this move is not only at odds with our ordinary practice of understanding attributions, but it would over-intellectualize understanding-why in a way that would commit one to denying that we have much of the ordinarily ascribed understanding-why we take ourselves to have.

3.2.2. SHALLOW VS. RICH UNDERSTANDING

A related problem can be posed by holding fixed the explanandum. Suppose what is at issue in the two cases we compare is why the house burned down. Now, let's suppose Forrest is a wet-eared, novice fire officer who is not particularly bright and has only a few weeks of experience under his belt. He takes a look at the fire-site and quickly notices faulty wiring. "It was a no-brainer," he says, testifying in an ensuing arson case. Plausibly, he counts as understanding why the house burned down: after all, he is right that faulty wiring is present, and, further, he is able to easily put the pieces together—faulty wiring was covered in the first days of his novice training.

However, although Forrest understands why the house burned down, there is some sense in which his understanding isn't particularly rich. Past the point of remarking that faulty wiring causes fires, he has little to nothing illuminating to say. People with more advanced backgrounds than Forrest could say quite a bit more.

Some, such as Kvanvig (2003) and Riggs (2009), contend that one way in which the possession of understanding differs from knowledge is that the former comes in degrees.²² We are not taking a stand on this point. Rather, we'll follow Riggs's rather uncontroversial observation that "both the degree of explanatory coherence . . . as well as the amount of information present in someone's understanding can vary" (2009, p. 7). Now, contrast the understanding possessed by Forrest, our novice fire officer, with that of a leading scientist who is an expert in exothermic chemical reactions, and who has had a team study the house's wiring, has examined photographs of the frequency spectrum of the flames, and has conducted a detailed stoichiometric analysis of the fire site. Forrest understands why the house burned down, but so does our scientist, and the explana-

tory coherence and information present in the scientist's understanding is significantly greater than Forrest's. Understanding-why the house burned down *as the scientist does* involves significant skill or the overcoming of a significant obstacle (or perhaps even both). But to understand, *as Forrest does*, why the house burned down, it seems *neither* is required (merely, average intellectual effort and minimal attention during a trainee course for fire officers).

The claim that all understanding-why involves strong cognitive achievement, then, is in tension with *two* observations about our ordinary attributions of understanding-why. The first is that, as in the case of Lauren, the piecing together of information that is required to understand *some* things (e.g., why M-theory requires 11 dimensions) is a significant obstacle, while the piecing together of information required to understand other things (e.g., why the tumble-dryer stopped working) is not and, as such, can be achieved by one with unremarkable ability through unremarkable effort. The second observation is that the explanatory coherence and information present in understanding why X is so can vary (sometimes significantly) between individuals who count as understanding why X.

These two observations cast doubt on Pritchard's claim that understanding-why derives value from being a strong cognitive achievement (though *sometimes* it is compresent with it). We should not assume, however, that this problem discredits *any* revisionist theory of epistemic value that focuses on understanding. A step in the right direction of developing a plausible revisionist approach to the value problem would be to identify what is present in the cases of understanding-why that *are* strong cognitive achievements. Perhaps it is what is present in these cases that actually bears the kind of distinctive epistemic value Pritchard mistakenly thought was present in all cases of understanding-why.

§ 4. SOLUTION: OBJECTUAL UNDERSTANDING

We think it is clear that *objectual understanding*—for example, as one attains when one grasps the relevant coherence-making relations between propositions comprising some subject matter—is a particularly valuable epistemic good. Though we needn't rehearse these arguments²³ here, consider that we derive satisfaction from understanding broad subject matters, we typically admire those who understand many subjects, and we would rather have objectual understanding than simply have a stack of propositional knowledge relevant to a subject matter (without the “piecing together” element that seems necessary for understanding).

We have observed that understanding-why is *sometimes* especially epistemically valuable. This is the case, for instance, when understanding-why involves the grasping of a deep, elegant, or complex explanation. Notice, though, that in these cases, objectual understanding is invariably present in the background. Now, when this is the case, sometimes (and indeed, often), valuable objectual understanding will *already* be in the background when one gains understanding-why. This is because, naturally, understanding a subject matter *S* facilitates (and, even more, often makes possible) the kind of *S*-related *explanations* that we grasp when understanding-why something *S*-related is the case. For example, an oncology expert might come to understand why a lung cancer drug trial has yielded particular results by using her pre-existing objectual understanding of lung cancer in conjunction with the finer details about the trial in order to piece together why these particular results were seen. Similarly, one might understand the complex explanation for why one's friend has lied about his reasons for moving to a new town by using one's background understanding of the friend (which includes, for

example, beliefs about his past and what he wants from his life, as well as a grasp of the explanatory relations between his different psychological characteristics).

In other instances, it's plausible that individuals will come to have objectual understanding and understanding-why at roughly the same time. An average student might study hard and come to understand (at roughly the same time) a certain period of history and also why a particular war started during that time; or, an extremely bright individual might quickly come to understand Maxwell's theory of electromagnetism and also why an individual element of it explains some other part. Interestingly, these cases of especially valuable understanding-why also involve strong cognitive achievement, as it happens—they feature an obstacle not *easily overcome by one of merely average ability*, and so each agent either undertakes an obstacle-overcoming effort to piece together the relevant bits of information or gains understanding easily due to bringing to bear significant cognitive ability.

At this point, it becomes obvious that our claim about objectual understanding should be refined. Thinking about when and how we value objectual understanding and understanding-why makes it clear that what we really endorse is the view that a certain *type* of objectual understanding is always finally valuable (and therefore capable of conferring value upon related instances of understanding-why). This type is *rich objectual understanding*, as enjoyed by agents in the above examples and yet (as we shall see) lacked by those featured in our counterexamples to the claim that understanding-why is always finally valuable. While the way in which we discussed cases of shallow and rich understanding in § 3.2.2 is ambiguous (between understanding-why and objectual understanding), we think that those cases of rich understanding are best described not as instances of rich understanding-why but

rather as instances in which understanding-why is backed by rich objectual understanding. Cases we might be inclined to call “rich understanding-why” are, after all, cases we are able to distinguish as such only because of the valuable properties of the *objectual understanding* that will already be present. In this respect, the value of the richness of the latter has a kind of explanatory priority.²⁴

What, then, are some plausible characteristics of *rich* objectual understanding? Firstly, we think (as suggested in § 3.2.2) that it concerns *wide* subject matters that involve a large network of propositions and relations between those propositions. Understanding wider subject matters will tend to be more cognitively demanding than understanding narrow subject matters because *more* propositions must be believed and their relations grasped in order for one to even attain the most minimal understanding.²⁵ Another characteristic of rich objectual understanding is dispositional: those in possession of rich understanding of a subject matter are able to answer a broader class of relevant questions with ease. They will, as Grimm (forthcoming) puts it, “be able to see or grasp how changes in some of these items will lead (or fail to lead) to changes in the others.” Relevant *what-if* questions (cf. Woodward 2003), then, are answered more easily by individuals with rich objectual understanding than by those who lack it.

In addition, those with rich objectual understanding will have a certain kind of ability that individuals who *ceteris paribus* lack rich objectual understanding lack—namely, the ability to *easily* and accurately piece together new items of information that constitute part of the subject matter. For instance, one with rich objectual understanding will easily see how these *new items stand in relation with others within the subject matter*, and this is explained by the grasped network of coherence-making relations, as well as—as Greco (2010) and

Grimm (forthcoming) suggest—causal relations, which facilitate the ability to provide explanations.

Straightforward examples of obviously valuable objectual understanding all share these properties—for example, the cases in which agents thoroughly understand a type of cancer, a theory of electromagnetism, a period in history, or a complex individual.

Consider now whether rich objectual understanding, as we’ve characterized it, is present in the cases of understanding-why that we suggested do *not* qualify as strong cognitive achievements. As you will recall, these are counter-examples to the claim that understanding-why always involves an obstacle not easily overcome for one with merely average ability. Can considerations about rich objectual understanding add something that further helps to explain why these cases do not seem distinctively valuable?

In the case of easy understanding, in which Lauren does not need to overcome a significant obstacle nor manifest a significant level of skill, note that her piecing together information to understand why the tumble-dryer isn’t working also does *not* require her to have rich objectual understanding of some subject matter in the background. For example, she need not understand electricity, the engineering of tumble-dryers, and so on. In contrast, in the case of *hard* understanding, understanding why M-Theory requires the postulation of 11 dimensions involves Lauren possessing rich objectual understanding since she needs to understand the wide subject matters of M-Theory and string theory. With this objectual understanding in the background, her understanding-why seems highly valuable and must also involve overcoming a significant obstacle or manifesting a significant level of skill—in other words, it involves an obstacle *not* easily overcome for one of average ability.

Meanwhile, in the case of shallow understanding, Forrest’s understanding of why

the house burned down is not backed by any rich objectual understanding of (for example) wiring or oxidization. Further, as we previously noted, nor does it require his overcoming a significant obstacle or manifesting significant skill, in spite of being a genuine case of understanding. If there is any relevant objectual understanding in cases like Forrest's (which is itself contentious), it is of some narrow subject matter that allows one to discern obvious cases of arson from those that are not, and it does not allow him to answer a very wide class of questions. On the other hand, the leading scientist who understands why the house burned down is clearly doing something more cognitively impressive and has more obviously valuable understanding, but note that he also has rich objectual understanding of the subject matter of exothermic chemical reactions in the background.

Considerations about *objectual understanding*, then, help us to make sense of why certain cases of understanding-why serve as counter-examples to the view that understanding-why is always finally valuable—these cases are also ones in which rich objectual understanding is lacking. Meanwhile, the cases involving what *appears* to be finally valuable understanding-why are cases in which there is rich objectual understanding in the background. On our picture, it is rich objectual understanding (rather than understanding-why) that has been of special value²⁶ all along, and this is why instances of understanding-why with rich objectual understanding in the background are cases of final value. Since we can frequently find cases in which rich objectual understanding underlies understanding-why, this commonality elicits the mistaken intuition that all understanding-why is finally valuable.²⁷

§ 5. CONCLUSION

Of course, despite what we've argued here, many epistemologists continue to advance *validationist* strategies with respect to the value problems. Pritchard's critique of these approaches is a kind of *revisionism* because he thinks the insight motivating the problems is best viewed as an insight about the distinctive value of understanding-why, rather than knowledge. But just as he has appealed to cases to show that it's *understanding-why* that's of distinctive epistemic value, not knowledge, we have applied a similar revisionist strategy here in showing that it is (rich) *objectual understanding*—not understanding-why—that is doing the relevant work.

In sum, then, rich objectual understanding has a special epistemic value not shared by epistemic states that fall short. This much validates Kvanvig's (2003) and Grimm's (2010) suggestions that we give the epistemic state of understanding a more prominent place in epistemological theory. Among the research questions connected to understanding that deserve attention (in light of its epistemic value) are (i) What epistemic virtues best promote the attainment of *rich* objectual understanding? (ii) In what sense is rich objectual understanding the "goal of inquiry"? and (iii) What is the relationship between possessing rich objectual understanding and possessing the mixed ethical-epistemic aim of wisdom?

We lack the space to explore these questions here. However, we recognize that, to the extent that rich objectual understanding bears a special kind of epistemic value, these questions (and related questions to do with understanding) belong at the center of mainstream epistemology, and not at the periphery.

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NOTES

1. See Kvanvig (2003); Pritchard (2009, 2010); and Carter et al. (2013), for discussions of this insight.
2. By epistemically valuable, we mean valuable in light of our epistemic ends. This general way of capturing the idea is not unproblematic, but the problem of spelling out the notion of epistemic value is faced by all sides of the debate we're considering, and it's beyond our present aims to take any particular stand. More important is to distinguish epistemic value from other values, such as *pragmatic value*, *aesthetic value*, etc.
3. See also Kvanvig (2010); Pritchard (2009); and Goldman and Olsson (2009). Cf. Carter and Jarvis (2012), for a recent challenge to the legitimacy of the swamping argument.
4. An explanation for why the epistemic value (EV) of K is greater than the epistemic value of \approx K would also be an explanation for why the epistemic value of knowledge exceeds that of either justified true belief (JTB) or (mere) true belief (TB). A notorious hurdle for resolving either of the first two value problems has been a kind of dilemma: (i) either epistemic value is something we understand as value instrumental to the end of *truth* (a position called *epistemic value truth monism*), or (ii) it's not. If it is, then—as Kvanvig has pointed out—it looks like the value of truth *swamps* the epistemic value of other epistemically valuable properties we might add to true belief to get knowledge. A problem with this horn is that, against the background of epistemic value truth monism (EVTM), it becomes difficult to account for why knowledge has epistemic value exceeding true belief (*the primary value problem*), much less justified true belief (*the secondary value problem*) or that which falls just incrementally short (*the tertiary value problem*). The swamping worries can be avoided by rejecting epistemic value truth monism and replacing it with a different position of fundamental epistemic value. For a number of reasons, which we will not get into here, replacing epistemic value truth monism raises a nest of very difficult philosophical and axiological problems. But then again, so does the swamping problem. Unsurprisingly, the value problems have been a focus of serious worry by epistemologists who want to uphold the insight that knowledge is distinctively valuable.
5. See Carter et al. (2013), for a recent proposal to the effect that the value problems can be resolved by almost any JTB account with a Gettier condition. Also, note that these two forms of fatalism are very different. While Ridge makes use of the distinction between predicative and attributive attributions of value, Baehr focuses on criticizing the idea that our insights about the value of knowledge are sufficient to generate a formal constraint on an analysis of knowledge.
6. We assume throughout that cognitive achievements are indeed finally valuable. This popular view is well-defended.
7. Following Lackey (2007), Pritchard thinks ordinary cases of testimonial knowledge acquisition are cases where knowledge is present in the absence of any cognitive achievement on behalf of the recipient of testimonial knowledge. Likewise, barn facade cases show knowledge and cognitive achievement to come apart in the opposite direction. Pritchard's argument is that the environmental epistemic luck that undermines knowledge in barn facade cases is compatible with cognitive achievements, which are present in such cases.
8. This is now a fairly common view in epistemology, following Kvanvig (2003). For example, see Greco (2012), p. 6, who writes "it is widely recognized that understanding is more valuable than mere belief, and even mere knowledge. Thus, at least typically, we prefer understanding why something is the case over merely knowing." Similar claims can be found in Whitcomb (2010).
9. Propositional understanding has not generated much interest, partly because even Kvanvig's original discussion (2003) concedes that most apparent attributions of propositional understanding can be replaced with attributions of propositional knowledge without loss of meaning. See also Gordon (2012).

10. For additional work on understanding-why, see, for example, Grimm (e.g., 2010); Greco (forthcoming); Brogaard (2005); and Hills (2009).

11. For more on objectual understanding, see Elgin (2009); as well as Kvanvig (2003, 2009).

12. For support on this point, see (for example) Riggs (2004); and Kvanvig (2003).

13. In contrast, Kvanvig (2003) holds that understanding is entirely immune to epistemic luck. However, Pritchard's revisionist line only requires at least *some* form of knowledge-undermining epistemic luck to leave understanding untouched.

14. We assume here that Pritchard is right that cases of environmental luck are compatible with understanding-why. Our criticisms focus on the claim that understanding-why is always a strong cognitive achievement.

15. Pritchard holds this position because the agent forms a true belief using his cognitive abilities—he thinks we would “naturally say that [his] cognitive success is because of his cognitive ability and so we would, therefore, attribute a cognitive achievement to [him]” (2012), p. 51.

16. He also notes that understanding's demand for reflectively accessible grounds makes it unsurprising that we can construct cases where these reflectively accessible grounds (and therefore understanding) are lacking and yet knowledge is present.

17. Pritchard relies on an intuitive idea of what constitutes a significant obstacle or a significant exercise of ability, and we will do the same throughout (but note that more work needs to be done with regard to offering a more rigorous definition of what is “significant” in this context).

18. In the realm of cognitive achievement, examples include coming to have a true belief that it is dark outside just by looking out of the window (in normal conditions) after 10 p.m. and forming a belief that one is in pain when undergoing a migraine. Even though such beliefs are the result of (very basic) cognitive abilities, they are not obviously the sorts of things to which we mean to refer when we talk of achievements. *Strong cognitive achievements* demand for significant ability, or the overcoming of a significant obstacle attempts to rule out easy, passive and transparent types of cases. See Pritchard (2010), p. 99, for more on why passive beliefs are not a problem for the strong cognitive achievement thesis, no matter how they are more precisely understood. In addition, note that Pritchard's claim focuses on prima facie value, so that the value of some particular achievements might be judged to be negligible, non-existent, or negative (e.g., trivial achievements such as successfully counting the number of blades of grass on a lawn, or evil achievements such as successfully committing genocide). We will not challenge Pritchard's arguments against the value of weak cognitive achievement here.

19. We suspect this is not the case, as at least *some* instances of knowledge plausibly constitute strong cognitive achievement.

20. This is the way Pritchard himself refers to the activity characteristic of attaining understanding-why, wherein one grasps an explanation.

21. For a flavor of some of the mathematical background that would be required to understand M-Theory (and why it requires 11 dimensions), see unpublished paper by Robbert Dijkgraaf at <http://www.mathematik.uni-bielefeld.de/~rehmann/ECM/cdrom/3ecm/pdfs/pant3/dijkgr.pdf>.

22. Note that Kvanvig and Riggs seem to have objectual understanding in mind when noting that understanding comes in degrees. We will remain neutral on the matter of whether understanding-why comes in degrees.

23. See, especially, Kvanvig (2003, 2009).

24. We thank John Greco for pressing this point.

25. However, the other likely characteristics of rich objectual understanding suggest that basic understanding of a wide subject matter need not in itself be enough for rich objectual understanding to obtain.
26. Our view is clearly compatible with rich objectual understanding's value being explained by its always being a strong cognitive achievement, and we think it highly plausible that attaining rich objectual understanding always involves either a manifestation of significant ability or the overcoming of a significant obstacle. However, we are also open to any plausible alternative explanations of rich objectual understanding's value. For example, the element of rich understanding that requires being able to easily see how new pieces of information stand in coherence relations with the subject matter may provide a further way to explain its value (i.e., in terms of its provision of expedient acquisition of information into the coherent picture).
27. Since our view is that not *all* objectual understanding is valuable, it might be tempting for an opponent to press the line that there's a special subset of understanding—why that is finally valuable in virtue of always being a strong cognitive achievement. Perhaps it could be called rich understanding-wh, and its value could be explained in terms of always involving a significant obstacle or a significant exercise of skill. However, this objection runs into difficulty when it turns out that what makes rich understanding have the value that it does (either in connection with strong cognitive achievement or something else) turns out to be features that are distinct to a type of objectual understanding and are only present when that understanding is present.

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