



Kelp, C. (2013) Extended cognition and robust virtue epistemology. *Erkenntnis*, 78(2), pp. 245-252.

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Deposited on: 16 May 2017

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# Extended Cognition and Robust Virtue Epistemology

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## Abstract

Duncan Pritchard (2010) and Krist Vaesen (Forthcoming) have recently argued that robust virtue epistemology does not square with the extended cognition thesis that has enjoyed an increasing degree of popularity in recent philosophy of mind. This paper shows that their arguments fail. The relevant cases of extended cognition pose no new problem for robust virtue epistemology. It is shown that Pritchard's and Vaesen's cases can be dealt with in familiar ways by a number of virtue theories of knowledge.

## 1 Introduction

The central thesis of virtue theories of knowledge is that knowledge involves cognitive success that is due to an exercise of cognitive ability. Two versions of such theories can be distinguished. According to the first, weak version, cognitive success due to ability is necessary but insufficient for knowledge. As opposed to that, its robust cousin strengthens the conditional into a biconditional:

[VE<sub>R</sub>] One knows that  $p$  iff one's cognitive success (typically: one's true belief that  $p$ ) is due to the exercise of cognitive ability.

If it can be made to work, VE<sub>R</sub> is a very appealing view in the theory of knowledge. Apart from its obvious simplicity and elegance it promises a neat account of the value of knowledge, one that explains

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why knowledge is more valuable than any proper subset of its parts<sup>1</sup>: success due to ability is in general more valuable both than success that isn't due to ability and failure despite ability. According to  $VE_R$ , knowledge is a special case of the general phenomenon. In consequence, it can be said to inherit the value that attaches to success due to ability in general.<sup>2</sup>

Yet,  $VE_R$  has opponents. There are a number of arguments in the literature that purport to show that  $VE_R$  is false. For instance, Jennifer Lackey (2007) and Duncan Pritchard (e.g. 2010) have argued on the basis of cases involving knowledge by testimony that  $VE_R$  fails left-to-right. Moreover, Jonathan Kvanvig (2003) and Pritchard (2010) both argue that barn façade-style Gettier cases show that  $VE_R$  fails right-to-left. I have defended  $VE_R$  against these attacks elsewhere (Author 2009, 2011) and will not rehearse these arguments here. Instead, I will be concerned with a new kind of objection that has recently been levelled against the view by Pritchard and Krist Vaesen. Pritchard and Vaesen both adduce arguments to the effect that  $VE_R$  does not fit well with the so-called "extended cognition thesis" (ECT), according to which, at least in certain cases, an agent's cognitive processes extend beyond his skin. In what follows, I will show that these arguments fail: ECT does not pose a special problem for  $VE_R$ .

## 2 The arguments from extended cognition

### 2.1 Vaesen

What exactly does it mean to say that an agent's true belief is due to the exercise of cognitive ability? According to one prominent proposal (due to Greco (e.g. 2003)), the answer is that the agent's cognitive abilities must play the most salient part in the causal explanation of the agent's believing the truth about the matter. It is  $VE_R$  thus understood that is the target of Vaesen's argument.

Let's look at the details. Vaesen gives ECT a very weak interpretation, which is meant to make the thesis especially plausible and hence his argument particularly compelling: all he needs for his argument is the assumption that human cognition extends beyond our skin in the sense that it "is strongly dependent on external resources." (Vaesen Forthcoming: 7) Thus understood, ECT is indeed entirely uncon-

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<sup>1</sup> For more on the value problem see e.g. Kvanvig (2003) and Pritchard (2008).

<sup>2</sup> For more on  $VE_R$  and the value of knowledge see e.g. Greco (2009; 2010), Pritchard (2008) and Sosa (2003; 2007).

troversial. After all, we do rely on thermometers to get into cognitive contact with facts about temperature, rulers to get into cognitive contact with facts about length etc.

Vaesen aims to show that, given this uncontroversial interpretation of ECT,  $VE_R$  fails left-to-right: there are cases in which, with the aid of an external resource, one comes to know something, whilst, at the same time, not having hit upon the truth because of ability. In order to bring this point home, Vaesen invites us to consider the following case:

*Sissi.* Sissi is a baggage inspector at the local airport. The X-ray scanners at that airport have recently been upgraded to a type that periodically superimposes images of illegal objects onto the images actually produced by the scanner. This is because research has shown that operators' vigilance tends to drop by almost 50% within half an hour of being presented with only unsuspecting images. Upon viewing a suspicious image operators can click on the image to find out whether it is a "false positive" produced by the scanner. Sissi has received instructions how to use the new system from her supervisor, Joseph, who, incidentally, is also a cognitive engineer and was in charge of designing the new type of scanner. Sissi inspects an item of luggage that contains a bomb. Thanks to the new device her vigilance is at peak level so that she forms the corresponding true belief. (Vaesen Forthcoming: 9)

Intuitively, Sissi comes to know that there is a bomb in the suitcase. However, argues Vaesen, her cognitive ability is not the most salient feature in the causal explanation of her cognitive success. Rather, what explains her cognitive success here is "a difference in the set-up of the machinery". (Forthcoming: 9) Here is Vaesen's reason for this: Since the old scanners have been upgraded only recently, Sissi might very easily have operated one of the old scanners instead of a new one. If Sissi had operated an old scanner, we may suppose, she would have suffered from a lapse of attention and therefore formed a false belief that the suitcase contains no bomb instead of the true belief she actually forms. At the same time, she would have exercised the same cognitive abilities to arrive at her belief as she does in the actual world. What this brings to light, according to Vaesen, is that what is most salient in the causal explanation of Sissi's cognitive success is the fact that the new scanners are in place, not that she exercised cognitive ability. As a result,  $VE_R$  fails left-to-right.

## 2.2 Pritchard

So much for Vaesen's argument. Let's move on to Pritchard's. According to the version of  $VE_R$  that Pritchard considers, whether the right-hand side of  $VE_R$  is satisfied can be determined by answering the question whether the agent's "cognitive success is *primarily creditable* to [his] cognitive agency."<sup>3</sup>

With these remarks about Pritchard's understanding of  $VE_R$  in play, let's turn to the actual argument. Consider the following classic example of extended cognition due to Clark and Chalmers (1998):

*Otto*. In order to counter his Alzheimer's-induced loss of memory, Otto starts using a notebook in which he stores and from which he retrieves information in much the same way in which he had hitherto stored information in and retrieved it again from memory.

According to the extended cognition thesis, Otto's notebook is a part of his cognitive processes (when he uses it) in much the same way in which other people's memories are (when they use them).

The classic example does not constitute much of a difficulty for  $VE_R$ . After all, Otto develops the notebook system himself so that the cognitive successes he goes on to reap from it—such as, for instance, believing truly that he has an appointment with the doctor tomorrow—are primarily creditable to him.  $VE_R$  can accommodate the intuition that various of the cognitive successes count as knowledge.

However, argues Pritchard, there are variations of the case that get  $VE_R$  in trouble. Thus consider:

*Otto\**. In order to counter his Alzheimer's-induced loss of memory, Otto's wife sets Otto up with a notebook in which Otto is to store and from which he is to retrieve information in much the same way in which he had hitherto stored information in and

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<sup>3</sup> Pritchard (2010: 137, *my italics*). What is the relation between the version of  $VE_R$  Pritchard discusses and the one that is the target of Vaesen's argument? On the face of it, they are different. After all, in Vaesen's version, whether the agent satisfies the right-hand side of  $VE_R$  depends on whether his abilities are the most salient part in the causal explanation of his cognitive success, while in Pritchard's version, it depends on whether his cognitive success is "primarily creditable" to his agency. It is not clear, however, that the difference between the two statements is more than superficial. After all, plausibly, the agent's cognitive success is primarily creditable to his agency just in case his cognitive abilities are the most salient part in the causal explanation of his cognitive success.

retrieved it again from memory. Otto's wife teaches Otto how to use the notebook and plays a crucial part in ensuring that the system functions effectively. (Pritchard 2010: 149)

In this case, claims Pritchard, it is "hard to judge" whether Otto's subsequent cognitive successes are primarily creditable to his cognitive agency. After all, a third agent is crucially involved here. Still, intuitively, many of these cognitive successes will count as knowledge.

One might think that the fact that  $VE_R$  does not pass a clear verdict on the case is not so bad for its champions. Unfortunately, however, things are worse than this. Pritchard argues that there is an alternative view that delivers the intuitively correct verdicts. If so, the cases provide some reason to prefer the alternative view to  $VE_R$ . The alternative Pritchard has in mind is the weaker version of virtue epistemology that claims that the ability condition is necessary but insufficient for knowledge. According to Pritchard, the way to test whether the ability condition of the weaker view is met is to ask whether the agent's true belief is *to a significant degree* creditable to the exercise of ability.<sup>4</sup> It is plausible that, even when Otto's wife has helped him set up the system, his subsequent cognitive successes are to a significant degree creditable to the exercise of cognitive ability on his part (at least in cases in which they also qualify as knowledge). So, there is an alternative to  $VE_R$  that can easily handle the cases for which  $VE_R$  does not manage to pass a clear verdict. As a result these cases constitute evidence against  $VE_R$ .

### 3 No new problem

In order to show that neither Vaesen's nor Pritchard's argument is successful, I will now argue that the force of neither argument depends on the cases being cases of extended cognition. Rather, what gives the arguments bite is a familiar fact about the context-sensitivity of salience/attributions of primary creditability.

Consider, first, a case in which Otto acquires some true belief with the help of his notebook—say, that he has an appointment with

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<sup>4</sup> Notice that the weaker test is not an option for the defender of  $VE_R$ . After all, since  $VE_R$  gives not only necessary but also sufficient conditions for knowledge, it must be able to handle Gettier cases. Crucially, however, in many Gettier cases, the agent's cognitive success is still to a significant degree creditable to the exercise of ability. If  $VE_R$  were combined with the weaker test, it would pass the wrong verdicts in at least some Gettier cases.

the doctor tomorrow. Now consider two conversational contexts in which the case is discussed. In the first one we hold fixed that Otto is operating a properly functioning notebook system. Facts about how he acquired the system and how the system is sustained are not up for debate. Rather, the focus is on the contribution of Otto's cognitive abilities to his cognitive success. Since Otto knows how to operate the system, in this context, we will be inclined to give Otto primary credit for the cognitive successes he attains by using the notebook. As opposed to that, in the second context, the focus is shifted to the contribution of his wife to the functionality of the system. Here, we are inclined to assign at least some of the credit for the successes attained by means of the system to the helpful influence of his wife. Moreover, the more we stress his wife's involvement, the more credit we will be inclined to assign to her and, of course, the less we will be inclined to give Otto primary credit.

A similar argument can be run for the case of Sissi: If we hold fixed that she is operating a new type of scanner and focus on the contribution of Sissi's abilities to her cognitive success, we will be inclined to single out Sissi's cognitive abilities as the most salient part of the causal explanation of her success. Not so if the focus is on the relative merits of the old and the new types of scanner.

Notice, next, that the same goes for cases of regular, non-extended cognition. Consider:

*Otto\*\**. Otto is in possession of a cognitive system that plays the role that memory plays for most of us not because his wife has helped him get set up with a notebook, but because his doctor regularly administers a novel kind of medication that keeps the effects of Alzheimer's at bay.

In a conversational context in which it is held fixed that Otto's memory is fully and properly functioning, in which facts about how this happens are not up for debate and in which we focus on the contribution of Otto's cognitive abilities to his cognitive success, we will be inclined to give Otto primary credit for the cognitive successes he attains through the use of his memory. As opposed to that, in a context in which we shift the focus to the contribution of the doctor to the functionality of Otto's memory, we will be inclined to assign credit for Otto's successes to the doctor. The more we stress the doctor's involvement, the more credit we will be inclined to assign to him and, of course, the less we will be inclined to give Otto primary credit.

Now consider the following variation of *Sissi*:

*Sissi*\*. When inspecting the bomb Sissi's vigilance is at peak level not because she is using the new type of scanner but because the staff at the local airport are given a novel vigilance-increasing drug that Sissi's supervisor Joseph developed in his free time.

If we hold fixed that Sissi is taking the vigilance increasing drug and focus on the contribution of Sissi's abilities to her cognitive success, we will be inclined to single out Sissi's cognitive abilities as the most salient part of the causal explanation of her success. Not so if we shift the focus to the contribution the drug (or Joseph) makes to keeping up Sissi's vigilance.

There is thus reason to believe that Vaesen's and Pritchard's cases pose a problem for  $VE_R$  not in virtue of being cases of extended cognition but in virtue of the fact that salience and attributability of primary credit are context-sensitive in a way in which knowledge attributions appear not to be. The good news for defenders of  $VE_R$  is that this is a familiar difficulty for (certain versions of)  $VE_R$  rather than a novel one. It is no surprise, then, that the familiar responses to this problem will work for the extended cognition cases as well. In the remainder of the paper, I will briefly review some lines of response and show how they deal with Pritchard's and Vaesen's cases.

#### **4 Some virtue theoretic responses reviewed**

The first response I would like to look at is due to Greco (2007; 2008), who addresses the problem by (1) offering  $VE_R$  as a contextualist account of knowledge attributions and (2) adopting Edward Craig's (1990) thesis that the function of the concept of knowledge is to flag good informants. If Craig's thesis holds, then, plausibly, in the context of a knowledge attribution we are in the context of picking out a good informant on the issue under consideration. What matters in such a context, however, is merely that the agent has a properly functioning cognitive system of the relevant sort and how he operates it, not how this system has been acquired or how it is sustained. As a result, Greco can argue that, in contexts in which we are in the business of making an attribution of knowledge, the focus will be on the contribution of the agent's abilities to his cognitive success, not on how the relevant cognitive system has been acquired or how it is sustained. Since, as we have seen above, in such contexts both Otto



and Sissi get primary credit for their cognitive successes/their cognitive abilities are the most salient part of the causal explanation of their successes, Greco can avoid the problem under consideration.<sup>5</sup>

Another way of dealing with the problem is to opt for a different way of spelling out the because of relation at issue in  $VE_R$ 's crucial ability condition. The proposal I favour here is in essence the one offered by Ernest Sosa (2007; Forthcoming).<sup>6</sup> According to Sosa, what matters to satisfaction of the ability condition is whether the agent's cognitive success *manifests* ability on his part, where an ability, according to Sosa, "is a disposition ... that would in appropriately normal conditions ensure (or make highly likely) the success of any relevant performance issued by it." (Sosa 2007: 29)

Let's see what verdicts Sosa's version of  $VE_R$  passes on Vaesen's and Pritchard's cases. When Sissi is operating a new scanner and forms a true belief that there is a bomb in the suitcase, does she manifest a disposition that would ensure that she believes truly in appropriately normal conditions? Arguably, the answer here is "yes". After all, when operating a new scanner, Sissi has a disposition that would ensure that she forms true beliefs about the presence of bombs. And it is this disposition that she manifests when she forms her true belief. So, Sissi's belief satisfies the right-hand side of Sosa's version of  $VE_R$  (and, of course, does so whether or not the conversational context is

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<sup>5</sup> It may be worth noting that in contexts in which we focus on Otto's wife's contribution to his cognitive success or on the relative merits of the new and old scanner, the sentences "Otto knows that he has an appointment with the doctor tomorrow" and "Sissi knows there is a bomb in the suitcase" are false. However, this is arguably acceptable for Greco. After all, Greco offers  $VE_R$  as an account of knowledge *attributions*. Such an account can be successful if it passes the right verdict in all cases in which knowledge is intuitively correctly attributed. Craig's thesis allows him to secure this result by ensuring that contexts of knowledge attributions are ones in which the focus is on the contribution of cognitive ability to cognitive success.

<sup>6</sup> That said, I do not agree with the version of  $VE_R$  Sosa goes on to adopt. I adduce a number of arguments against it in Author (2011) and offer an alternative. The main difference between Sosa's  $VE_R$  and the one I favour concerns the nature of the cognitive success at issue in perceptual knowledge. While Sosa follows orthodoxy in holding that the relevant cognitive success at issue in perceptual knowledge consists in hitting upon the truth, I argue for a more robust proposal according to which the relevant cognitive success consists in the *discrimination* of the object of perception from all other objects of perception in the agent's environment. However, since I agree with Sosa on how to unpack the because of relation in  $VE_R$ 's ability condition, these differences are of little consequence for the purposes of this paper. For that reason, the two different accounts can, for the purposes of this paper at least, be treated as one.

set up in such a way that Sissi's ability is what's salient). Similarly, in the case of Otto: when working with a fully functioning notebook system, Otto has a disposition that would ensure or make highly likely that he believes truly for instance that he has an appointment with the doctor tomorrow. And it is precisely this disposition that Otto manifests when he forms his true belief. Thus Otto's belief also satisfies the right-hand side of  $VE_R$ .<sup>7</sup>

## 5 Conclusion

It transpires that neither Vaesen's nor Pritchard's extended cognition cases poses a novel problem for  $VE_R$ . Rather, they instantiate the familiar problem of context-sensitivity of salience/attribution of primary creditability. As a result, it is no surprise that the familiar virtue theoretic responses to this problem will do the job for virtue epistemologists here as well. Once again,  $VE_R$  survives the attack of its foes unscathed.

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<sup>7</sup> One might object that Pritchard's and Vaesen's arguments are targeted specifically against versions of  $VE_R$  that spell out the because of relation in terms of explanatory salience and that, as a result, the question whether one can avoid the problem by adopting an alternative account of this relation is simply irrelevant. Notice, however, that both Pritchard (2010: 139) and Vaesen (Forthcoming: 2) cite Sosa as a champion of the view they take themselves to be attacking. (True, Vaesen does go on to restrict his explicit target to Greco's and Riggs's versions of the  $VE_R$ . Notice, however, that he claims, "My case will be particularly strong if I succeed in refuting both  $CTK_{Greco}$  and  $CTK_{Riggs}$  [i.e., in my terminology, both Greco's and Riggs's versions of  $VE_R$ ]." (Forthcoming: 4) Surely, however, this won't be the case if we it can be shown that it stands no chance of dislodging Sosa's version of the view.) For that reason, I take it that it is worthwhile spending a couple of paragraphs on showing that their argument is ineffective against views that unpack  $VE_R$ 's because of relation along Sosa's lines.

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