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THE POWER, AND LIMITATIONS, OF VIRTUE EPISTEMOLOGY

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ABSTRACT. Virtue epistemologists argue for the centrality of our cognitive virtues—our epistemic *powers*—to epistemological theorising. As we explain, this approach has tremendous potential for casting light on a number of important questions within epistemology. It is also argued, however, that there is an essential limitation to such an approach—one that we suggest virtue epistemologists should be willing to embrace—in that virtue epistemology cannot by itself offer a compelling account of knowledge.

1. INTRODUCTORY REMARKS

One of the most influential proposals in epistemology in recent years has been *virtue epistemology*. Although there is a wide range of views which could plausibly be regarded as falling under this general heading, what they have in common is the idea that epistemology needs to make central appeal to the notion of epistemic virtues (and, of course, vices). In particular, virtue epistemologists hold that epistemic virtue plays a fundamental explanatory role, such that we should understand other epistemic standings in terms of the manifestation of epistemic virtue. So, for example, a virtue epistemologist would be inclined to explain a subject's positive epistemic justification in terms of her manifestation of epistemic virtue, rather than explaining it in terms which make no reference to epistemic virtue (such as by appealing to the available supporting evidence). Relatedly, a virtue epistemologist would be

inclined to explain why a subject's belief is lacking in epistemic justification by appealing to her failure to manifest epistemic virtue, or by appealing to her manifestation of epistemic vice.¹

In §1, we further describe the main features of virtue epistemology and demonstrate its tremendous theoretical potential. In §2, we explore a particular limitation which virtue epistemology faces when it comes to offering a theory of knowledge. Finally, in §3, we offer some concluding remarks in which we suggest that this limitation of virtue epistemology is one that virtue epistemologists would do well to embrace.

1. THE POWER OF VIRTUE EPISTEMOLOGY

One of the most central issues facing contemporary virtue epistemology concerns how best to construe epistemic virtues. For some commentators, epistemic virtues can include innate and unreflective cognitive traits, such as our perceptual faculties. For others, epistemic virtues are to be understood as essentially reflective intellectual abilities which are acquired through an appropriate process of habituation. Such intellectual abilities might include the virtues of being fair-minded or inquisitive.² For the purposes of this paper we will focus on the more minimal, and hence broader, conception of epistemic virtue.

What is key to the notion of an epistemic virtue is the idea that it represents an epistemic ability, or *power*, on the part of the subject. Like abilities (or powers) more generally, epistemic abilities need to be sufficiently reliable. So just as genuinely possessing the ability to play the piano entails that one is able to successfully manifest that ability in suitable circumstances, so genuinely possessing an epistemic ability entails that one can successfully manifest that ability in suitable circumstances, where this will mean—typically, anyway—that by employing this ability one will come to form true beliefs.

It is also important to epistemic abilities that they are suitably integrated within the cognitive character of the agent. When, for example, a subject seems to perceive something which she has independent reason for thinking can't the case—e.g., when a subject seems to perceive a ghost—part of what constitutes her successful manifestation of her observational abilities is that she suspends judgement on account of the counterevidence in play. In

contrast, a subject who was forming beliefs via a trait which was not integrated at all with her other cognitive abilities, such that even when those beliefs were in manifest conflict with the doxastic outputs of her other cognitive abilities she retained these beliefs nonetheless, would not be thought to be manifesting a genuine epistemic ability or power.

One of the most influential versions of virtue epistemology—due to Ernest Sosa (1988; 1991; 2007; 2009; 2010; 2011)—explicitly understands epistemic virtue in terms of the manifestation of a cognitive disposition, or power, where these cognitive dispositions have a physical basis resident in cognitive subject (see, e.g., Sosa 2007, 29; 2009, 135). In terms of Sosa’s terminology, a belief which is true is *accurate*, and a belief which is formed via an epistemic ability is *adroit*. In addition, Sosa delineates a further epistemic category whereby the subject’s belief is not only adroitly formed and accurate, but also accurate *because* adroitly formed. Sosa refers to this as *apt* belief.

According to Sosa, the ‘because’ at issue here should be understood not along causal explanatory lines but rather in terms of the manifestation of a disposition. To see how these two accounts can come apart, consider a glass that was broken as a result of someone dropping it on a wooden floor. Ordinarily, the most salient part of the causal explanation of why the glass broke will be that someone dropped it on the floor, and in this sense it will be true to say that the glass broke because it was dropped in this way. Note, however, that this is consistent with the claim that it was because of the glass’s fragility that it broke, since here we are talking about the manifestation of a disposition and not offering a causal explanation. If fragility is the (second-order) property of having a property that causes breaking if dropped, then we cannot causally explain why the glass broke when dropped in terms of it being fragile. We can say the glass broke when dropped because the glass has a (first-order) molecular bonding property. What is causally responsible for the shattering is this micro-structural property together with the dropping. The dispositional property itself, thus understood, is causally inefficacious of the effects in terms of which it is defined. (Note that this doesn’t prevent dispositional properties from frequently entering into causal explanations in science).³

In the same way, according to Sosa we are to think of apt belief in terms of a belief which is accurate because adroit in the specific dispositional sense that the accuracy manifests a cognitive power on the part of the subject. Sosa’s virtue epistemology thus trades

on a broader metaphysical picture of dispositions and powers, where the manifestation of a cognitive power mirrors the manifestation of dispositions and powers more generally.⁴

Consider now the advantages of adopting a virtue epistemology. We will here consider three of the most important advantages of the view. The first concerns its ability to deal with a range of problems which afflict other positions. A good way of drawing this point out is to contrast virtue epistemology with a simple form of *process reliabilism*—*viz.*, the view that positive epistemic standing is a function of the extent to which one's beliefs are the product of reliable (i.e., truth-conducive) processes. The reason why this comparison is apt is that this epistemological proposal is in many respects very similar to virtue epistemology (at least in the broad sense that we are understanding it). For example, we have already noted that epistemic abilities are reliable. Moreover, the focus on belief-forming traits on the part of the agent which is central to process reliabilism sounds very akin to the virtue epistemologist's focus on epistemic abilities. Still, there is a crucial difference between the two proposals, no matter how 'broad' one construes virtue epistemology, and this is the latter's essential appeal to epistemic ability. After all, there can be all kinds of ways in which a belief-forming process can be both reliable and result in a true belief where the belief so formed is either not the product of epistemic ability, or at least not the product of epistemic ability in such a way that, to use Sosa's terminology, the accuracy of the belief manifests the relevant epistemic power.

One kind of case of this sort will involve *cognitive malfunctions*. Imagine a belief-forming trait on the part of the subject which, while reliable, not only does not manifest a cognitive power but actually represents a cognitive malfunction. There is, after all, nothing to stop cognitive malfunctions from being, as it happens, reliable. Alvin Plantinga (1993, 199) describes a case of just this sort when he imagines a brain lesion which so happens to result in the subject concerned forming a true belief about the fact that he has a brain lesion. Intuitively, while there is reliability and true belief on display here, any belief so formed lacks positive epistemic status, and virtue epistemology can explain why.⁵ For while there is accuracy and reliability in play, there is nothing adroit about this reliability. It is, after all, *in spite of* the subject's cognitive character that he is reliably forming a true belief, and not a manifestation of his epistemic ability. That is, her beliefs, while accurate, are not adroitly formed, and hence *a fortiori* are not accurate because adroit.

A second kind of case involves the wrong direction of fit between belief and fact. One can imagine that an agent is reliably forming true beliefs but where the reliability of the beliefs so formed has nothing to do with any manifestation of the agent's cognitive powers, but simply reflects factors entirely external to the subject's cognitive agency. Imagine, for example, that an agent is forming her beliefs not via an epistemic virtue but rather via an epistemic vice, such as wishful thinking. But imagine further that a benevolent demon is intent on ensuring that any belief this subject forms via this belief-forming process is true. The agent is thus forming beliefs via a process which is as it happens reliable and which results in a true belief. Intuitively, any belief so formed will be lacking in positive epistemic status, and virtue epistemology can explain why. This is because, as with the brain lesion case just considered, the belief in question, while reliably formed, does not constitute a manifestation of the agent's cognitive powers. As before, her beliefs, while accurate, are not adroitly formed, and hence *a fortiori* are not accurate because adroit.

There are other kinds of cases of this sort where virtue epistemology is on strong ground relative to its competitor views. The point of such cases is the utility of treating the notion of an epistemic ability or power as central to one's epistemology, where appeal to anything similar to, but which falls short of, an epistemic ability, such as the notion of a reliable belief-forming process, will not suffice to evade these problems.

A second kind of advantage of virtue epistemology concerns the way in which it can account for *epistemic value*. Although there is some dispute on this score, the standard way of understanding the particular kind of value that attaches to the cognitive realm is by treating the good of true belief as fundamental. Thus, to say that a cognitive trait is good from a purely epistemic point of view is to say that it promotes, in some sense to be specified (e.g., maximises true belief?; minimises false belief?; and so on), the good of true belief. So, for example, the value of an epistemic standing like being epistemically justified is due to the fact that this epistemic standing promotes the epistemic good of true belief in the relevant sense.

As an account of the specifically epistemic good this proposal has its attractions, since it is hard to see how else to delineate a specifically epistemic good.⁶ As an account of the value of the epistemic, however—where this means an account of the value more generally that attaches to epistemic standings, and not just an account of the specifically epistemic good—the proposal is limited.⁷ For example, there seems to be something better about having an elevated epistemic standing like understanding or knowledge relative to a

corresponding lesser epistemic standing like mere true belief. But as many have pointed out, if the value of the epistemic is just epistemic value along the lines just considered, then it is far from clear how this is greater value is to be understood.⁸ The challenge is then to explain why positive epistemic standings like knowledge, understanding, wisdom, and so on, have a value which goes beyond the purely epistemic. On this score virtue epistemology is at a very special advantage.

The reason for this is that the manifestation of epistemic ability brings with it kinds of goodness which are not specifically epistemic. The kinds of goodness on display when one exercises one's epistemic powers may well depend on the type of virtue epistemology that one endorses, but there is a kind of goodness that attaches to epistemic abilities that we imagine most, if not all, virtue epistemologists would endorse.

This concerns the fact that the manifestation of epistemic ability is quite plausibly a key component of a good life, a life of flourishing. That is, a good life can't just be a life of moral goodness. For one thing, one would need epistemic abilities in order to have the practical skill to respond to the moral good in the way that one ought. But even despite the obvious moral dimension to the good life, there is clearly more to the good life than the moral. In particular, a good life is surely one of intellectual as well as moral flourishing, and that will require epistemic abilities. Moreover, in order to prosper in a social world one must be blessed with epistemic abilities in order to navigate one's way through the hazards, moral and otherwise, that the social world presents (not to mention the non-social world). If a life of flourishing is one in which one prospers, it is thus essential to such a life that one has the relevant epistemic abilities.

The foregoing demonstrates that there are various ways in which a life of flourishing—something which is clearly of non-instrumental ethical value—depends on one having epistemic abilities. There is thus a clear *prima facie* case for such abilities having a value which extends beyond the epistemic—i.e., which is in addition *ethical*. By making epistemic abilities central to epistemology, virtue epistemology is thus in a peculiarly strong position to explain the value of epistemic standings, given that this is a value that intuitively extends beyond the specifically epistemic.

This last point about how virtue epistemology can account for the value of the epistemic leads naturally to a third key advantage of virtue epistemology. Much of contemporary epistemology, and by this we mean *post-Gettier* epistemology, has tended to

focus on the project of offering an adequate—where this means, to a large extent, a *Gettier-proof*—analysis of knowledge. Virtue epistemology offers the potential of alternative goals for epistemology to focus upon. In particular, by stressing the epistemological primacy of epistemic ability, virtue epistemology brings the higher epistemic standings like understanding and wisdom back to the fore of epistemological theorising.⁹

Given that we have focussed here on a broad conception of epistemic virtue, one that allows that innate and often unreflectively cognitive faculties can qualify as epistemic virtues, this result may seem surprising. But even a virtue epistemology which offers a broad conception of epistemic virtue will be concerned with the higher and more reflectively epistemic virtues too. And it is just these virtues—perhaps more accurately, the confluence of these virtues—which generate the relevant higher epistemic standings. For example, wisdom is plausibly to be understood in terms of the properly co-ordinated, reflective, and thus virtuous, use of a range of epistemic virtues, some of them innate and some of them acquired.¹⁰

It is important to recognise the significance of this shift in emphasis. The kind of epistemic standings that are the focus of the traditional post-Gettier epistemological enterprise are relatively minimal epistemic standings such as justified belief. While a virtue-theoretical story can be told, and has been told, about the nature of epistemic justification, it is when we turn to much more elevated epistemic standings like wisdom and understanding that virtue epistemology comes into its own. For while one can see the plausibility of alternative non-virtue theoretic accounts of an epistemic standing like justified belief—such as reliabilist or evidentialist accounts—it is hard to see how these alternative non-virtue theoretic stories could be extended to deal with the higher epistemic standings like wisdom and understanding. In particular, how is one to make sense of these higher notions without appealing to excellences of intellectual character, and thus to epistemic virtues?

2. A LIMITATION OF VIRTUE EPISTEMOLOGY

The foregoing should offer one a flavour of the tremendous potential of virtue epistemology. In this section, our goal is to outline a key limitation of the view, one that we think proponents of virtue epistemology would be wise to embrace rather than try to evade.

We noted above that virtue epistemologists have been concerned to at least extend the scope of contemporary epistemological theorising away from a narrow focus on offering a Gettier-proof account of knowledge. Even so, one can grant that offering a Gettier-proof account of knowledge should not be the central enterprise of epistemology while nonetheless attempting to provide just such an account. We should thus not be too surprised to learn that a number of virtue epistemologists haven't taken on this theoretical task. It is these theoretical efforts which we will argue have been unsuccessful, and unsuccessful for good reason. Knowledge is not, we claim, an epistemic standing which is susceptible to a purely virtue-theoretic analysis.

One might antecedently think that any virtue-theoretic theory of knowledge will face a problem when it comes to eliminating the kind of knowledge-undermining epistemic luck in play in the Gettier-style cases. These are cases in which a subject has a justified true belief and yet lacks knowledge due to the fact that even despite her justification her belief is only luckily true.¹¹

Consider, for example, Roderick Chisholm's (1977, 105) famous 'sheep' example. In this case the subject concerned forms a justified belief that there is a sheep in the field before him by employing his reliable perceptual abilities, and thus his epistemic abilities. Moreover, the belief he forms is true. Crucially, however, this belief does not amount to knowledge because what the subject is in fact looking at is not a sheep at all, but rather a sheep-shaped object which is obscuring from view the genuine sheep behind. The reason why this deprives our subject of knowledge is that the belief so formed is only luckily true. That is, given how this belief was formed it could so very easily have been false (e.g., if the genuine sheep that was hidden from view had wandered off into another field).¹²

Note that the agent in this example is not only forming a true belief which is justified, but also more specifically forming a true belief which is the product of the appropriate exercise of his epistemic abilities. Such a case therefore seems to demonstrate not just that there is more to knowledge than mere justified true belief, but also that there is more to

knowledge than mere true belief which is the product of the appropriate exercise of the agent's epistemic abilities. Accordingly, it appears that even the most ambitious virtue-theoretic account of knowledge will need to incorporate a non-virtue-theoretic epistemic condition which can deal with the problem of knowledge-undermining epistemic luck, such as the condition that knowledge requires safe belief (i.e., a true belief that could not have easily been false), or that the basis on which the belief is presently formed be safe (i.e., that the proposition in question would be believed on the present basis only if that proposition is true).¹³ That, in any case, has been precisely the line taken by some virtue epistemologists, the upshot being that one should not try to formulate a pure virtue-theoretic response to the Gettier problem.¹⁴

Interestingly, however, some of the main virtue epistemologists who have tackled this issue have argued that a virtue-theoretic account of knowledge, at least when properly formulated, *is* perfectly able to deal with the problem of knowledge-undermining epistemic luck in play in the Gettier-style cases. Hence they have claimed that there is no need for a virtue-theoretic account of knowledge to appeal to an independent epistemic condition in order to deal with the problem of knowledge-undermining epistemic luck. One finds such a view defended by such key figures within contemporary virtue epistemology as Ernest Sosa (1988; 1991; 2007; 2009), Linda Zagzebski (1996; 1999) and John Greco (2003; 2007; 2008; 2009*a*; 2009*b*; 2009*c*).

Although there are differences between the proposals in play here, the basic move that is made by these virtue epistemologists is to argue that what is required for knowledge is not merely the conjunction of cognitive success and the exercise of relevant epistemic ability. Instead, what is required is cognitive success that is *because of* epistemic ability, where it is argued that the satisfaction of this further relation ensures that the cognitive success is not subject to Gettier-style epistemic luck.

We have already seen this point at work in the virtue epistemic proposal offered by Sosa. Recall that he argues that there is a particular kind of epistemic standing which obtains when one's accurate (i.e., cognitively successful) belief is not only adroitly formed (i.e., formed via epistemic ability) but is rather accurate *because* it was adroitly formed, where this means that the cognitive success manifests the epistemic power or ability in question. Accurate because adroit belief is, according to Sosa's terminology, apt belief. Sosa argues that

apt belief is immune to the kind of epistemic luck at issue in the Gettier-style cases, and so on this basis identifies knowledge with apt belief (see, for example, Sosa 2007, *passim*).

In order to see the attraction of such a proposal, consider again Chisholm's sheep case. While we have here not just the conjunction of epistemic ability and cognitive success, but also a cognitive state produced by exercising that ability, we don't intuitively have cognitive success that is because of the epistemic ability. Instead, the cognitive success seems to be attributable to the happenstance that there is a sheep hidden from the subject's view behind the sheep-shaped object that he is looking at. More generally, at least for standard Gettier-style cases anyway (the reason for the qualification will become apparent below), there seems every reason for supposing that adding the 'because of' relation to the virtue-theoretic account of knowledge obviates the need for introducing a separate epistemic condition in order to deal with the problem of knowledge-undermining luck. And that means that the path is cleared for a pure virtue-theoretic account of knowledge.

Unfortunately, as an account of knowledge such a pure virtue-theoretic proposal is untenable. The problem that it faces is that it is unable to accommodate a phenomenon which we have elsewhere termed *epistemic dependence*.¹⁵ That is, the conditions under which knowledge is possessed, and fails to be possessed, can be significantly dependent upon factors outwith the cognitive agency of the subject. In particular, knowledge possession is dependent upon factors outwith the cognitive agency of the subject to an extent which is inconsistent with a pure virtue-theoretic account of knowledge.

There are two sides to epistemic dependence, *negative* and *positive*. Negative epistemic dependence is when an agent fails to know because of factors outwith her cognitive agency. Positive epistemic dependence is when an agent counts as having knowledge on account of factors outwith her cognitive agency. We will take these two types of epistemic dependence in turn.

The kind of negative epistemic dependence that interests us is one which is extensive enough to be incompatible with a purely virtue-theoretic account of knowledge. That knowledge is subject to negative epistemic dependence of this sort can be neatly brought out by appealing to what we call *epistemic twin earth* cases.¹⁶

Standard twin earth arguments run as follows.¹⁷ Despite appearances there is no water on twin earth. Water is essentially H₂O, and all the watery stuff on twin earth has the different microstructure XYZ—earthlings call that 'twin-water'. When *S* on earth utters

‘water is wet’, she expresses the proposition that water is wet, but when S ’s intrinsic physical duplicate on twin earth utters the same sentence, twin- S expresses the proposition that twin-water is wet. Since S and twin- S refer to different kinds of stuff when they token ‘water’ the truth-conditions of their respective utterances differ. Assuming the contents of their beliefs are fixed by the truth-conditional contents of the sentences that they use to express those beliefs, then these belief contents also fail to supervene on their intrinsic physical properties. Indeed if belief states are individuated in part by their contents, then what belief states S and twin- S are in fail to supervene on their intrinsic physical properties. Instead these states depend partially for their individuation on which patterns of causal relations S and twin- S bear to their respective physical environments.

Consider now *epistemic twin earth* on which most watery stuff is H_2O . In between there is some scattered twin-water the exact location of which varies from case to case. Our contention is that an epistemic twin earth argument shows that whether a subject is in a perceptual knowledge state cannot merely be a question of getting things right through exercising her cognitive abilities in the way that robust virtue epistemology suggests.

Let’s divide epistemic twin earth into three regions. The subject’s *local environment* is where the subject is currently located. It contains the objects and properties that are the proximate causes of her current perceptual experiences. Take facts to be objects instantiating a property at a time. If the subject now perceives that p , then the fact that p (the ‘ p -fact’) is one that concerns her local environment—i.e., it is a *local fact*. Other local features have to do with aspects of the perceptual process and various background conditions on perception—e.g., distorting noise, brightness, and so on.

The subject’s *regional environment* is neither where the subject is currently located, nor where she typically forms any beliefs. Still, it contains the objects and properties with which she might easily have been causally connected. If the q -fact is such that if the subject had not now perceived that p then she would have perceived that q , then the q -fact is one that pertains to her regional environment—i.e., it is a *regional fact*. Regional facts, thus understood, are nearby perceptual possibilities, but they play no causal role in producing the subject’s current perceptual experience on which she bases her belief that p .

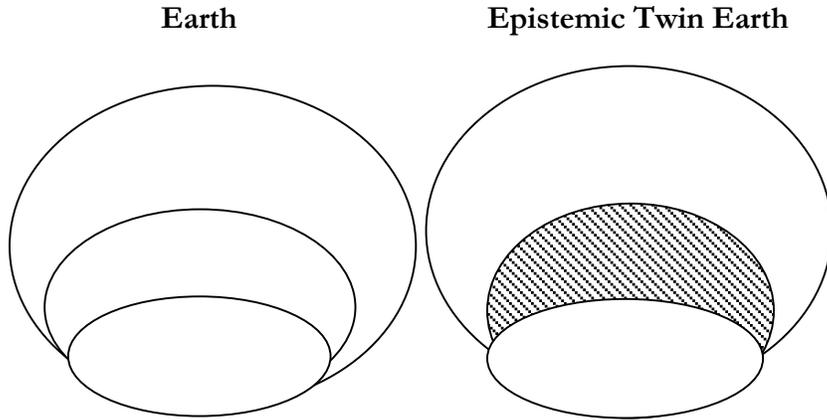
Finally, the subject’s *global environment* is where she is normally located although not at present. It contains the objects and properties with which she ordinarily causally interacts. The *global facts* thus comprise all the facts that extend in space-time beyond the regional facts.

Assuming the subject now perceives the local fact that p , the fact that r is a global fact only if she would not have perceived that r had she not perceived that p . Given the subject's current location, global facts are not only distant perceptual possibilities, they are also causally inefficacious in producing her current perceptual experiences.

We can now mount an epistemic twin earth argument to the effect that robust virtue epistemology is an inadequate account of knowledge. The subject, S , is on earth where all watery stuff is H_2O . S 's perceptual apparatus is highly reliable in that a high frequency of S 's perceptual beliefs is both actually true and true across relevantly close worlds. Based on a perceptual experience as of water, S forms the demonstrative belief that that's water. There is no question that S thereby comes to know just that.

On epistemic twin earth S has an intrinsic physical duplicate called 'twin- S '. S and twin- S are conceptually competent but chemically ignorant. On epistemic twin earth all watery stuff in twin- S 's global environment is H_2O . Not only is twin- S therefore able to entertain water-thoughts, a high frequency of twin- S 's water-beliefs as formed in her global environment is true both in actual fact and across relevantly close worlds. Twin- S 's perceptual apparatus, as exercised in that environment, is thus equally reliable. Moreover, all watery stuff in twin- S 's local environment is H_2O . When twin- S forms the demonstrative belief that that's water on the basis of a perceptual experience as of water, her belief is true. Yet, unbeknownst to twin- S , twin-water is abundant in her regional environment. The basis on which twin- S holds that belief is thus such that her belief is only luckily true, in that given the basis for her belief it could very easily have been the case that she would have formed a false belief (e.g., had she been interacting, unbeknownst to her, with twin-water). That is to say, very easily could twin- S have believed that that's water on the same basis—a perceptual experience as of water—without that being so.¹⁸ On the plausible assumption that knowledge excludes such environmental luck, it follows that twin- S lacks knowledge.

We can illustrate what is going on here with the following diagram:



The explanation a pure virtue epistemic account of knowledge offers of why *S* has knowledge on earth is that her cognitive success is because of her cognitive ability. The challenge, however, is to explain why twin-*S* lacks knowledge on epistemic twin earth. The fact that *S* and twin-*S* are intrinsic physical duplicates embedded in physically identical global environments means that one cannot possess a cognitive ability that the other lacks.

To use an analogy that proponents of a pure virtue epistemic account of knowledge are fond of, suppose *S* is an expert archer. *S* possesses that ability in virtue of relevant bodily/psychological features and mostly occupying an environment that is conducive for her to frequently hit the innermost rings when dispatching arrows. Given that the latter are equally true of twin-*S*, she will be an expert archer too. And the fact that both *S* and twin-*S* currently occupy physically identical local environments means that their cognitive successes must arise in the very same way. To use the analogy, the ways in which *S* and twin-*S* propel their respective arrows into the yellow ring are identical. After all, fletching, bow strings, body positions, prevailing winds, distances to target, energy imparted to arrows, and so on, are identical in the two cases. Combining these two facts spells trouble for robust virtue epistemology, for it deprives proponents of this view of a principled basis on which they can treat the two cases differently. And yet there clearly is an epistemic difference between them, in that twin-*S*, unlike her counterpart *S*, lacks knowledge.

It's not clear how a proponent of a pure virtue-theoretic account of knowledge could respond to this argument. Recall that Sosa (2007, 29; 2009, 135) explicitly conceives of cognitive abilities in terms of cognitive dispositions which have a physical basis resident in whoever has those dispositions. If that's right, however, then it is difficult to see why twin-*S* should lack a cognitive ability that *S* possesses given that they are physically identical. For

whatever physical basis is sufficient for S to possess her cognitive ability is a basis shared by twin- S . Of course, which cognitive abilities S possesses depend on environmental features such as operative laws or law-like regularities and physical background conditions. But the relevant environment here is the one in which S is typically embedded. There are neither nomological differences between earth and epistemic twin earth, nor any physical differences between S and twin- S 's global environments.

The analogy with other physical dispositions, such as solubility, is instructive here. After all, these dispositions are such that the instantiation by an object of the physical base property for the disposition physically necessitates the instantiation of the dispositional property. So, taking the case of solubility as an example, as long as the laws of physics are fixed, any intrinsic physical duplicate of a solute is also soluble. To find such a duplicate that is not soluble you must go to a world with deviant laws of physics. It is hard to see why cognitive dispositions should be so different as to come and go with hidden variations in particular physical facts in the regional environment.

Following Greco (2009c, 21-22), one response is to maintain that twin- S lacks the cognitive disposition to tell water from non-water when occupying the particular local environment we have sketched due to the fact that manifestations in that environment are unreliable, where reliability requires a high frequency of true beliefs, actually and across relevantly close possible worlds. In contrast, twin- S clearly does possess that discriminatory disposition relative to her global environment, because manifestations in that environment are reliable. In reply, we agree that disposition possession is both environment-relative and require reliability. But we maintain that whether a cognitive disposition is possessed in a given environment depends on whether the agent reliably manifests that disposition in her global environment. On the assumption that twin- S possesses the disposition to discriminate between water and non-water relative to her global environment she also possesses that disposition in her local environment. True, manifesting that disposition in the latter environment is unreliable, but that does not rob her of the disposition. Compare with archery. Suppose an expert archer dispatches an arrow which then propels through the innermost ring. Nothing in the local environment prevents her from manifesting that ability. Suppose a sudden and unexpected gust could very easily have diverted the arrow off course. That regional fact does not imply that she fails to possess her archery ability. All it shows is that that ability is unreliable as manifested in her local environment. Contrast with a novice

archer who surprisingly also hits the target in identical environmental conditions, despite not having previously dispatched a single arrow. Surely, the expert deserves more praise, because only her achievement stems from a praiseworthy ability.

On our view, dispositions and abilities—cognitive or not—are characterized by a kind of modal sturdiness that knowledge lacks in the sense that nearby unactualized possibilities may well undermine reliability and hence knowledge, while leaving dispositions and their manifestations intact. Once cognitive dispositions are acquired through nurture or nature, they are retained even when the regional facts prevent their manifestations from being reliable. Indeed, to appreciate that possession of such dispositions are relative only to global environments they need only be specified in sufficient detail. For instance, on the assumption that one has the disposition to tell liquids that resemble water from those that do not, having the disposition to tell water from non-water consists in having the dispositions to tell water from distinct resembling liquids and to tell water from distinct non-resembling liquids. Consequently, on the one hand, as *S* and twin-*S* do not possess the former disposition to tell water from twin-water relative to their shared global environment, neither possesses that disposition in their identical local environment. That is not a disposition they possess anywhere. On the other hand, as *S* and twin-*S* do possess the latter disposition to tell water from, say, beer or petrol relative to their shared global environment, both possess that disposition in their identical local environment. That is a disposition they possess everywhere. The upshot is that the difference in regional environments between *S* and twin-*S* makes for no difference in which dispositions are possessed.

Now, if the epistemic twin earth argument goes through, then it will not be possible to offer a pure virtue-theoretic account of knowledge. The problem in play here is that a pure virtue-theoretic account of knowledge cannot accommodate the extent to which knowledge can be negatively epistemic dependent. In the epistemic twin earth case we have two subjects who are internal duplicates and who manifest their epistemic abilities to the same extent within identical local and global environments (the only environments relevant to the manifestation and possession, respectively, of a cognitive power, as we have seen), but where factors outwith one of the subject's epistemic agency ensures that she fails to have knowledge, unlike her counterpart. The upshot is that if virtue epistemologists wish to offer an account of knowledge, then they will need to appeal to a separate epistemic condition which is devoted to excluding the problem of knowledge-undermining epistemic luck. One

such condition, we suggested, is that knowledge requires, over and above any particular virtue-theoretic condition, a safe basis for belief. But that is just to give up on the goal of offering a pure virtue-theoretic account of knowledge.¹⁹

We come now to positive epistemic dependence. The kind of positive epistemic dependence that interests us is one which is extensive enough to be incompatible with a pure virtue-theoretic account of knowledge. We can illustrate this degree of positive epistemic dependence in broadly the same fashion that we illustrated negative epistemic dependence by imagining two physical duplicates who each manifest their epistemic powers to the same degree and in the same circumstances, but where only one of these subjects possesses knowledge. With negative epistemic dependence factors outwith the subject's cognitive agency ensures that a manifestation of her epistemic powers that would ordinarily suffice for knowledge in this case fails to suffice. In contrast, with positive epistemic dependence factors outwith the subject's cognitive agency ensure that a manifestation of her epistemic powers that would ordinarily *not* suffice for knowledge in this case suffices.

The best way to illustrate the phenomenon of positive epistemic dependence is by considering a certain kind of testimonial knowledge. On standard views of the epistemology of testimony, in epistemically favourable conditions it is possible to gain testimonial knowledge by, for the most part, simply trusting the word of one's informant. That is, while one will be expected to exercise some significant degree of epistemic skill in one's acquisition of this testimonial knowledge—for example, it had better not be that one would believe anything that one is told, no matter how outlandish—it is nonetheless the case that to a large extent one's cognitive success is down to features outwith one's cognitive agency.²⁰

To take a standard kind of example to illustrate this point, imagine an agent who is newly arrived in an unfamiliar city and who asks for directions.²¹ Let us stipulate that the conditions are epistemically favourable, in the sense that all the informants in the vicinity would be inclined to offer truthful and informative answers, and that there is nothing else epistemically amiss occurring which might lead our hero to form false beliefs on the basis of the testimony provided. Moreover, let us stipulate that our hero is exercising some degree of epistemic skill in acquiring her testimonial belief. She would not just ask anyone, but only plausible informants; she would not just believe anything she is told, even something outlandish; and so on. This is thus not a case where our agent is *merely trusting* an informant, since the intuition that someone can gain knowledge from mere trust is far from secure.

Nonetheless, the intuition is that a testimonial belief formed via the exercise of relatively minimal levels of epistemic ability can in epistemically favourable circumstances amount to knowledge. Indeed, if one does not gain testimonial knowledge in epistemically favourable circumstances like these, then testimonial knowledge is far less often possessed than we ordinarily suppose.

Here is the crux. While our hero is manifesting her epistemic powers to some degree in this case, it does not seem at all plausible to suppose that her cognitive success is because of epistemic powers. Indeed, it seems that her cognitive success is to a large degree due to factors outwith *her* cognitive agency, such as the cognitive powers of her informant and the epistemically favourable nature of the environment.

We can bring this point into sharp relief by imagining, as before, two agents who are internal physical duplicates in the same local and global environment, and who thus manifest the very same epistemic powers. As before, the only difference concerns the regional environment that the agents are in. For one of the agents, the regional environment is epistemically favourable, just like the conditions faced by our hero in the example just considered. For the other agent, in contrast, the regional environment is not epistemically favourable, but in fact one which is highly *unfavourable*. Perhaps, for example, the agent's environment could so very easily have been populated by dishonest informants rather than the honest informants she happens to interact with.

The problem should now be manifest. For while the agent who has an epistemically favourable regional environment gains testimonial knowledge, her internal duplicate who has an epistemically unfavourable environment does not gain testimonial knowledge. And yet, as we have seen, there can be no difference in these agents' possession or manifestation of epistemic powers. Whatever the reason for why they differ in terms of what they know, then, it is not a difference which is a function purely of their manifestation of their epistemic powers. In short, the epistemic difference between these agents is not down to a robust virtue-theoretic difference.²²

Whereas the phenomenon of negative epistemic dependence demonstrates that there is sometimes much *more* required for knowledge than the manifestation of one's epistemic powers, the phenomenon of positive epistemic dependence demonstrates that there is also sometimes much *less* required for knowledge than the manifestation of one's epistemic powers. The cases which illustrate the former phenomenon involve an agent exhibiting a

level of epistemic ability that would ordinarily suffice for knowledge but who nonetheless fails to know due to factors which are completely external to her cognitive agency. In contrast, the cases which illustrate the latter phenomenon—like the testimonial case just described—involve an agent exhibiting a level of epistemic ability that would *not* ordinarily suffice for knowledge but who nonetheless gains knowledge due to factors which are completely external to her cognitive agency. Either way, the upshot is that knowledge cannot be analysed along pure virtue-theoretic lines in terms of the manifestation of the subject's epistemic powers.

3. CONCLUDING REMARKS

It is an interesting question just why knowledge should exhibit these two types of epistemic dependence, though it would take us too far afield to explore this issue here.²³ The more salient issue for our purposes is the extent to which proponents of virtue epistemology should ultimately be troubled by this problem. We will close by suggesting that although the phenomenon of epistemic dependence exposes a theoretical limitation on virtue epistemology, this is a limitation that they would be wise to embrace rather than try to evade.

We noted earlier that one of the principal attractions of virtue epistemology is that it represents a significant *expansion* of the concerns of contemporary post-Gettier epistemology. While this is entirely compatible with the idea that virtue epistemologists should nonetheless be interested in offering a theory of knowledge, the point remains that a failure to offer a pure virtue-theoretic theory of knowledge is not such an indictment of the virtue-theoretic research programme as it would be for an epistemological research programme which put the theory of knowledge at centre stage. To this extent at least, virtue epistemologists may well be inclined to be relatively sanguine about their failure to offer a pure virtue-theoretic account of knowledge.

More stronger still, there is every reason for thinking that the phenomenon of epistemic dependence which we have seen creating problems for a pure virtue-theoretic theory of knowledge is something which virtue epistemologists, bearing in mind their 'expanded' research focus, can put into service in their own cause. After all, the moral we have drawn from the phenomenon of epistemic dependence is not that epistemic powers

have no role to play in a theory of knowledge, but only that they need to be supplemented with further epistemic conditions. Given that this conclusion is entirely compatible with the idea that epistemic powers are central to epistemological theorising more generally—such that the theory of knowledge is now no longer fundamental to the wider epistemological project—this is a conclusion that is far from inimical to the success of the virtue epistemological research programme.

In particular, we suggest that the right conclusion for the virtue epistemologist to draw from the phenomenon of epistemic dependence is that the focus of virtue epistemology, at least as regards certain epistemic standings, should be in the interplay between the manifestation of a subject's epistemic powers and the extent to which the positive epistemic status of a subject's belief can be dependent on factors outwith her cognitive agency. Admittedly, to some degree this is a diminution of the aspirations of virtue epistemology. But even with this diminution in place, virtue epistemology can still lay claim to transforming contemporary epistemology. By putting epistemic powers at the heart of current thinking in epistemology, virtue epistemology has radically altered epistemological theorising.²⁴

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NOTES

- ¹ For some helpful surveys of the literature on virtue epistemology, see Axtell (1997), Greco (2002), Baehr (2004), Greco & Turri (2009), Kvanvig (2010), and Turri & Sosa (2010). See also Baehr (2008).
- ² See Greco (1999) for a good example of a virtue epistemology which exemplifies the former approach; see Zagzebski (1995) for a good example of a virtue epistemology which exemplifies the latter approach.
- ³ For instance, Richard Feynman explained why the space shuttle Challenger blew up in terms of the failure of an O-ring in one of the solid rocket boosters to expand at lift-off. Jackson (1996, 397) suggests that causal explanations by dispositional properties provide two kinds of information: (i) the effect was caused by the categorical basis of the disposition, and (ii) the effect is one of the outputs in terms of which the disposition is defined. (ii) is required because some base properties can ground more than one disposition—e.g., electrical and thermal conductivity in metals share the same categorical basis. What Feynman discovered was that the categorical basis of the rigidity caused the disaster, and the disaster resulted from the kind of output distinctive of rigidity: the O-ring failed to expand after compression and its failure led to the disaster.
- ⁴ Is it essential that virtue epistemology is wedded to this metaphysical picture? A possible alternative route—explored in a number of important works by Greco (e.g., 2003; 2007; 2008; 2009*a*; 2009*b*; 2010)—is to think of the ‘because of’ relation in play here precisely in terms of the kind of causal explanatory lines that Sosa rejects. For example, Greco (2010, 12) writes that “the term ‘because’ [...] marks a causal explanation.” Later on (*ibid.*) he makes clear that the agent’s abilities must be the overarching element in the causal explanation in question when he states that “in cases of knowledge, *S*’s believing the truth is explained by *S*’s abilities, as opposed to dumb luck, or blind chance, or something else.” A potential advantage of this proposal is that it leaves open what metaphysical commitments virtue epistemology has. Given the nature of the volume to which this piece belongs, and given also that Sosa’s proposal has been extremely influential in the contemporary epistemological literature, we will henceforth set this alternative conception of virtue epistemology to one side. We discuss Greco’s view in its own right in a number of works. See especially: Pritchard (2008*a*; 2011*b*), Pritchard, Millar & Haddock (2010, chs. 1-4), and Kallestrup & Pritchard (*forthcominga*; *forthcomingb*; *forthcomingc*).
- ⁵ We are here (and henceforth, whether relevant) setting to one side the minimal epistemic status of having a belief which is true.
- ⁶ That’s not to say that epistemologists have not tried to offer alternative accounts of the epistemic good, where this includes not just proposals where the epistemic good is other than true belief, but also proposals which treat the epistemic good as being both true belief and some other epistemic standing or standings. For a taxonomy of the kind of views that are available in this regard, see Pritchard (2011*b*). For more on the topic of epistemic value more generally, see Pritchard (2007*b*) and Pritchard & Turri (2011).
- ⁷ On this distinction between epistemic value *qua* a kind of value which is specifically epistemic, and epistemic value *qua* a value that is possessed by epistemic standings (which may not be itself a specifically epistemic kind of value), see Geach’s (1956) famous remarks about predicative and attributive adjectives. In particular, from ‘*x* is a big flea’ it does not follow that ‘*x* is a flea’ and ‘*x* is big’, since the claim being made is only the attributive claim that *x* is big *for a flea*. (Compare: ‘*x* is a red flea’). See also Pritchard (*forthcomingd*).
- ⁸ See in particular the recent literature on the so-called ‘swamping’ problem. For the main exponents of this problem, see Jones (1997), Swinburne (1999), Kvanvig (2003) and Zagzebski (2003). See also Pritchard, Millar & Haddock (2010, ch. 1) and Pritchard (2011*b*).
- ⁹ For further discussion of the idea that virtue epistemology might be best thought of as reorienting the concerns of traditional epistemology (such as offering a Gettier-proof theory of knowledge), rather than simply responding to those concerns, see Code (1987), Kvanvig (1992), Montmarquet (1993), Hookway (2003), and Roberts & Wood (2007).
- ¹⁰ See Sosa (2010) for a seminal virtue-theoretic account of wisdom. For further discussion of the value of understanding within the context of virtue epistemology, see Kvanvig (2003) and Pritchard, Millar & Haddock (2010, ch. 4; cf. Pritchard 2009*b*; *forthcomingb*).
- ¹¹ For the original Gettier-style cases, see Gettier (1963). For a helpful overview of such cases and the problem they pose for epistemology, see Hetherington (2005).
- ¹² For more on the problem of knowledge-undermining epistemic luck, see Pritchard (2005; 2007*a*; 2008*b*).
- ¹³ Versions of the safety condition for knowledge have been offered by a number of authors, including Luper (1984; cf. Luper 2006), Sainsbury (1997), Sosa (1999), Williamson (2000), and Pritchard (2002; 2005; 2007*a*). For a comprehensive and up-to-date discussion of the merits of the safety condition for knowledge, see the exchange between Pritchard (*forthcomingc*) and Hetherington (*forthcoming*). See also Pritchard (*forthcominga*).

¹⁴ One clear statement of such a view can be found in early work by Greco (e.g., 1999; 2000), where he develops his own variant of virtue epistemology known as agent reliabilism. For example, after setting out the problem posed by Gettier cases and noting that his position cannot deal with this problem, he writes:

“Accordingly, the [*virtue-theoretic*] conditions that agent reliabilism sets down as necessary for knowledge are not also sufficient for knowledge; something else must be added.” (Greco 2000, 251-2)

¹⁵ See, especially, Kallestrup & Pritchard (*forthcominga*).

¹⁶ We first proposed epistemic twin earth cases in Kallestrup & Pritchard (*forthcomingc*). See also Kallestrup & Pritchard (*forthcominga; forthcomingb*). It is worth noting that the epistemic twin earth argument that we propose is significantly different to the moral twin earth argument that has been proposed by Horgan & Timmons (1991; 1992) and Timmons (1999, ch. 2), and which calls into question a certain form of moral naturalism.

¹⁷ See, for example, Putnam (1975). For a recent discussion of standard twin-earth arguments, see Kallestrup (2011, ch. 3).

¹⁸ If twin-*S* uttered ‘that’s water’ while demonstrating twin-water she would express the false proposition that that’s water. We assume that the concept of water as deployed on both earth and epistemic twin earth is a natural kind concept that applies to all and only H₂O. One might envisage a loophole here for the robust virtue epistemologist if twin-*S*’s utterance has the purely descriptive truth-condition: ‘that’s water’ is true *iff* that’s watery stuff, or the disjunctive truth-condition: ‘that’s water’ is true *iff* that’s water or that’s twin-water. We find both views implausible. The presence of small amounts of twin-water on epistemic twin earth implies neither that water is a functional kind in the way that, say, vitamin is, nor that water is a disjunctive kind in the way that, say, jade is. Even those with descriptivist or semantic internalist leanings insist that, to a first approximation, ‘water’ in someone’s mouth picks out the dominant watery stuff of their acquaintance. XYZ is neither dominant nor stuff with which adequate causal connections are sustained. In fact, Chalmers (1996, 58) is explicit that if the watery stuff in our world turned out to be a mixture of 95% H₂O and 5% XYZ, the primary intension of ‘water’ would pick out only H₂O. For more details, see Kallestrup (2011, chs. 3 & 4).

¹⁹ The problem that epistemic twin earth cases poses for a pure virtue-theoretic account of knowledge is explored in more detail in Kallestrup & Pritchard (*forthcomingc*).

²⁰ That is, most epistemologists of testimony are inclined towards some version of *anti-reductionism*, which is epistemically more liberal than its reductionist counterpart. It is precisely because of their anti-reductionism that most epistemologists would tend to treat the subject in this case as having testimonial knowledge. Reductionists, in contrast, would tend to regard this subject as lacking knowledge on account of the degree of trust in play. While reductionism is not a popular view in the epistemology of testimony, it does have some adherents. See, for example, Fricker (1995). For a very useful survey of contemporary work on the epistemology of testimony, with special focus on the reductionism/anti-reductionism distinction, see Lackey (2010). See also Carter & Pritchard (2010).

²¹ The basic kind of case in play here is attributable to Lackey (2007). Note, however, that we have made certain changes to the case in order to ensure that it demonstrates the point that we have in mind (which is importantly different from that which is the focus of Lackey’s paper). For more details, see Kallestrup & Pritchard (*forthcomingb*, §2).

²² For a more detailed discussion of positive epistemic dependence, and its relevance to virtue epistemology, see Kallestrup & Pritchard (*forthcominga; forthcomingb*).

²³ An account of knowledge which is meant to accommodate the epistemic dependence of knowledge is offered by Pritchard (e.g., 2011*a*).

²⁴ Special thanks to John Greco, who read and commented on an earlier draft of this paper. Thanks also to Ruth Goff.