A version of this paper is published in *What's the Point of Knowledge?* (Oxford 2019)

What's the Point of Understanding?

Michael Hannon

University of Nottingham

Abstract. What is human understanding and why should we care about it? I propose a method of philosophical investigation called 'function-first epistemology' and use this method to investigate the nature and value of understanding-why. I argue that the concept of understanding-why serves the practical function of identifying good explainers, which is an important role in the general economy of our concepts. This hypothesis sheds light on a variety of issues in the epistemology of understanding including the role of explanation, the relationship between understanding-why and knowledge, and the value of understanding-why. I conclude that understanding-why is valuable and yet knowledge plays more important roles in our epistemic life.

The heart of this paper is a simple idea: we can shed light on the nature and value of epistemic evaluation by investigating what epistemic concepts are *for*. I call this methodological approach *function-first epistemology*. A function-first epistemologist seeks to explain the nature and value of an epistemic concept (or practice) by reflecting on its function or purposes.

I am not the first to take this approach. In his insightful and original book, *Knowledge and the State of Nature*, Edward Craig argues that our practice of attributing knowledge plays a vital role in human cooperation, survival, and flourishing. More specifically, he says we speak of 'knowing' in order to recommend good sources of information to members of our community. This practice is necessary, or at least deeply important, because as information-dependent creatures we must often rely on the testimony of others. Craig uses this approach

to make headway on the Gettier problem, the intractability of skepticism, and the value of knowledge.

I find this view highly plausible and many scholars claim we can derive substantial epistemological payoffs by adopting it.[1] Instead of focusing on knowledge, however, I want to investigate why humans think and speak of *understanding*. What role (or roles) does this concept play in human life? What needs does it answer to? I intend to answer these questions and, in doing so, make progress on a variety of issues including the nature and value of understanding, the role of explanation in understanding, and the relationship between understanding and knowledge. I will also highlight some benefits of function-first epistemology and put this approach on a sounder methodological basis.

1. Understanding and Knowing

Philosophical interest in understanding has expanded in recent years. Those familiar with this body of literature will know that philosophers exploring the nature of understanding have largely done so by comparison with knowledge. As a result of comparing knowing and understanding, philosophers have tended to concentrate on answering the following questions: Is understanding factive? Is it immune to epistemic luck? Is it transparent? Does it come in degrees? Is it transmittable via testimony? Is it reducible to knowledge? This cluster of questions has largely set the research agenda for the study of understanding in epistemology. Philosophers have sought to improve our understanding of understanding by comparing it with what we know about knowledge.

Unsurprisingly, philosophers disagree about the answers to these questions. It is widely accepted that knowledge is factive, but it is less clear whether understanding is factive.[2] While pretty much everyone thinks certain types of epistemic luck undermine knowledge,

[1] See Neta (2006), Weinberg (2006), Fricker (2008), Greco (2008), Henderson (2009), Dogramaci (2012), Pritchard (2012), McKenna (2013), Grimm (2015), and Hannon (2017).

[2] Zagzebski (2001), Elgin (2007), and Riggs (2009) argue that understanding is not factive, while Pritchard (2009), Strevens (2013), Greco (2014), and Hills (2016) claim that at least some types of understanding, such as understanding-why, are factive.

there is little agreement about whether understanding is immune to the same forms of luck.[3] Almost everyone agrees that understanding comes in degrees, but there is disagreement about whether knowledge admits of degrees.[4] It has also been said that understanding, unlike knowledge, is transparent; but this, too, is disputed.[5] Finally, it is debatable whether understanding is transmittable via testimony and yet testimony is a basic way in which knowledge gets around.[6]

Interesting though these questions may be, I want to temporarily set them aside (I'll return to some of them shortly). These debates are focused on getting the conditions under which one has understanding just right, leaving aside for the most part questions about the role of understanding in our lives more broadly. Let me explain.

Suppose, however optimistically, that these conceptual issues were one day resolved. This would certainly be a considerable achievement, but answering these questions would not tell us *why* our epistemic concepts have (or lack) these features. For example, let's assume that understanding turned out to be non-factive and compatible with epistemic luck. We might ask: why do we have a concept demarcated by those conditions? This question does not naturally arise in the current debates on understanding. Further, the usual attempts to analyze understanding tell us little, if anything, about why this concept might differ from nearby epistemic notions, such as knowledge. Assume, for instance, that truth is a necessary condition for knowledge but not for understanding. Why would that be? What social role does a factive epistemic concept play and how does it differ from the social role played by a non-factive epistemic concept? This question is wide open for philosophical investigation. Thus, many of the standard epistemological debates about understanding should, I claim, be

[3] Zagzebski (2001), Kvanvig (2003), Morris (2012), and Hills (2016) argue that understanding is immune to knowledge-undermining luck. Pritchard (2009) says understanding is incompatible with Gettier-type luck but not environmental luck. Brogaard (2005), Grimm (2006), Khalifa (2013), and Greco (2014) argue that understanding is incompatible with the same type of epistemic luck as knowledge.

[4] Kvanvig (2003) and Hills (2016) argue that understanding, but not propositional knowledge, admits of degrees, whereas Hetherington (2001) says knowledge-that is also gradable. Brogaard (2005), and Riaz (2015) argue that knowledge-why is gradable.

[5] Zagzebski (2001) says understanding is transparent in the sense that there is no gap between seeming to understand and understanding. Trout (2002) and Hills (2016) deny this.

[6] Pritchard (2009) and Hills (2016) argue that understanding cannot be transmitted by testimony, but Sliwa (2015) and Boyd (2015) deny this.

regarded as a prolegomenon to a future (and I think more interesting) philosophical inquiry.[7] I hope to foreground these broader questions about the role of understanding in human life, as well as to throw new light on epistemic value.

2. Function-First Epistemology

My strategy is to explore the nature and importance of understanding by investigating the role (or roles) of the concept of understanding in our life. But, one might ask, how do we ascertain what role (or roles) this concept plays and what conceptual needs it satisfies?

The 'function-first' strategy has three broad steps.[8] First, we start with a prima facie plausible hypothesis about what the concept of understanding does for us (i.e. what its role is). For this hypothesis to be plausible, it must be compatible with certain facts about human life, such as facts about our physical environment, our social organization, our cognitive capacities, and the basic aims and interests we typically have. These facts about humans and their circumstances will then give rise to a certain conceptual need that is supposed to be satisfied by the purpose described in our hypothesis.

Second, we try to determine what a concept having this role would be like (i.e. what conditions would govern its application). At this second stage we can perhaps gain new insights on familiar issues, such as the relationship between luck and understanding, the factivity of understanding, and the possibility of transmitting understanding through testimony. Once we better appreciate the role of the concept of understanding in human life and thought, we can ask what features a concept that satisfies this role would have; for instance, would the presence of epistemic luck threaten the purpose of the concept of understanding? If so, we then have a reason to regard understanding as incompatible with epistemic luck. I will not pretend to resolve every issue about the nature of understanding that is raised in the course of this discussion, but at certain points I will try to indicate where the account could be developed in different ways.

[7] I take this expression from Craig (1990: 2).
[8] Here I elaborate on Craig's approach to knowledge (1990: 2), although my account makes no detour through imaginary genealogy.

Third, we must examine the extent to which this concept matches our everyday notion of understanding. In this way, our investigation is anchored by the everyday concept that we are looking to explicate. If our investigation were to reach a result quite different from the intuitive extension of the word 'understands', then, "barring some special and especially plausible explanation of the mismatch, our original hypothesis about the role that the concept plays in our life would of course be the first casualty" (Craig 1990: 2). Our aim is to construct a concept that not only functions in the manner suggested by our hypothesis, but also one that fits our intuitions (or explains why our intuitions diverge). Thus, while function comes 'first' on this approach, it is not the last word.

Function-first epistemology is importantly different from traditional conceptual analysis, which analyzes concepts by "breaking them down" into their constituent parts (e.g. knowledge as analyzed in terms of justification, truth, and belief). Unlike traditional conceptual analysis, the goal of my inquiry is not to enumerate the necessary and/or sufficient conditions for understanding but rather to clarify the nature and origins of our practice of evaluating people as understanders. That said, function-first epistemology is perfectly compatible with the goal of enumerating necessary and sufficient conditions. I simply regard it as an open question whether an account of understanding will fit comfortably into a list of such conditions. The danger is in *presuming* that our concepts must be analyzed in this traditional way, for this can prove too restrictive.[9]

I am motivated to try this functionalist approach because traditional conceptual analysis has come under heavy fire in recent years, largely due to the work of Wittgenstein (1953), Williamson (2000), and the fallout from the Gettier problem. These critiques have led many to wonder whether conceptual analysis really could be the right approach in epistemology—and perhaps in philosophy more generally. It will therefore do no harm to have an alternative

[9] Function-first epistemology has interesting similarities and dissimilarities with the method of explication (Carnap 1950). The task of explication is to transform an inexact concept (the explicandum) into an exact one (the explicatum), effectively replacing the former with the latter. The adequacy of the explicatum is assessed in light of the theoretical purpose it is intended to serve in the target theory. Thus, like the function-first approach, the method of explication is related to a purpose; but whereas the former refers to the purpose that the concept in question serves in our life, the latter focuses on the purpose that the concept is intended to serve within a target theory. For an attempt to use the method of explication to provide an account of understanding, see Christoph Baumberger (forthcoming).

angle on our epistemic concepts, especially one that does not start from particular judgments about cases (or the extension of words like 'knows', 'understands', and so forth). Instead of beginning with ordinary usage, we might learn something new if we begin by reflecting on the purposes of epistemic evaluation. Whether or not this approach succeeds, it will be useful to see how far we can get with this line of inquiry.

Unlike traditional conceptual analysis, function-first epistemology goes beyond the project of merely *describing* our epistemic concepts and practices; it allows us to engage in the *normative* project of evaluating how well or poorly our practices actually satisfy our needs and goals. By taking function 'first' we can assess our current practices in light of the roles that epistemic evaluation is supposed to serve, and thus we can aim to improve our practices. In contrast, methodologies that rest too heavily on ordinary usage or intuitive judgments about cases will only end up describing our actual practices, not characterizing those that would be best for us. These descriptive approaches might be useful for other goals, such as explaining aspects of human cognition. But what is unsatisfying about these approaches is they simply assume the propriety of our ordinary practices of epistemic evaluation; they do nothing to say why we should think these practices are actually worthy of our endorsement. Function-first epistemology allows for genuine epistemic normativity without being indifferent to how the results of our approach tally with ordinary language, our judgments about cases, and our current epistemic practices.

3. What's the Point of Understanding?

That's enough about the job description—now on to the job itself. Why do we attribute understanding? What role does this concept play in human life? Answering this question is the first step in the three-stage strategy outlined above. The hypothesis I want to test is: attributions of understanding are primarily used to identify individuals who can *provide us with explanations*. Put more briefly, I hypothesize that 'understands' identifies *explainers*.

This isn't just wild speculation. In his *Posterior Analytics*, Aristotle discusses the close connection between explanation and understanding, and this conceptual link is widely acknowledged in the contemporary literature. Here are a few representative statements:

> [U]nderstanding, as Salmon puts it, results from 'our ability to fashion explanations'. That is almost tautological. (Kim 1996: 61)

> Understanding without explanation? Impossible, or so I will argue—in the case of science, at least. (Strevens 2013: 510)

> [I]f you understand why *p*, you can give an explanation of why *p* and you can do the same in similar circumstances. (Hills 2016: 663)

While the link between explanation and understanding can be filled out in different ways, several philosophers have argued that one must be able to give a correct explanation to have understanding.[10] Khalifa (2011: 108), for instance, says it is impossible to understand why a phenomenon took place without believing a correct explanation for it. And de Regt (2009: 25) claims that understanding a phenomenon *just is* having an explanation of that phenomenon. Thus, the idea that explanation plays an indispensible role in understanding is not all that new, and certainly not mere speculation.

You might worry that my hypothesis gets things backwards. Shouldn't we characterize a good explainer in terms of understanding rather than the other way around? In other words, doesn't one need to have understanding to qualify as a good explainer?

This is a natural concern. But despite the allure of this idea, I will try to cast doubt on it by developing a more plausible alternative. I maintain that understanding is most plausibly understood in terms of the idea of a good explainer; *viz*., we get to the nature of understanding by reflecting on the criteria for being a good explainer. It is by starting with the idea of an explanation-seeking inquirer that we are ultimately led to a plausible account of the nature and value of understanding. Thus, my goal is to throw light on *what understanding is* by thinking about the point of the concept of understanding. As a pragmatist, my investigation has a second-order, or linguistic, focus. Instead of asking about the nature of

[10] See Strevens (2013), Greco (2014), and Hills (2016).

epistemic facts, states, or values, I start by investigating the nature of epistemic evaluations. This is a controversial starting point, but the reader may judge whether or not my proposal succeeds by its fruits.[11]

This hypothesis—that attributions of understanding are used to certify explainers—makes the connection between explanation and understanding quite clear. But why do we care about identifying explainers? This question needs an answer if we are to clarify the importance of understanding in epistemic evaluation.

The answer is simple: we care about identifying explainers because we value *explanations*. Humans are driven to acquire and provide explanations in a variety of domains. We seek to understand, and thus explain, the origins of the universe, why some actions are morally wrong, the cause of a rash, and so on. Our quest for explanations is strikingly domain general, as Gopnik points out:

> We seek and are satisfied by explanations of physical objects, animate beings, psychological agents, and even social groups. We seek and are satisfied by explanations in terms of physical laws, biological processes, reasons, or rules. (Gopnik 2000: 311)

Even children ask 'Why?' within months of uttering their first words, and this question cuts across domains for them as well (Wellman *et al*. 1997). Humans, it seems, are natural explanation-seekers. The unmet need for an explanation can leave us irritated or unsatisfied in a way that compels us to seek a resolution.

Humans seek explanations, but what *are* explanations? They have been characterized in a variety of ways, with different theories offering different constraints that would-be explanations have to obey. For example, Hempel and Oppenheim (1948) require an explanation to make essential use of a law of nature. Unificationist theories state that

[11] Two additional points are worth mentioning. First, anyone who claims that a good explainer should be characterized in terms of understanding would still owe us an account of what understanding is. In contrast, I hope to shed light on the nature of understanding by reflecting on the criteria for being a good explainer, thereby providing a fuller account. Second, anyone who is unconvinced that we can get at the nature of *understanding* by investigating the role of the *concept* of understanding can still take my argument to illuminate the nature, purpose, and value of the concept of understanding in human life.

explanations are deductions that are tokens of the most unifying types of argument (Kitcher 1989, Schurz 1999, and Gijsbers 2013: 517). Causal theorists maintain that events can only be explained by their causes (Salmon 1984, Strevens 2008, and Woodward 2003). While there is surely some truth in each of these views, there is no compelling reason to think all explanations must have a common structure or function. The research on explanations spans multiple kinds of judgments and distinct cognitive mechanisms. Thus, we should be *permissive* about what counts as an 'explanation'.

This pluralist view does not prevent us from offering a general characterization of explanations. Like any family resemblance term, we can pick out a cluster of overlapping similarities, even if there is no set of necessary and sufficient features that will account for all the things we call 'explanations'. For example, explanations are typically the answers to 'why' or 'how' questions. These answers will often refer to causal relations, but not all explanations must pick out causal relations; for instance, explanations given in mathematics or morality are unlikely to be causal.[12] We should expect different kinds of explanations from different subject matters. Thus, an attractive strategy proposed by Kim (1994), Greco (2014), and Grimm (2014) is to put aside the narrow focus on causation and appeal to the more general notion of *dependence*. On this view, dependence is the genus category with different kinds of dependence—causal, mereological, grounding—playing the role of species (Grimm 2014: 341). Unlike much of the literature on explanation, which has been firmly grounded in the philosophy of science, this sort of explanatory pluralism allows us to make sense of our pervasive use of non-scientific explanations in daily life.

I have argued that identifying explainers is important because seeking explanations is central to human inquiry, but I have not yet said much about why we value explanations. What is so great about them? I think our interest in explanations has two general sources: we seek them for *practical* reasons as well as *purely epistemic* reasons.

There are many practical incentives for wanting to explain our environment. For example, the process of seeking explanations facilitates the discovery and confirmation of

[12] Keil (2006) and Murphy and Medin (1985) argue that the vast majority of our everyday explanations invoke notions of cause and effect.

instrumentally valuable theories, which contributes to predicting future events. This, in turn, enhances our ability to control changes in our environment. As Craik puts it,

> the power to explain involves the power of insight and anticipation, and this is very valuable as a kind of distance-receptor in time, which enables organisms to adapt themselves to situations which are about to arise. (1943: 7)

As a means to anticipating and accommodating the future, explanations have clear survival value. Thus, explanations serve an important practical function in guiding our interactions with the world.

Explanations also play a crucial role in justifying or rationalizing action. Why did the Ancient Egyptians mummify their dead? Why is Tom being such a jerk lately? Questions that call for explanations, and explanations for human action in particular, are among the commonest questions we have. Why did Othello kill Desdemona? To answer this question, we need an explanation for his action, namely, the fact that he believed Desdemona was unfaithful to him (among other facts, presumably).

An emerging body of research from the cognitive sciences demonstrates that both explanation (the process) and explanations (the products) have many other practical benefits for everyday cognition.[13] I do not have space to discuss this literature in detail, but Lombrozo (2011) nicely summarizes these findings. She discusses how engaging in explanation can facilitate learning, guide exploration, and influence decision-making. Explanations also play a role in motivating the construction of causal theories, resolving inconsistencies, calibrating meta-cognition, and diagnosing and repairing things. Thus, explanations clearly have critical prudential value.

But a purely prudential account of explanatory inquiry would be too limited. Beyond our practical concerns, we also have a desire to make sense of the world rooted in what Hempel (1965) calls "sheer intellectual curiosity". We are fascinated by why the dinosaurs became extinct even though knowing its cause would have little, if any, practical impact on our lives.

[13] For reviews, see Keil (2006) and Lombrozo (2006, 2011).

Some questions attract our curiosity even though their answers have no practical value for us. This point is widely acknowledged. Goldman talks about the desire for truth "*for its own sake*, not for ulterior ends" (1998: 98). Grimm distinguishes "epistemic curiosity", which responds to our sense of puzzlement, from "prudential curiosity", which responds to some basic prudential concerns of ours (2008: 737). And Strevens opens his book, *Depth: An Account of Scientific Explanation*, with the following lines:

> If science provides anything of intrinsic value, it is explanation. Prediction and control are useful, and success in any endeavor is gratifying, but when science is pursued as an end rather than a means, it is for the sake of understanding – the moment when a small, temporary being reaches out to touch the universe and makes contact. (2008: 3)

In other words, our second basic motivation for explanatory inquiry is our deep concern to make sense of the world we live in, to explain the unending flow of our experiences.

Our interest in explanations thus has two sources: we have many practical incentives for wanting to explain our environment, but explanations can also be rewarding in their own right, independently of whatever practical benefits they might confer. Both of these facts explain why humans need to identify explainers. We value explanations, but as finite beings with limited cognitive resources we cannot figure out everything on our own. Instead we often must rely on the testimony of others. Thus, we have an interest in identifying people who can provide us with explanations. I hypothesize that the concept of understanding is used to pick out explainers. In this way, the concept of understanding plays an important role in the general economy of our concepts.

4. Refinements

Is this hypothesis too narrow? Aren't there many possible situations in which a person can have understanding and yet not be able to provide an explanation? For example, explanation seems to be linguistic and explicit, but someone who cannot speak or write can surely have understanding. Also, a person like Robinson Crusoe might understand many

things and yet not function as an informant or explainer for anybody. So why should we think attributions of understanding are used to identify people who can provide us with explanations? Further, inquirers will not settle for just *any* explanation: they want *good* (or true) explanations. In all of these cases, a gap seems to open up between our natural ascriptions of understanding and the concept we have arrived at by considering the practical situation of an explanation-seeker.

I will be the first to admit that we may need to supplement or modify our initial hypothesis, especially if it doesn't issue a concept that is at least very similar to our everyday notion of understanding. But this is no reason for despair. It is a good policy to test the explanatory powers of the simple before resorting to the more complex, even if a more complex hypothesis is ultimately needed. Thus, I will now introduce some refinements to stave off objections and hopefully enhance my proposal's plausibility.

First, my hypothesis is best construed as an account of *understanding-why*. Understanding-why is at the center of a lot of recent work in epistemology, as well as the philosophy of science, and many scholars regard it as the paradigmatic form of understanding.[14] Some examples of understanding-why include: I understand why the Earth's average temperature is increasing; I understand why that driver ran a red light; I understand why the sky is blue. My hypothesis is meant to provide an account of understanding-why *p*, where *p* is some proposition. I am especially interested in this type of understanding because the social function of epistemic evaluation seems deeply linked to the transmission of information, and propositions are the most common vehicle of transmittable information.

Pritchard takes paradigm uses of 'understands' to be statements like "I understand why *p* is the case", but he says understanding usually *isn't* concerned with propositions. He thinks this because "it is rare to talk of understanding *that* p" (Pritchard 2010: 74, emphasis mine).[15] However, it is plausible that to understand why *p* one's understanding must be directed

[14] Pritchard (2010), Hempel (1965), Kitcher (1989), Grimm (2008), de Regt (2009), Khalifa (2012), Strevens (2013), and Hills (2016) all focus on understanding-why. Pritchard and Hills say it is the paradigmatic form of understanding, although this is not uncontroversial (see Kvanvig 2003 and Elgin 2007).

[15] This is actually false. Peter van Elswyk surveyed instances of "understanding that" in the Corpus of Contemporary American English (COCA) and found they outnumber instances of "understanding why" more than 2 to 1.

towards a set of propositions, namely, those reasons as to why *p* is the case (see Hills 2016 and Boyd 2016). Thus, Pritchard's reasoning does not necessarily speak against the idea that the information content of understanding-why is propositional.

Understanding-why is often contrasted with two other kinds of understanding: practical and objectual. Practical understanding, or understanding-*how*, is more closely tied to abilities or skills than explanations. For example, a player who understands how to catch a fly ball might be unable to explain how he can do this and explanations seem inadequate to imbue such a skill.[16] Objectual understanding, in contrast, is more holistic. It is usually attributed using the verb 'understands' followed directly by a noun; for example, "Elizabeth understands American History" and "Lana understands quantum physics".[17]

According to Khalifa (2013), objectual understanding can be reduced to understanding-why. Similarly, Grimm (2016) argues that understanding-why and objectual understanding differ only in degree, not in kind. To the extent that objectual understanding can be reduced to understanding-why, my claims about understanding-why will translate to the objectual case. This would increase the explanatory power of my account. Further, we invoke explanations not only to shed light on why something happened but also to explain how to do things, what to do in a given situation, and what happened. This provides some reason to think our need for good explainers isn't limited to cases of understanding-why. Nevertheless, there is likely a non-reducible variety of uses of the word 'understands', not all of which can be assimilated to my explanatory account. So while I am open to the possibility that my account may shed light on other types of understanding, I shall limit all subsequent remarks about 'understanding' to cases of understanding-why.

A second refinement is needed. Our current hypothesis is that attributions of understanding are used to identify explainers, but not just *any* explainer will do. A street psychic might tell me that my marriage is struggling because my wife has a conflicting zodiac

[16] Not all cases of understanding-how are incompatible with my account. Some 'how' questions demand explanations; for example, "How do seahorses reproduce?" Thus, we cannot distinguish understanding-why from other types of understanding solely in terms of their grammatical form. Nevertheless, I hope to make use of a distinction between various forms of understanding that is widely accepted in the epistemology of understanding in order to delimit the focus of my paper.

[17] Kvanvig (2003), Elgin (2007), Wilkenfeld (2014), and Kelp (2015) investigate objectual understanding.

sign, but this is not a *good* explanation of our unfortunate situation. Even if I believed in astrology and would thus get the 'sense' of understanding from this explanation, that does not suffice to make it a good explanation. A good explanation is genuinely explanatory. Astrology, however, does not correctly explain the cosmic order. Thus, our initial hypothesis needs a slight modification, namely, attributions of understanding are used to mark out people who can provide us with *good* explanations. In short, 'understands' identifies *good explainers*.[18]

Three clarifications are in order. First, it is implausible that one can understand why *p* if it is not the case that *p*. For example, you cannot understand why Jesse James robbed the bank if he did not rob the bank. Likewise, you cannot understand why Brad Pitt dumped Jennifer Aniston if he did not dump her. Thus, understanding-why turns out to be factive in basically the same way that knowledge is factive. It is widely accepted that S fails to know *p* if *p* is false. Likewise, we should accept that S fails to understand why *p* if it is not the case that *p*. The explanandum must be true if one is to have understanding-why. This sheds some light what our concept of understanding is like (i.e. the second step of the function-first approach). If understanding-why were not factive, it likely wouldn't satisfy our need to identify good explainers.[19]

Second, one might claim that an explanation must *by definition* be genuinely explanatory; in other words, a false explanation would be no explanation at all. However, I think conspiracy theorists can provide explanations for events even when these explanations

[18] You might wonder why we need the concept of understanding if we already have the concept of a good explainer. However, I am using 'good explainer' as a theoretically fertile philosophical notion, not as a term that has lay currency. It is designed to be a limiting concept that might be different from any folk conception of this expression.

[19] A far more complicated issue is whether the *explanans* must also be true. According to some scholars, a factive conception of understanding "cannot do justice to the cognitive contributions of science" (Elgin 2007: 32). For example, scientists purport to understand the behavior of actual gases by reference to so-called ideal gas, even though there is no such gas. Elgin calls these "felicitous falsehoods" (2007: 39). I will not pretend to resolve this contentious matter here, but I will offer two brief remarks. First, I find it plausible that some cases of understanding are not factive (or only quasi-factive); however, these are not typically cases of understanding-*why*. Elgin seems to grant this point in her new book (2017: 40). A non-factive conception of understanding is far more plausible in cases of *objectual* understanding than understanding-why. Second, Hazlett (2017) has convinced me that understanding-why is a species of correct representation. As such, understanding-why *p* will require "correctly representing E as the explanation for the fact that *p*, which entails that E is the explanation of the fact" (2017: 138-9).

are false. They simply do not provide *good* explanations (because they are not genuinely explanatory).

Third, it might be the case that what counts as a good explanation (and perhaps even an explanation at all) varies contextually, both between speakers and for the same speaker at different times. I will return to the issue of context sensitivity at the end of this section.

On the table now is the following modified version of our initial hypothesis: 'understands' certifies *good* explainers. But this hypothesis still faces objections. There are situations in which a person seems to count as an 'understander' even though that person is unable to provide a good explanation. Suppose Barney is unable to speak and write, so he cannot provide us with an explanation for why the floor is covered in milk. Still, Barney might understand why there is milk on the floor because he saw what happened. Thus, attributions of understanding do not seem to certify good explainers—or so the objection goes.

This objection can be straightforwardly answered. Barney's lack of verbal and linguistic abilities might render him unable to provide *us* with a good explanation, but if Barney truly understands why there is milk on the floor, then he must be able to adequately explain this *to himself*. If he cannot formulate an explanation for himself, he lacks understanding. As John Searle once said, "If you can't say it clearly, you don't understand it yourself." Thus, there is a sense in which Barney *can* provide a good explanation, even if he cannot explain it *to us* due to certain communicative obstacles. It would be pedantry to say that he understands but cannot explain. Even if he cannot express it, he does have a good explanation (see Gijsbers 2013: 518). I might add that a particular individual's inability to communicate an explanation does not imply the explanation is inherently incommunicable, but merely that at present they are the wrong person for the job. Another way of putting this point is that we are interested in identifying people who *have* good explanations. Presumably we are interested in identifying such people because it is in our collective interest to mark out individuals who can share their explanations with us and with others.

A consequence of this view is that infants lack understanding-why. According to some cognitive psychologists, infants can show tacit understanding even though they are unable to provide an explanation (and also a self-explanation). For example, Clements and Perner

(1994) claim that infants implicitly understand that some agent holds a false belief about the location of an object on the grounds that these children will look at the area where the agent mistakenly believes the object is located (as opposed to where the children, but not the agent, saw the object was moved). However, this phenomenon can easily be described as cases in which young children show some *awareness* of false beliefs without really having understanding-why. As Perner and Ruffman (2005: 214) argue, the apparent success on these theory-of-mind tasks can be explained without supposing that infants have any understanding of the belief at all.[20]

Why, then, do we sometimes attribute understanding to young children? As Elgin (2017: 30) points out, we can use epistemic success terms in ways that reflect a 'courtesy usage'; for instance, we might say that a young child has some understanding of photosynthesis because she thinks that sunlight is the flower's food. I find it feasible to dismiss such attributions of understanding as mere courtesy usage—or what Kvanvig (2003) calls 'honorific' uses. If you are unconvinced by this move, I ask you to reconsider whether these children really have understanding-*why*. Perhaps there are plausible cases in which children have objectual understanding or understanding-that, but it is less plausible to say that a child who cannot formulate any explanation for why a phenomenon occurred (even roughly and to herself) has understood *why* the phenomenon occurs. Acknowledging this does not prevent us from saying something about what makes the view of one child *better* than the view of another child. The child who thinks that sunlight is the flower's food may still know more, or be closer to understanding photosynthesis, than the child who thinks that flower's survive on magical powder.

It is also worth pointing out that what counts as 'providing an explanation' can be filled out in a number of ways, not all of which might be linguistic. Perhaps you can *show me* what happened, even if you cannot tell me or write it down. But even if there is *no way* for you to provide me (or anyone but yourself) with an explanation, this obstacle is really no more worrying than a situation in which you cannot provide us with an explanation because you are nowhere to be found. Someone who cannot be located can still, in an important sense,

[20] I set aside animal understanding because I am providing an account of human understanding.

provide a good explanation—she simply cannot provide it to us right now. As information-dependent beings, it is in our interest to identify people as good explainers even if they are not functioning as a good explainer at a specific moment. After all, we can often rely on such people for communicating explanatory information under the right circumstances (e.g. if we can find them and if they are willing to tell us).

Potentially worrying cases involving isolated individuals, such as Robinson Crusoe, can be dealt with in a similar way. You might worry that the social function of identifying good explainers leaves mysterious why there are cases of understanding that do not involve any interpersonal relations. But there are at least two reasons to regard someone as an explainer even if no one else is around. First, we can explain things to ourselves, as already mentioned. Second, it is important that we have a practice whereby people can declare themselves to be good explainers because they themselves will often be the only people in a position to tell whether they are qualified or not. An understander is someone who meets a sufficiently high-quality epistemic position such that potential inquirers could in principle rely on this person's information, even if nobody actually does ever seek such an informant. This explains why we would want to say that someone understands why *p* even though that person is not actually functioning as an explainer for anybody.

This account is also compatible with the highly plausible idea that understanding comes in degrees, thereby casting additional light on what our concept of understanding is like (Elgin 2007, Grimm 2014, and Hills 2016). The quality of explanations comes in degrees, so attributions of understanding will track these differences in quality. I will not provide a detailed account of explanatory quality here, but it will suffice to note that the quality of explanations varies along at least two dimensions: depth and breadth. The comprehensiveness of the body of information contained in an explanation can increase its breadth, while a causal model that is more abstract is deeper (Strevens 2008). Railton (1981) says an explanation that traces an event's causal history back farther in time is better for it, and Hills (2016) argues that one's understanding can be better or worse depending on how good one is at explaining things in one's own words.

How deep or broad an explanation must be for the explainer to qualify as an understander will likely depend on context. Thus, the concept of understanding will in some way be context sensitive. I do not have space to delve into this complicated matter here, but I will point out that context can affect the epistemic standard for understanding in one of two ways. On the one hand, the threshold for understanding might be *invariant* even though our willingness to *attribute* understanding is affected by context. According to this view, it might be inappropriate to attribute understanding to someone who meets the (fixed) threshold for understanding because it would generate the false implicature that her explanation is good enough for the context. On the other hand, the threshold for who truly qualifies as an understander (and not just when it is *appropriate* to attribute understanding) might itself vary with context. I want to remain neutral on this issue, but I will register that I incline towards the latter view. This is because who truly counts as a good explainer will likely depend in part on the circumstances and one's audience. For example, one might qualify as a good explainer in the context of a third grade classroom but not at a professional meeting of experts in the relevant field. Thus, in some contexts one might not meet the required standard for understanding while in other contexts the epistemic bar might be lower. In any case, settling this question about the truth conditions of understanding attributions is not essential for my purposes because ascriptions of understanding will likely serve their function regardless of whether invariantism or contextualism is true. At the very least, there is no obvious reason to think one of these two views about the semantics of understanding attributions is incompatible with my hypothesis about their function.

5. Do Understanding and Explanation Come Apart?

A function-first epistemologist aims to construct a concept that not only functions in the manner suggested by his or her hypothesis, but also one that fits our intuitions. To this end, we must examine the extent to which my hypothesis matches the everyday concept of understanding. This is the third step in our three-part approach (outlined in section 2).

There are two ways to drive a wedge between explanation and understanding. The first is to show there are cases in which a person can explain why *p* even though she does not

understand why *p*. The second, which I briefly discussed above, is to argue that an agent might have genuine understanding and yet be unable to provide an explanation. Building on the modified hypothesis from the previous section, I'll now deal with additional objections along these lines. I argue that my hypothesis does issue in conditions of application that match the intuitive extension of the word 'understands'.

The most obvious case in which a person can provide an explanation without having understanding is that of a parroter. A parroter is someone who mindlessly repeats what he or she has heard. Imagine a presidential candidate who knows little about climate change but who memorizes the following explanation of the phenomenon for his stump speech:

> Our climate is undergoing dramatic changes as a result of human activity. Although greenhouse gases like carbon dioxide play an important role in keeping the earth warm, human activities like the burning of fossil fuels have produced too much carbon dioxide. We need to reduce the emission of greenhouse gases in order to limit anthropogenic climate change.[21]

The candidate might understand some aspects of this description, but let's suppose he does not understand what greenhouse gases are, how they relate to climate change, or what role carbon dioxide plays in heating the earth. Nevertheless, the candidate seems to successfully provide an explanation of climate change.

It is, however, compatible with my hypothesis that people can provide explanations without themselves understanding. As you'll recall, I argue that ascriptions of understanding pick out *good explainers*. The notion of a 'good explainer' can be filled out in multiple ways, but one highly plausible characteristic of such a person is the ability to reliably evaluate explanations. Following Khalifa (2013), we may characterize a good explainer as someone who can typically discriminate between correct and incorrect explanations, and thus is not susceptible to believing incorrect explanations. Further, a good explainer can normally provide elaboration, answer closely related questions, give explanations in his or her own

[21] I'm aware that I would make a horrible political speechwriter.

words, follow an explanation of why *p* given by someone else, and will often be able to answer "what if things had been different" questions.[22] The parroter, in contrast, will lack these abilities and will therefore not qualify as an understander. This also illustrates that knowing a good explanation does not suffice for being a good explainer, since it is plausible to say the candidate *knows* a good explanation (via testimony) and yet he does not qualify as a good explainer.

Another potential gap between explanation and understanding is the possibility of non-explanatory understanding. You might think it is possible that, for all correct explanations E of *p*, a person might not know that E explains *p* and yet still understand *p*. But is understanding without explanation possible?

In "Understanding without Explanation", Lipton (2009) rejects the idea that wherever we find understanding we also find explanation. He defends the thesis that understanding without explanation is possible by appealing to several examples, one of which is the following:

> Suppose that a boxing match between Able and Baker is rigged so that Baker—though in fact the far better boxer—would take a dive in the tenth round. Imagine, however, that as a matter of fact Able floors Baker with a lucky uppercut in the fifth. (Lipton 2009: 51)

Lipton uses this example to argue that potential explanations may provide understanding without approximating an actual explanation; thus, understanding needn't pass through actual explanation. But how plausible is Lipton's boxing example? Suppose we know that *if* the fight had lasted until the tenth round, then Baker would have taken the dive; but we do not know that Able's fifth round knockout actually caused his victory. Do we understand why Baker lost the match?

According to Lipton, knowing that the match was rigged helps us understand why Able won, even though the explanation of the win depends entirely on the lucky punch. It is

[22] See Woodward (2003), Grimm (2012), and Hills (2016). More abilities might be needed, such as those required for what Hills calls 'cognitive control.'

because we possess knowledge of salient counterfactual scenarios that we understand, even though we do not know the actual explanation. Khalifa agrees with Lipton that this is a case of understanding, although he says we do not understand why Able won as well as someone who knows about the actual course of events (2012: 12).

I find these judgments surprising. It seems intuitive to me that we would only *think* we understand why Able won, but we would not actually understand why. Imagine someone who is surprised by Abel's victory asks us: "How did Baker lose to Abel?" If our answer is "Because Baker took a dive", then we clearly do not understand why Baker lost the match. If we do not know that Able's fifth round knockout was actually due to a lucky uppercut, then we have an incorrect explanation for the match's result and, consequently, we fail to understand why Baker lost.[23] Thus, Lipton's example does not illustrate the possibility of understanding without explanation. Rather, it seems consistent with the hypothesis that understanding requires a good explanation.

Lipton also says we can acquire understanding through *demonstrations* rather than explanations. In a bit of autobiography, Lipton writes:

> I never properly understood the why of retrograde motion until I saw it demonstrated visually in a planetarium. A physical model such as an orrery may do similar cognitive work. These visual devices may convey causal information without recourse to an explanation. And people who gain understanding in this way may not be left in a position to formulate an explanation that captures the same information. Yet their understanding is real. (2009: 45)

This passage expresses two important ideas: first, understanding can be attained in a non-explanatory way (i.e., via demonstration); second, understanding can be non-linguistic.

The first point is perfectly compatible with my hypothesis. I claim that ascriptions of understanding are used to pick out good explainers, but I do not argue that demonstrations cannot put one in such a position. In fact, it seems highly plausible that a visual

[23] Strevens (2013: 514) agrees.

demonstration of the sort Lipton describes might put an individual in a position to provide a good explanation. Thus, I grant that understanding might be attained through demonstration (or some other non-explanatory route).

Lipton's second point is that understanding can be non-linguistic. As discussed in the previous section, this objection is not persuasive. An agent (like Barney, who saw the milk spill) might lack the ability to formulate an explanation for others and yet be able to explain the event to himself. An individual's inability to communicate an explanation does not necessarily imply that the person is not a good explainer. Further, any agent who is unable to formulate a self-explanation *does* seem to lack understanding. In Lipton's case, the reason the outer planets occasionally seem to reverse their motions is that the earth's orbit around the sun is tighter than the outer planets, so it will occasionally overtake them, thereby causing the appearance of retrograde motion. Anyone who cannot formulate this idea, even roughly, has not understood why the phenomenon occurs. Thus, it seems impossible for someone to understand why *p* unless she can formulate an explanation as to why *p*.

A consequence of this view is that we probably understand less than we think we do. I find this perfectly acceptable. After all, our phenomenological sense of understanding is an unreliable indicator of genuine understanding (see Trout 2002). It is not counterintuitive to say that people often think they understand something that they do not actually understand. Rather, my account would simply reveal that people sometimes claim to understand things that, if pressed for an explanation, they turn out not to understand. This phenomenon is known as 'the illusion of explanatory depth' and it is well documented in psychology (see Rozenblit and Keil 2002).

Lipton provides other putative examples of understanding without explanation, although I do not have space to discuss them all here.[24] Many of them can be set aside as examples of practical understanding or objectual understanding, not understanding-why. As mentioned earlier, an explanationist conception of understanding is probably too narrow to account for the full range of cases in which we attribute understanding. But this cuts no ice with my view because I am analyzing understanding-why.

[24] See Khalifa (2012) and Strevens (2013) for additional criticisms of Lipton's examples.

In lieu of an exhaustive critical discussion of each of Lipton's examples (and many other possible examples), let's suppose for the sake of argument there *are* some genuine cases of understanding-why without explanation. Would this put my view in peril?

Not necessarily. Even if there were instances of understanding-why without explanation, these situations are presumably quite rare (I haven't come across any such cases). This is consistent with my claim that the *primary* function of attributing understanding-why is to identify good explainers.[25] As a function-first epistemologist, the goal of my inquiry is not to enumerate the necessary and sufficient conditions for understanding, but rather to investigate the nature and origins of our present practice. I am interested in identifying what might be called the 'core' of the concept of understanding-why, which allows me to specify conditions that hold only for the most part, but not always.

An advantage of this approach is that we need not ignore important characteristics of understanding. A theory proposing necessary and/or sufficient conditions will be rejected in the face of any counterexample, since counterexamples have enormous power against that sort of approach. If, for example, it can be argued that a case of knowledge without belief is possible, then belief will make no appearance on the final balance sheet in our theory of knowledge.[26] Similarly, if a case of understanding without explanation were possible, then explanation would not be a necessary condition for understanding. Must we therefore abandon our theory in the face of such 'counterexamples'? I suggest not. Instead, we should be open to the possibility that explaining the nature and value of understanding will come from certain contingent characteristics. Even if there are some cases of understanding

[25] We can use things, including words and concepts, for many purposes. But it is important to distinguish what the primary function of something *is* as opposed to what it may function *as*. A hammer, for example, can be used as a paperweight or a weapon even though the point of a hammer is to drive nails into objects. Tools can always be used for diverse purposes once we have them. This explanation is not weakened or undermined by the fact that a hammer can be used in many ways, or for diverse ends. The relevant point is that hammers likely wouldn't be able to serve these other purposes if they did not function as a means to drive nails into objects. Likewise, the concept of understanding exists because it helps us satisfy certain some basic human needs; in particular, the point of the concept of understanding is to identify good explainers. Once this concept enters our conceptual repertoire we may use it in diverse ways. But it is doubtful that it would serve any of these other purposes if it did not satisfy its primary function. When I speak of the *primary* function of the concept of understanding, it is this sense of function that I have in mind.

[26] See Craig (1990: 14) for a similar point.

without explanation, the possibility remains that explanation is something we value about understanding. In contrast to traditional conceptual analysis, my approach permits us to include characteristics that, while not necessary, are important to understanding and important to us.[27]

6. The Social Roles of Knowing and Understanding

It is useful for humans to have a range of predicates that serve to express a variety of evaluations of the epistemic position of other people. As I have been arguing, one useful predicate has to do with identifying good explainers because humans are natural explanation seekers and also cognitively dependent on others. Another useful predicate, such as 'rational', might be used to influence our audience to follow the endorsed belief-forming rules.[28] A third predicate, namely 'knows', presumably serves some other function (or functions). But what function(s) does it serve and how does it (they) differ from understanding?

Several theorists have argued that one of the primary functions of knowledge ascriptions is to signal the point of legitimate inquiry closure (Kvanvig 2009, Kappel 2010, and Rysiew 2012). As inquirers, humans seek reliable information for a diverse range of theoretical and practical purposes. But the process of inquiry is potentially open-ended because it is always possible to seek further evidence. Spending all our time and resources to continue inquiring would be impractical, however, since further inquiry is not always worth the reduced risk of being wrong. We therefore need a point at which people may reasonably terminate inquiry. How do we signal when inquiry has gone on long enough? Many argue that knowledge attributions certify information as being such that it may, or even should, be taken as settled for the purposes of one's deliberations.

Pritchard denies that inquiry reasonably ends at knowledge. He argues that inquiry reasonably terminates at understanding:

[27] Jones (1997) makes this point with respect to Craig's theory of knowledge.
[28] Dogramaci (2012) defends this idea.

> Now ask yourself whether inquiry that resulted in knowledge but not in the corresponding understanding would be deemed a successful inquiry (and thus a 'closed' inquiry, at least as regards the original question under investigation). I suggest not. (Pritchard 2010: 85)

To support his thesis, Pritchard considers a case in which someone finds his house has burned down and is led to wonder what caused the fire. Pritchard argues that this inquiry will not be properly closed until that person comes to understand why his house burned down.

While I agree with Pritchard about this example, his case does not illustrate that understanding is the aim of inquiry. That view is too strong to be plausible. Why think all inquiries must have the same aim? While some inquiries might demand understanding in order to be legitimately closed, it is unlikely that all do. Upon visiting the computer repair shop, I am satisfied with knowing that my laptop works without needing to understand why or how it works. This inquiry would successfully end at knowledge because I am not interested in the underlying explanations. The reason why inquiry aims at understanding in Pritchard's example is grounded in the fact that the agent seeks an explanation for the event. But, as Kelp (2014) argues, our curiosity is very often directed at non-explanatory information. Suppose I am looking for my car keys. In this situation, I might want to know whether my wife has them or not; but it is of no interest to me that my wife has them because she needed to get something out of the car and she forgot to put the keys back on the table. My inquiry would reach its goal and properly end even if I did not attain an understanding of why the relevant proposition is true. Thus, while understanding sometimes legitimately closes inquiry, mere knowledge will often suffice.[29]

In fact, knowledge is probably *more centrally* linked to inquiry closure than understanding. Acquiring a deep understanding of the world might be worthwhile from a purely epistemic point of view, but such rarified concerns have little to do with the vast

[29] In more recent work, Pritchard seems to grant this point (2016: 34). However, he argues that our inquiries *ought not* to be sated by mere knowledge of the answer to one's question. An agent who is generally willing to regard inquiries as legitimately closed even though the relevant understanding has not been attained lacks intellectual virtue, according to Pritchard. I think this is also too strong.

majority of our everyday inquiries. When I need to find my way to Yankee Stadium, my judgment about whether a random passerby knows its location has little to do with a concern for understanding. I do not require my informant's belief to attain a high level of explanatory depth; all I need is to acquire a true belief from a reliable source of information. What I am looking for is a *reliable informant* about the truth of whether *p*, not a *good explainer* as to why *p*. Ascriptions of knowledge and ascriptions of understanding often come apart because 'knows' typically picks out reliable informants whereas 'understands' identifies good explainers—or so I claim. Since our ordinary inquiries are often satisfied by identifying reliable informants as to whether *p* (without necessarily acquiring a good explanation as to why *p*), inquiry will often end at knowledge. It might be true that *if* we could set aside various practical considerations, then we would aim for understanding. But given our need for actionable information, our epistemic dependence on others, and the fact that we can rarely afford to pay the higher 'informational costs' needed to acquire understanding, it is likely that everyday inquiry will usually terminate at knowledge. In this respect, ascriptions of knowledge might play an important role in everyday life that ascriptions of understanding do not.

Linguistic data seems to support this argument. 'Know' is one of the 10 most commonly used verbs in English (Davies and Gardner 2010), the first cognitive verb that children learn (Shatz et al. 1983), and the most prominently used term in epistemic assessment (Gerken 2015). It has also been argued that 'know' is unlike almost every other word because it finds a precise meaning equivalent in every human language (Goddard 2010). In contrast, 'understands' is used far less frequently, learned later in life, and features less often in our practice of epistemic assessment. These facts suggest that knowledge-talk plays a more important role in epistemic evaluation than understanding-talk.[30]

Knowledge-talk also seems more closely tied to tracking norms of assertion and practical reasoning than understanding-talk. This is because knowledge ascriptions (and denials) align

[30] As Alison Hills (2016) reports, many languages draw a similar distinction between knowledge and understanding (e.g. French, German, Russian, Hebrew, Danish, and Irish). This gives some *prima facie* support to the idea that knowing and understanding play distinct social roles. Presumably, we wouldn't find this distinction in many languages if knowledge and understanding were simply interchangeable or referred to the same epistemic concept.

with natural assessments of assertion and practical reasoning in ordinary language. Here's an example: it seems appropriate to challenge assertions by asking the asserter, 'How do you know that?' (Williamson 2000: 252; Unger 1975: 250-65). In contrast, we are far less inclined to challenge assertions by asking about understanding. Similarly, we can rightfully criticize a person's actions or reasoning when that person acted without knowledge; for instance, 'You shouldn't have gone down this street, since you didn't know that the restaurant was there' (Hawthorne and Stanley 2008: 571). Again, we are less likely to criticize action or practical reasoning by appealing to understanding.

These knowledge norms are not uncontroversial; many counterexamples have been offered.[31] But even if knowledge is neither necessary nor sufficient for warranted assertion or practical reasoning, it is plausible that 'knowledge' *normally* picks out the epistemic standard for assertion and practical reasoning, as Gerken (2015) and I ([removed]) have argued. This explains why competent and rational speakers frequently use 'knows' when evaluating assertions and practical reasoning (because knowledge is normally required) even though knowledge is not the relevant epistemic norm (because sometimes more, or less, than knowledge is needed).

Thus, knowledge ascriptions seem to play valuable social roles that understanding attributions do not. Specifically, knowledge ascriptions serve the interrelated functions of identifying reliable informants, typically signaling the appropriate end of inquiry, and providing a threshold-marker that indicates that the epistemic standard that is usually necessary and sufficient for assertion and practical reasoning has been met. The same cannot be said for attributions of understanding.[32]

Does this imply that understanding is *not* a species of knowledge? I am doubtful that it does. Even if understanding-why were reducible to knowledge-why, a distinction between 'knowing' and 'understanding' might be drawn because the latter picks out a *special kind* of knowledge. The point I am emphasizing is not about the reductive relationship between knowledge and understanding (I leave that matter open), but rather about the difference in

[31] For criticisms of the knowledge norms, see Douven (2006), Lackey (2007), Weiner (2007), Brown (2008), Gerken (2011), Reed (2010), and Smithies (2012).

[32] Hills (2016) also suggests that although understanding is valuable, knowledge might be more important.

focus when we think and speak in terms of understanding rather than knowing. Knowledge attributions often refer to knowledge-that, whereas the type of knowledge needed for understanding includes, at a minimum, knowledge of the explanation as to why *p*, knowing how to elaborate and explain things in one's own words, and grasping explanatory connections. It is having this type of knowledge that makes one a good explainer. We tend to attribute understanding when an agent meets a sufficiently high standard of explanatory depth. Meeting this standard might simply require more knowledge (of causes, their relation, etc.), but we mark this achievement with the word 'understands.' In this way, 'knowledge' and 'understanding' could play different social roles whether or not the latter is ultimately reducible to the former.

7. Conclusion

I make two proposals in this paper. First, I suggest that we can make headway in the epistemology of understanding by taking a function-first approach. Second, I hypothesize that humans think and speak in terms of 'understanding' because it allows us to certify good explainers, which is an important dimension of epistemic evaluation.[33] As cognitively inter-dependent explanation-seekers, we need a way to identify informants who can provide us with good explanations for both practical and theoretical purposes.

This hypothesis throws light on the nature and importance of understanding, the role of explanation in understanding, and the relationship between understanding and knowledge. I have argued that understanding and knowledge play different social roles, since the latter is not necessarily geared towards an explanation of why such-and-such is the case. Examining these two cognitive achievements from the point of view of their function also sheds light on epistemic value. Specifically, we see that understanding is valuable and yet knowledge might play a more important role in human survival and flourishing. Roughly, knowledge is closely tied to answering our need for true beliefs whereas understanding answers our need for

[33] These two proposals are not inseparable. You might endorse the function-first methodology while rejecting my hypothesis about the function of understanding attributions; or you might reject this methodological approach but still think there is an important conceptual connection between understanding and identifying good explainers.

good explanations. Ordinary inquiry is typically aimed at true beliefs, which is why knowledge matters, but sometimes we need more than just true beliefs to get by in the world. We want to grasp a variety of connections; we want to anticipate what would have happened had things been different; we want to see how things 'hang together'. Thus, understanding is deeply important even though the concerns of practical life often prevent us from reaching for the highest epistemic fruit.

Bibliography

Baumberger, C. Forthcoming. 'Explicating Objectual Understanding: Taking Degrees Seriously' *Journal for General Philosophy of Science*.

Boyd, K. 2015. 'Testifying Understanding.' *Episteme*. DOI: http://dx.doi.org/10.1017/epi.2015.53

Brogaard, B. 2005. 'I Know, Therefore I Understand.' Unpublished.

Brown, J. 2008. 'Knowledge and Practical Reason.' *Philosophy Compass* 3 (6): 1135-1152.

Craig, E. 1990. *Knowledge and the State of Nature*. Oxford University Press.

Craik, K. 1934. *The Nature of Explanations.* Cambridge University Press.

Davies, M. & Gardner, D. 2010. *Frequency Dictionary of American English*. Routledge.

de Regt, H. 2009. 'Understanding and Scientific Explanation.' In *Scientific Understanding: Philosophical Perspectives* (Eds.) HW de Regt, S. Leonelli, & K. Eiger. University of Pittsburg Press, 21-42.

Dogramaci, S. 2012. 'Reverse Engineering Epistemic Evaluations.' *Philosophy and Phenomenological Research* 84 (3): 513-530.

Douven, I. 2006. 'Assertion, Knowledge, and Rational Credibility.' *Philosophical Review* 115 (4): 449-485.

Elgin, C. 2017. *True Enough*. MIT Press.

---. 2007. 'Understanding and the Facts.' *Philosophical Studies* 132 (1): 33-42.

Fricker, M. 2008. 'Scepticism and the Genealogy of Knowledge: Situating Epistemology in Time.' *Philosophical Papers* 37 (1): 27-50.

Gerken, M. 2015. 'The Roles of Knowledge Ascriptions in Epistemic Assessment.' *European Journal of Philosophy* 23 (1): 141-161.

---. 2011. 'Warrant and Action.' *Synthese* 178 (3): 529-547.

Gijsbers, V. 2013. 'Understanding, Explanation, and Unification.' *Studies in History and Philosophy of Science* 44 (3): 516-522.

Goddard, C. 2010. 'Universals and Variation in the Lexicon of Mental State Concepts.' In *Words and the Mind* (Eds.) B. Malt and P. Wolff. Oxford University Press, 72–92.

Goldman, A. 1986. *Epistemology and Cognition*. Harvard University Press.

Gopnik, A. 2000. 'Explanation as Orgasm and the Drive for Causal Understanding: The Evolution, Function and Phenomenology of the Theory-Formation System.' In *Cognition and Explanation* (Eds.) F. Keil & R. Wilson. MIT Press.

Greco, J. 2014. 'Episteme: Knowledge and Understanding.' In *Virtues and Their Vices* (Eds.) K. Timpe & C. Boyd. Oxford University Press, 286-302.

---. 2008. 'What's Wrong with Contextualism?' *Philosophical Quarterly* 58 (232): 416- 436.

Grimm, S. 2016. 'Understanding and Transparency.' In *Explaining Understanding: New Essays in Epistemology and the Philosophy of Science* (Ed.) S. Grimm. Routledge.

---. 2015. Knowledge, Practical Interests, and Rising Tides. In *Epistemic Evaluation: Point and Purpose in Epistemology* (Eds.) J. Greco & D. Henderson. Oxford University Press.

---. 2014. 'Understanding as Knowledge of Causes.' In *Virtue Epistemology Naturalized: Bridges between Virtue Epistemology and Philosophy of Science* (Ed.) A. Fairweather. Synthese Library. Springer, 329-345.

---. 2012. 'The Value of Understanding.' *Philosophy Compass* 7 (2): 103-117.

---. 2008. 'Epistemic Goals and Epistemic Values.' *Philosophy and Phenomenological Research* 77 (3): 725-744.

---. 2006. 'Is Understanding a Species of Knowledge?' *British Journal for the Philosophy of Science* 57 (3): 515-535.

Hannon, M. 2017. 'A Solution to Knowledge's Threshold Problem.' *Philosophical Studies* 174 (3): 607-629.

Hawthorne, J. & Stanley, J. 2008. 'Knowledge and Action.' *Journal of Philosophy* 105 (10): 571-590.

Hempel, C. 1965. *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science*. The Free Press.

Hempel, C. & Oppenheim, P. 1948. 'Studies in the Logic of Explanation.' *Philosophy of Science* 15: 135-75.

Henderson, D. 2009. 'Motivated Contextualism.' *Philosophical Studies* 142 (1): 119-131.

Hetherington, S. 2001. *Good Knowledge, Bad Knowledge: On Two Dogmas of Epistemology*. Oxford University Press.

Hills, A. 2016. 'Understanding Why.' *Nous* 50 (4): 661-688.

Kappel, K. 2010. 'On Saying That Someone Knows: Themes From Craig.' In *Social Epistemology* (Eds.) A. Haddock, A. Millar & D. Pritchard. Oxford University Press.

Keil, F. C. 2006. 'Explanation and Understanding.' *Annual Review of Psychology* 57: 227–54.

Kelp, C. 2015. 'Understanding Phenomena.' *Synthese* 192 (12): 3799-3816.

---. 2014. 'Knowledge, Understanding, and Virtue.' In *Virtue Epistemology Naturalized: Bridges between Virtue Epistemology and Philosophy of Science* (Ed.) A. Fairweather. Synthese Library. Springer, 347-60.

Khalifa, K. 2013. 'Understanding, Grasping, and Luck.' *Episteme* 10 (1): 1-17.

---. 2012. 'Inaugurating Understanding or Repackaging Explanation?' *Philosophy of Science* 79 (1): 15-37.

---. 2011. 'Understanding, Knowledge, and Scientific Antirealism.' *Grazer Philosophische Studien* 83 (1): 93-112.

Kim, J. 1996. *Philosophy of Mind*. Westview Press.

---. 1994. 'Explanatory Knowledge and Metaphysical Dependence.' *Philosophical Issues* 5: 51-69.

Kitcher, P. 1989. 'Explanatory Unification and the Causal Structure of the World.' In *Scientific Explanation* (Eds.) P. Kitcher & W. Salmon. University of Minnesota Press, 410–505.

Kvanvig, J. 2009. 'The Value of Understanding.' In *Epistemic Value* (Eds.) D. Pritchard, A. Haddock & A. Millar. Oxford University Press, 95-112.

---. 2003. *The Value of Knowledge and the Pursuit of Understanding*. Cambridge University Press.

Lackey, J. 2007. 'Norms of Assertion.' *Noûs* 41 (4): 594–626.

Lipton, P. 2009. 'Understanding without Explanation.' In *Scientific Understanding: Philosophical Perspectives* (Eds.) HW de Regt, S. Leonelli, & K. Eiger. University of Pittsburg Press, 43-63.

Lombrozo, T. 2011. 'The Instrumental Value of Explanations.' *Philosophy Compass* 6 (8): 539-551.

---. 2006. 'The Structure and Function of Explanations.' *Trends in Cognitive Sciences* 10: 464-70.

McKenna, R. 2013. 'Epistemic Contextualism: A Normative Approach.' *Pacific Philosophical Quarterly* 94 (1): 101-123.

Morris, K. 2012. 'A Defense of Lucky Understanding.' *British Journal for the Philosophy of Science* 63 (2): 357-371.

Murphy, G. L. & G. L. Medin. 1985. 'The Role of Theories in Conceptual Coherence.' *Psychological Review* 92: 289-316

Neta, R. 2006. 'Epistemology Factualized: New Contractarian Foundations for Epistemology.' *Synthese* 150 (2): 247-280.

Pritchard, D. 2016. 'Seeing It for Oneself: Perceptual Knowledge, Understanding, and Intellectual Autonomy.' *Episteme* 13 (1): 29-42.

---. 2012. 'Anti-Luck Virtue Epistemology.' *Journal of Philosophy* 109 (3): 247-279.

---. 2010. 'Knowledge and Understanding.' In *The Nature and Value of Knowledge: Three Investigations* (Eds.) D. Pritchard, A. Millar, & A. Haddock. Oxford University Press.

---. 2009. 'Knowledge, Understanding and Epistemic Value.' In *Epistemology* (Ed.) A. O'Hear. Cambridge University Press, 19-43.

Riaz, A. 2015. 'Moral Understanding and Knowledge.' *Philosophical Studies* 172 (1): 113-128.

Riggs, 2009. 'Understanding, Knowledge, and the Meno Requirement.' In *Epistemic Value* (Eds.) A. Haddock, A. Millar, & D. Pritchard. Oxford University Press.

Rozenblit, L. & F. Keil. 2002. 'The Misunderstood Limits of Folk Science: An Illusion of Explanatory Depth.' *Cognitive Science* 26: 521-562.

Rysiew, P. 2012. 'Epistemic Scorekeeping.' In *Knowledge Ascriptions* (Eds.) J. Brown & M. Gerken. Oxford University Press, 270-293.

Salmon, W. 1984. 'Scientific Explanation: Three Basic Conceptions.' *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association*: 293 - 305.

Schurz, G. 1999. 'Explanation as Unification.' *Synthese* 120 (1): 95-114.

Shatz, M., H. Wellman, & S. Silber. 1983. 'The Acquisition of Mental Verbs: A Systematic Investigation of the First Reference to Mental State.' *Cognition* 14: 301-314.

Sliwa, P. 2015. 'Understanding and Knowing.' *The Proceedings of the Aristotelian Society* 115 (1): 57-74.

Smithies, D. 2012. 'The Normative Role of Knowledge.' *Noûs* 46 (2): 265-288.

Strevens, M. 2013. 'No Understanding Without Explanation.' *Studies in History and Philosophy of Science* 44 (3): 510-515.

---. 2008. *Depth: An Account of Scientific Explanation*. Harvard University Press.

Trout, J. D. 2002. 'Scientific Explanation and the Sense of Understanding.' *Philosophy of Science* 69 (2): 212-233.

Unger, P. 1975. *Ignorance: A Case for Scepticism*. Oxford University Press.

Weinberg, J. 2006. 'What's Epistemology For? The Case for Neopragmatism in Normative Metaepistemology.' In *Epistemological Futures* (Ed.) S. Hetherington. Oxford University Press, 26-47.

Weiner, M. 2007. 'Norms of Assertion.' *Philosophy Compass* 2 (2): 187–195.

Wellman, H.M., Hickling, A.K., & Schult, C.A. 1997. 'Young children's explanations: Psychological, Physical, and Biological Reasoning.' In *The Emergence of Core Domains of Thought: Physical, Psychological, and Biological Thinking* (Eds.) H. Wellman & K. Inagaki. Wiley, 7-25.

Wilkenfeld, D. 2014. 'Functional Explaining: A New Approach to the Philosophy of Explanation.' *Synthese* 191 (14): 3367-3391.

Williamson, T. 2000. *Knowledge and its Limits*. Oxford University Press.

Woodward, J. 2003. *Making Things Happen: A Theory of Causal Explanation*. Oxford University Press.

Zagzebski, L. 2001. 'Recovering Understanding.' In *Knowledge, Truth, and Duty: Essays on Epistemic Justification, Responsibility, and Virtue* (Ed.) M. Steup. Oxford University Press, 235-252.