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(Forthcoming in *Philosophical Studies*)

Varieties of Cognitive Achievement

J. Adam Carter, *Eidyn Research Centre*, University of Edinburgh

Benjamin W. Jarvis, New York University, Stern School of Business

Katherine Rubin, Weill Cornell Medical College

Abstract

According to robust virtue epistemology (RVE), *knowledge* is type-identical with a particular species of *cognitive achievement*. The identification itself is subject to some criticism on the (alleged) grounds that it fails to account for the anti-luck features of knowledge. Although critics have largely focused on environmental luck, the fundamental philosophical problem facing RVE is that it is not clear why it should be a distinctive feature of cognitive abilities that they ordinarily produce beliefs in a way that is safe. We propose a novel way to resolve this problem. Key to our proposal will be an appreciation of *different* representational states beholden to truth. We suggest these different representational states are distinguished by how, in the proper governance of these states, the twin goods of attaining truth and avoiding error are weighted. Moreover, we explain how varieties of representational states line up with varieties of cognitive achievement such that knowledge, *cum* cognitive achievement, must be (ordinarily) safe because of the kind of *attempt* at success that belief is—namely, an attempt that places the premium it does on avoiding error.

Key words: virtue epistemology; epistemic luck; cognitive achievement; knowledge; belief

§0 INTRODUCTION

According to robust virtue epistemology (RVE), *knowledge* is type-identical with a particular species of *cognitive achievement*¹. Proponents of this identification claim it comes with a number of theoretical benefits, including a promising account of the value of knowledge². However, the identification itself is subject to some criticism on the (alleged) grounds that it fails to account for widely-accepted *anti-luck* features of knowledge³.

¹ See, in particular, Greco's [2013, §1] articulation of robust virtue epistemology as making a kind of 'genus-species' claim, *vis-à-vis* the relationship between cognitive achievements and knowledge, respectively.

² Greco [*Ibid.* 2] captures the gist in his remark that 'Knowledge is an achievement in a sense that lucky guesses (and the like) are not. This is an improvement over accounts that make the value of knowledge merely practical or instrumental. Plausibly, we value knowledge (as we value achievement in general) "for itself," over and above its practical or instrumental value'.

³ See fn 6.

Consider, for instance, *environmental luck*. A belief exhibits environmental (as opposed to *intervening*⁴) luck only if the process by which it is formed and maintained doesn't involve misrepresentations or mistakes. Moreover, while a belief that is environmentally lucky may be managed in ways that *ordinarily would be safe*—i.e. not easily lead to a belief that is false—due to unusual environmental conditions, it is managed in ways that are *not safe*. As the description of environmental luck indicates, there is a tight relationship between environmental luck and safety: the former precludes the latter. Moreover, Pritchard (2010; 2012) has argued that while knowledge is incompatible with environmental luck, cognitive achievement is compatible with environmental luck. If Pritchard is correct, then knowledge is not type-identical with cognitive achievement. Knowledge is safe⁵, but cognitive achievement isn't. Call this “the problem of environmental luck.”

The problem of environmental luck is undoubtedly a challenge for RVE, a challenge that has received significant attention in the philosophical literature⁶. However, there is a related problem for RVE that received less direct attention. The problem is to understand why beliefs that qualify as knowledge must be managed in ways that *ordinarily would be safe* whether or not they are, in fact, safe given the local environmental conditions. Consider any possible instance of knowledge, excepting any non-ordinary ones where there are special environmental conditions of the sort that play a role in Gettier cases (including fake barn-type cases). Infallibility seems like it might be too strict a requirement for any such ordinary instance of knowledge to meet (given the threat of skepticism). If so, any such instance of ordinary knowledge might, in spite of being knowledge, be fallibly acquired or maintained—*viz.*, it might be acquired or maintained in a way that is still compatible with the belief's being false. Nevertheless, there should be a non-trivial neighborhood of possibilities—perhaps the most likely or the most normal—in which the belief is true. Even if *some* error possibilities are compatible with the way the belief is acquired and maintained, it seems these cannot be the most likely or most normal. Else, we have moved very far away from infallibilism indeed (to the extent that it would be extremely difficult to understand why any rational person would have found skepticism at all tempting). However, if all the most likely or most normal possibilities are not error

⁴ Intervening luck is characteristic of traditional Gettier-style cases, where luck intervenes between (as Unger [1967] put it) ‘the man and the fact’. See Pritchard [2005].

⁵ While there are a few dissenters (e.g. Comesaña [2005]; Hetherington [2013]), it is widely taken as a *platitude* in contemporary epistemology that knowledge excludes luck. Versions of the safety requirement for knowledge have been offered by a number of authors, including Luper [1984; 2003], Sainsbury [1997], Sosa [1999], Williamson [2002], and Pritchard [2002; 2005; 2007; 2012a; 2012b]. For a helpful recent discussion of the merits of the safety condition for knowledge, see the exchange between Pritchard [2013] and Hetherington [2013]. See also Madison [2013] for a recent reply to Hetherington's challenge of a safety condition on knowledge.

⁶ See for instance Pritchard [2012], Kelp [2012] and Greco [2009].

possibilities, then this (arbitrary) instance of ordinary knowledge is safe. In other words, knowledge is ordinarily safe. Yet, a wide variety of achievements are not brought about in ways that are ordinarily safe in the more general sense that these ways very easily could have yielded failure rather than success. For instance, an artist might produce her signature pottery by methods that very often produce cracked and broken failures. In order to produce a new work, she may, in the typical instance, have to make several attempts. It may be that ordinarily, her ways of making pottery are *unsafe*⁷. Nevertheless, we would not, for this reason, hesitate to say that her successful works are, in many cases, *artistic achievements*⁸. Why, then, should it be different in the case of cognitive achievement? Call this “the problem of ordinary safety.”

To a first approximation, achievements (in the relevant sense) are successes attributable to abilities.⁹ *Cognitive* achievements are successes attributable to *cognitive* abilities. Suppose it is a distinctive feature of cognitive abilities that they ordinarily produce beliefs in a way that is safe. In other words, suppose that part¹⁰ of what qualifies aspects of character as cognitive *abilities* (rather than non-abilities) is that they ordinarily produce safe beliefs. Perhaps, then, it would not be too surprising if cognitive *achievements* were necessarily safe successes—and, hence, *pace* Pritchard, *not* compatible with environmental luck. Indeed, *this simply follows* if, to be attributable to cognitive abilities, it is required that a success be produced in the ordinary way.¹¹ In sum, Pritchard’s challenge might well be met *if it is a distinctive feature of cognitive abilities that they ordinarily produce beliefs in a way that is safe*. In other words, the problem of environmental luck might be solved if the problem of ordinary safety can be.

Our aim will be to propose a novel way to resolve the problem of ordinary safety and by extension the problem of environmental luck. On our proposal, knowledge *cum* cognitive achievement must be (ordinarily) safe because of the kind of *attempt* at success that belief is—namely, an attempt that (unlike other representational states beholden to truth, e.g. suspecting) places the premium it does on avoiding error. Key to our positive proposal is an appreciation of the twin cognitive goods of gaining truth and avoiding error—and further, that different representational states beholden to truth are distinguished by reference to these twin cognitive goods.

The plan is as follows: In §1 we consider in some detail two unsatisfactory approaches advanced recently by John Turri and John Greco aimed at addressing the problems raised in this section. In §2, we

⁷ See Turri [*forthcoming*] for similar kinds of cases.

⁸ Compare here with Alfano’s [2012] discussion of what he calls “high fidelity” and “low-fidelity” virtues.

⁹ Perhaps, we should include not just abilities, but competences, skills, and virtues—at least insofar as these are different.

¹⁰ The word ‘part’ signals that, in the envisioned theory, more may be required as suggested in both Jarvis [2013] and Ichikawa & Jarvis [*forthcoming*].

¹¹ This is the suggestion of Jarvis [2013].

offered a novel proposal for resolving these problems, and in doing so, devise a novel way to connect varieties of representational states with varieties of cognitive achievement.

§1 TWO UNSATISFACTORY APPROACHES

§1.1 Turri's *Ample Achievement Solution*

Within virtue epistemology (VE), a distinction is made between (objective) *successes* and *achievements*. This distinction is a feature of the more general view that, as Sosa (2009: 5) puts it, the 'epistemic normativity constitutive of knowledge... is a kind of *performance* normativity¹².' Sosa and Greco maintain that *any* performance with an aim can be evaluated along three dimensions: whether it is successful, whether it is skillful, and thirdly, whether the success is *because* of the skill. If the success is because of the skill, the performance is not *merely* successful, but also, an achievement.

Because beliefs are, for Sosa [2007: 93] 'a certain kind of epistemic performance' and one that is successful or accurate 'only if true' [2009, 5], a true belief token will constitute an achievement just when having that true belief is attributable to cognitive abilities. This is, at any rate, the standard line advanced in RVE. But, there is room within broadly "performance-based" epistemology to *reconceive* of the "success" component in a way that *prima facie* avoids Pritchard-style environmental-luck objections.

Recall that the problem of environmental luck was that RVE countenances "unsafe knowledge" by (i) identifying knowledge with cognitive achievement, even though (ii) cognitive achievements are claimed to be *compatible* with knowledge-undermining environmental luck. But a *precondition* for this objection is that the relevant success component can be satisfied unsafely—*viz-*, *true beliefs* can be unsafe (even when issued in by methods that ordinarily yield safe beliefs). John Turri envisions a way around this problem. Whereas Sosa calls a belief "apt" that is *true* because skillful, Turri envisions a different, more resilient kind of achievement. Here's Turri:

Your belief is *ample* just in case its safety (not just its truth) manifests your competence... Call the outcome of an ample performance an ample achievement, and the view that knowledge is ample belief the ample achievement account of knowledge or AA+ for short... [Turri 2012: 11]

The natural way to understand Turri's suggestion is that the role of true belief in the original RVE is now to be played by safe belief, *mutatis mutandis*.¹³ Necessarily, if knowledge is type-identical to *ample achievement*

¹² Our italics. Cf. Chrisman [2013].

¹³ An alternative way of understanding the clause "safety manifests competence" is as "truth manifests competence *in a safe way*." However, this view is not apparently different from Pritchard's [2012]; it is definitely not a version of RVE.

in this way, then environmental luck cases can't sever the connection between knowledge and ample achievement¹⁴. After all, resilience to knowledge-undermining luck¹⁵ is *built into* to the salient "success" condition on this new ample achievement account, so the problem of environmental luck is forestalled. Moreover, so long as exercised cognitive abilities must ordinarily deliver the success they are oriented towards, they must now ordinarily bring about not only truth, but safety. So, changing the "success" condition to safe belief addresses the problem of ordinary safety as well.

Unfortunately, the "ample-achievement" approach runs into two seemingly intractable problems. Firstly, this proposal seems to accommodate only clumsily (if at all) the commonly held thought that it is true belief that is the central epistemic good (even if it is not the only epistemic end)¹⁶. The proposal seems to suggest instead that the good central to (performance-based) epistemic evaluation is *safe belief*. Secondly (and more importantly), the proposal does not explain why knowledge is safe belief *by way of* the VE framework. The proposal's explanation relies instead on safe belief as a *prior* epistemic good so that VE is explanatorily irrelevant. In this way, the explanation is similar to Pritchard's view, whereon safety constitutes a separate component of knowledge.

Furthermore, as alluded earlier, the '*mutatis mutandis*' clause of this proposal indicates that the cognitive abilities in question (or "competences" as Turri terms them) should now be abilities oriented towards delivering the success of safe belief (rather than true belief). This change makes the requirements for cognitive abilities more demanding. To qualify as cognitive abilities, aspects of character must now be able to ordinarily deliver not only true beliefs, but safe beliefs. Ordinary deliverance of the relevant sort requires that, in canonical cases at least, safe beliefs be *attributable* (as such) to the exercise of these aspects of character. Depending on how the relation of attribution is understood, this requirement may turn out to be inordinately strong¹⁷. Safety is usually the result of managing beliefs in favorable conditions, but being in favorable conditions does not, itself, generally owe to the exercising of cognitive abilities.

§1.2 Greco's New Solution

§1.2.1 Greco's proposal

Unlike Turri, John Greco [2013] does not try to reconceive of the relevant success condition for RVE.

Rather, his latest move in defense of RVE has been to model the attribution relation characterizing cognitive

¹⁴ Cf. Turri's [2011] "adept" achievement response to the Gettier problem.

¹⁵ Alternatively, "veritic luck," of which environmental and intervening epistemic luck are varieties. See Pritchard [2005].

¹⁶ Consider here Goldman's [1999] remark that epistemology is a discipline that evaluates along 'truth-linked' dimensions.

¹⁷ See Carter [*forthcoming*] for a more detailed criticism along these lines of Turri's approach.

achievements constitutive of knowledge more closely along the lines of *moral* responsibility attributions—a move he thinks will, in effect, circumvent a range of objections raised against his account as put forward in his monograph¹⁸ [2010]. To this end, Greco draws from (a generalization of) Mackie’s account of moral responsibility attributions: *Y is attributable to X* is to say that *X contributed to Y in the right way*, where the ‘right way’ is understood in terms of relevant *prior commitments* [Greco 2013: 13].

Crucially, for Greco’s purposes, the prior commitments are understood in terms of *informational needs*, and in particular the need to identify actionable information and sources of actionable information [Greco 2013, §4]¹⁹. As a result, Greco’s account of knowledge, *cum* cognitive achievement, maintains that ‘S knows that p iff S’s abilities contribute to S’s believing the truth (regarding p) in a way that would regularly serve S’s needs for information, both local (actual) and global (typical and/or likely)’ [Greco 2013: 21]. Notably, both “local” informational needs—relevant to accomplishing *actual* practical tasks—and “global” informational needs—relevant to accomplishing typical/likely practical tasks—are, according to Greco, pertinent to knowledge determinations²⁰. Informational needs of either kind are not, e.g. *intellectual needs* for knowledge²¹, but *practical* in nature, e.g. related to acting successfully.

As for the notion of cognitive ability at play in his view, Greco maintains that cognitive ability ‘in the sense required for knowledge, is a disposition to believe relevant truths, in relevant circumstances, relative to some environment, with a sufficient degree of reliability’ [*Ibid.*, 17]. The ‘relevant circumstances’ clause is meant to handle cases in which (for instance) conditions are not normal²². For instance, as he notes, Derek Jeter’s ability to hit baseballs is not compromised by his performance in poor-lighting conditions. But what is a *sufficient* degree of reliability? Here Greco [*Ibid.*, 17] remarks that:

...different abilities require different degrees of reliability. Thus Kobe Bryant is a great free-throw shooter because he is successful around 85% of the time. Jeter is a great hitter because he is successful around 30% of the time.

Interestingly, then, Greco can be read as countenancing unsafe achievements in the following respect: for some domain of endeavor D, a D-achievement can be unsafe just when it is not a requirement for the

¹⁸ See here Pritchard [2009; 2012] and Kelp [2012].

¹⁹ Greco’s use of ‘informational needs’ is motivated in part by Craig’s [1990] genealogical account of the concept of knowledge.

²⁰ *Ibid.* p. 20.

²¹ As Greco [2013: 13-14] acknowledges, fleshing out informational needs in epistemic terms runs the risk of making his account viciously circular.

²² This move by Greco is also made by Sosa [2013]. See here Sosa’s distinction between “inner competence” and “complete competence.”

possession of the relevant D-abilities that they yield successes safely²³. Accordingly, when the relevant domain of endeavor is hitting baseballs, a hit can be an achievement even when—given one’s hitting abilities—one could easily have missed (just, not when one could have missed *too* easily).

Greco clearly does not seem to think cognitive performances are like baseball performances, however. Cognitive abilities, he claims, must be reliable, and his question seems to be constrained to: *how* reliable? The parameter represented by the clause ‘sufficient degree of reliability’ [*Ibid.*, 17] will be filled in on the basis of what one’s informational needs are. As Greco seems to see it, one’s (practical) informational needs will always be such that the ability in question will be (*qua* cognitive ability) reliable. Notice that, in offering an account of why cognitive abilities must be reliable, Greco is, in effect, proposing a potential solution to the problem of ordinary safety. By way of reminder, that problem was: *why, exactly, do cognitive achievements differ from (say) artistic achievements in that the former must be brought about in ways that would be ordinarily safe, but the latter not?* Greco’s answer seems to be that satisfying certain relevant standing needs for cognitive success over cognitive failure requires ordinarily safe cognitive successes whereas the same cannot be said in the case of artistic pottery. So, for instance, certain relevant practical costs of artistic failure might be of small enough consequence to merit more risk of artistic failure whereas certain relevant practical costs of cognitive failure—in particular, those related to informational needs—might be of great enough consequence to merit less risk of cognitive failure. The underlying point is that differences in relevant dimensions of cost-benefit analysis mean that the reliability qualifications that informational needs put on cognitive abilities are more stringent than the reliability qualifications that relevant artistic needs put on pottery-making abilities.

Greco also intends to offer a solution to the problem of environmental luck—*viz.*, to provide an explanation of why cognitive achievements must be safe (and hence incompatible with environmental luck). In short, his strategy is to insist that in paradigmatic environmental luck cases (such as the classic barn façade case), his view does not issue the verdict that Pritchard and others have found objectionable—*viz.*, that cognitive achievement is present. Greco’s line here closely resembles Alan Millar’s [2010: 126-127] take on the classic case:

When Barney judges falsely in fake-barn territory he fails to exercise an ability to tell of certain structures that they are barns from the way they look. Indeed, he does not have the ability to tell structures around there that they are barns from the way they look. Of course, when he is there he does something that he also does back home —judge of some structures that look like barns that they are barns—and ... sometimes judge correctly. But that does not amount to his being able to tell of the structures that they are barns from the way they look.

²³ See Greco [2013, §5].

As Greco puts it: '[The protagonist in the classic barn façade case] believes from a disposition that is reliable relative to normal environments, but not relative to the environment he is in.' [Greco 2013: 22]. Thus, cognitive achievement is not present in this instance of an (environmentally) lucky success because a condition of cognitive achievement is not satisfied—*viz*, the belief isn't issued from a disposition that is reliable in the present environment²⁴.

§1.2.1 Problems with Greco's proposal

We offer no objection to the overall shape of Greco's new proposal. Indeed, we are inclined to think that the move from Greco's previous "causal-explanatory salience"²⁵ line to his current understanding of attribution may be a genuine improvement. Nevertheless, we suspect Greco's new proposal ultimately proves inadequate in the details. Consider that Greco at one point condenses his view to: 'S has knowledge just in case S's true belief is produced by the right sort of ability in the right sort of way' [*Ibid.*, 19]. We find no fault with this suggestion when taken alone. However, the "right sort of" parameters are, for Greco, filled in by appeal to local and global *informational needs*. We want to suggest that this reliance on informational needs cannot work.

To begin with, notice that local and even global informational needs can vary drastically from case to case. Particularly problematic for Greco, we think, are cases in which there is very little cost associated with acting on the basis of a certain kind of wrong opinion and a potentially high cost associated with not acting. One doesn't have to wander far into modal space to discover such cases. For instance, some philosophers have noted that it is better for actual creatures to act often on a wrong opinion that physical danger is imminent than not act when physical danger is, in fact, imminent.²⁶ In this and other similar cases, creatures must draw on whatever informational resources are available, reliable or not. Perhaps, cognitive

²⁴ While Greco [2013] does not significantly change his prior treatment of the classic barn façade case, he helpfully illustrates how his new view is supposed to handle a more sophisticated environmental luck case:

Working Farm: Patrick is on the one working farm in Barn Facade County—it has one real barn and no barn facades. Patrick, by the way, knows nothing about the many barn facades in the area. We ask Patrick to retrieve a shovel from the barn located just ahead, and he starts walking in that direction [Greco 2013: 23]

As Greco sees it, it matters (*vis-à-vis* whether Patrick counts as knowing) whether the conversational context is picking out informational needs substantially constrained by Patrick's particular task here—in which case, Greco suggests, an attribution of "knowing" might well be true—or whether the conversational context picks out wider informational needs—in which case, he suggests it might well be false. He suggests at least *many* conversational contexts will pick out a wider informational needs.

²⁵ See Greco [2008; 2010].

²⁶ Cf. Millikan [1989], Sober [1991], and Stich [1993].

abilities used to harvest informational resources in these cases needn't be reliable—perhaps, only as reliable as Jeter (.300)—and thus, perhaps some cognitive achievements are unsafe.

Notice that this line of thought is not only *consistent with* but *driven by* Greco's idea that informational needs should (at least in part) fix the relevant "reliability" parameter for cognitive abilities. Yet, it is clearly *inconsistent* with Greco's claim that cognitive abilities must be reliable. Thus, there is a fundamental tension in Greco's claims (i) informational needs fix the reliability parameter, and by extension, determine how "lucky" corresponding achievements can be *and* (ii) cognitive achievements will not be unsafe (even if the relevant abilities can *differ* within a certain range, in their degree of reliability).

One might think that the problem is fundamentally with (ii). That some cognitive achievements are unsafe—contrary to (ii)—seems to be relatively uncontroversial upon reflection. Consider ADMISSIONS COMMITTEE:

ADMISSIONS COMMITTEE: You have spent many years on an admissions committee. Through these experiences, you honed abilities for finding candidates with special potential, despite the fact that, as often as not, you fail rather than succeed because of the inherent difficulties of the task. You are looking through application files, and you come to suspect that a particular candidate, Kelly Cole, would excel in the program. This suspicion is the product of your honed abilities; moreover, the suspicion is true. However, it is also unsafe. You also suspect falsely that some other candidate, Albert Addison, would excel in the program. (He would simply perform adequately.)

Your suspicion about Kelly Cole could easily be a cognitive achievement. The suspicion is true and could easily be attributable to your cognitive abilities. Nevertheless, it appears to be "lucky." Your suspicions are not even ordinarily safe; very easily, they are incorrect²⁷. Yet, some of them are cognitive achievements. Moreover, we might suppose that your suspicions satisfy your informational needs. Having them is better than not having them; acting as if they are true is better than not.

This kind of case indicates problems with (ii), but, in fact, a case altered from this one can be used to uncover problems with (i) also. In the altered case, you systematically exhibit a kind of overconfidence in your abilities for finding candidates with special potential. For example, you don't merely suspect Kelly Cole and Albert Addison would excel, you believe they would (on the same relatively weak grounds as before). These beliefs might satisfy the same informational needs as the prior suspicions. Having them is better than

²⁷ Consider that when a skillful and intuitive detective's suspicions lead in the right direction, we would not hesitate to attribute achievement even though the detective easily could have been wrong (given the scant evidence).

not having them; acting as if they are true is better than not. Even if we suppose that, because of the circumstances, these beliefs are, practically speaking, no better or worse to have than the suspicions (because you will act on both in similar ways and perhaps lose them through the ordinary process of forgetting shortly thereafter); still it does not seem that any of these beliefs should constitute cognitive achievements. Thus, reliability sufficient for addressing informational needs does not appear to be sufficient for cognitive achievement, *pace* (i). In fact, it seems to matter that one is attempting to possess the truth by *believing* it rather than *suspecting* it, regardless of one's particular informational needs.

There is some room for Greco to push back. Even if one's *local* informational needs in the case are relatively modest, still one's *global* informational needs in the case are more demanding. *Typically*, belief must be safe for the information they carry to be actionable even if, *in the particular circumstances of the altered case*, the beliefs carry information that is actionable even though the beliefs are not even ordinarily safe.²⁸ For this reason, Greco could argue that unsafe beliefs are not cognitive achievements because they are not acquired and sustained by cognitive abilities suitable for addressing *global* informational needs. In response to this reply, however, one might simply alter the case again. Imagine the twice-altered case takes place in a much more benign world than our own where acting on the basis of wrong opinions is not nearly so dangerous. As a global rule, informational needs are much more easily satisfied. Even still, it does not change the verdict that none of the unsafe beliefs about the prospects of various candidates are cognitive achievements. While the beliefs are not held without grounds, the beliefs also still appear to owe to a vicious tendency to take up a stronger doxastic attitudes than are warranted.

In sum, satisfying of global and local informational needs is orthogonal both to safely possessing truths and to regularly securing cognitive achievements. Certainly, it is possible to satisfy global and local informational needs without ordinarily possessing the truth safely. This is what the variants of ADMISSIONS COMMITTEE show. Moreover, unsafe suspicions can satisfy informational needs in this way while nonetheless qualifying as cognitive achievements. On the flip side, we might also have pointed out that high levels of safety do not suffice for satisfying informational needs in especially malicious global and local environments where acting on the basis of wrong opinions tends to be more dangerous. Yet, safe beliefs probably qualify as cognitive achievements nonetheless even if they do not satisfy informational needs in these kinds of circumstances. In short, informational needs do not explain the anti-luck features of the full variety of cognitive achievements, contrary to Greco's proposal.

²⁸ Cf. Ball [2013] and Jarvis & Rubin [*unpublished*].

§2 A NEW SOLUTION

In recap, it looks as though RVE still faces two related problems. Firstly, there is the problem of reconciling the thesis that knowledge is type-identical with cognitive achievement with environmental luck cases (which *seem*, as Pritchard has argued, to show how cognitive achievement is compatible with a kind of epistemic luck incompatible with knowledge). But, secondly, there is the prior problem of accounting for why achievements, *qua* cognitive, must have anti-luck features at all. The proposals we've considered represent attempts to maintain the position that knowledge is type-identical with cognitive achievement, while addressing these two kinds of worries. Both approaches failed, we saw, for different reasons.

In this section we want to move the debate forward. The key to saving RVE, we think, is appreciating the existence of a variety of truth-centric cognitive achievements that are individuated from one another by their anti-luck features. Thus, it is distinctive of only *some* cognitive achievements—knowledge, being one of them—that they have anti-luck features. Simply put, the view we will advance is *there is a kind of achievement for every way of valuing the attainment of success relative to the avoidance of failure*. When relatively more value is placed on the avoidance of failure, the corresponding achievements must be attained in a risk-averse manner so that resulting successes are safer. Knowledge is a cognitive achievement of this sort, which is why knowledge turns out to be incompatible with environmental luck.

§2.1 *Cognitive Failure, Environmental Luck, and Ordinary Safety*

In this subsection, we begin our positive proposal by reexamining why the problem of ordinary safety is more serious than the problem of environmental luck. We then move towards a solution of the problem of ordinary safety, which we will work out in the next subsection.

The problem of environmental luck can be solved, we think, simply by properly attending to the role of *cognitive failure* in VE. As we noted in §1, to a first approximation, cognitive achievements can be understood as cognitive successes attributable to cognitive abilities. Because, following Sosa, cognitive success is understood to be true belief, it is natural (and common) to forget about the role of *false belief*²⁹. But this is too crude. Consider, as William James famously suggested³⁰, that the epistemic good of possessing truth rather than falsehood is best understood as a mixture of two *competing* good outcomes: (i) *truly representing* and (ii) *not misrepresenting*. Importantly, although obtaining the first necessitates obtaining the

²⁹ Cf. Whiting [2012; 2013]

³⁰ James [1897] remarks that “There are two ways of looking at our duty in the matter of opinion....*We must know the truth*; and *we must avoid error*—these are our first and great commandments” This dual-characterization has been espoused in different ways by Descartes [1641], Alston [1985], Foley [1987], Goldman [1999], David [2001, Fallis [2006] and many others.

second, truly representing and not misrepresenting are *competing* good outcomes. They are competing in the sense that one can only go after the first by putting oneself at risk of not having the second. Thus, weighting the second good outcome more in the pursuit of truth would lead one to be more cautious in order to avoid possible misrepresentation. Conversely, weighting the first good outcome more in the pursuit of truth would lead one to be bolder in order to possess more truths. Since not misrepresenting—i.e., *cognitive failure*—is clearly relevant to evaluating the performance of an epistemic agent, it should have a place within the VE framework. Indeed, we contend that appreciating the dual nature of the epistemic good—the possibility of both cognitive success *and* cognitive failure—is important for a proper understanding of cognitive abilities.

In particular, because *both* cognitive success and cognitive failure are relevant to how to pursue truth, cognitive abilities for this pursuit must be attuned not only to the prospects of cognitive success, but also to the prospects of cognitive failure. Aspects of character that gain cognitive success with *undue* risk of cognitive failure are *ipso facto* not cognitive abilities. It follows that cognitive abilities produce some canonical cognitive successes that are relatively less lucky than cognitive successes produced in some other way.

Here is the proof: Suppose, for *reductio*, that all cognitive successes produced in normal circumstances by certain cognitive abilities were equally as lucky as those produced in normal circumstances by cognitive non-abilities. If so, these cognitive abilities would gain cognitive successes with no special regard for the possibility of cognitive failure, even in normal circumstances. However, the exercising of cognitive abilities simply *cannot be* just as reckless in normal circumstances as the deploying of cognitive non-abilities. Thus, contrary to assumption, these are not cognitive abilities since cognitive abilities gain cognitive success without undue risk of cognitive failure.

We have argued that there are some canonical cognitive successes produced by cognitive abilities that are relatively less lucky. We propose that these canonical cognitive successes are precisely those that are attributable to cognitive abilities. If these canonical cognitive successes are identified with cognitive achievements (successes attributable to abilities), then it becomes less mysterious why cognitive achievement might be incompatible with environmental luck. According to the proposed identification, cognitive achievements should be less lucky than mere cognitive successes. But, environmentally lucky true beliefs are not less lucky than mere true beliefs. Both easily could have been cognitive failures.³¹ So, environmentally

³¹ We've made this point in a number of places, including Jarvis [2013], Jarvis & Rubin [*unpublished*], and Carter et. al [2013a].

lucky true beliefs cannot be cognitive achievements, *pace* Pritchard.³² In other words, the fact that cognitive abilities must also be attuned to the prospects of cognitive failure provides the resources to solve the problem of environmental luck. What is still mysterious, however, is why cognitive achievements should not only be *relatively less lucky* than mere cognitive successes, but *safe*. In other words, the problem of ordinary safety still remains.

Nevertheless, attention to the role of cognitive failure offers some insight into how the problem of ordinary safety might be solved. We have suggested that cognitive abilities must be attuned not only to the prospects of cognitive success, but the prospects of cognitive failure. What does this mean? Roughly, it means that gaining successes isn't all that matters; avoiding failures also matters. Consider an analogy: when compared with a placebo, an effective drug must raise the *proportion* of good health outcomes over bad health outcomes in normal circumstances. It's not enough simply to produce some good health outcomes as even placebos tend to accomplish as much. Similarly, when compared with cognitive non-abilities, cognitive abilities must raise the *proportion* of cognitive successes over cognitive failures in normal circumstances.³³ Beliefs will ordinarily be safe if the cognitive abilities managing them must *very significantly* raise the proportion of cognitive successes over cognitive failures. In effect, this would be the case if cognitive abilities must be *especially* attuned to cognitive failure in the sense that what qualifies them *as* cognitive abilities is largely how they avoid cognitive failures. To solve the problem of ordinary safety, then, one must explain why cognitive abilities should be especially attuned to cognitive failure in this way.

§2.2 *The Problem of Ordinary Safety*

However, explaining why cognitive abilities should be especially attuned to cognitive failure looks to be not altogether straightforward for reasons that came up in our critique of Greco's proposal. Consider again ADMISSIONS COMMITTEE. We suggested that the true suspicion in that case about Kelly Cole might qualify as a cognitive achievement despite the fact that it is not safe. This means that although the true suspicion is attributable as such to cognitive abilities, these cognitive abilities are not *especially* attuned to cognitive failure (though, of course, they are attuned somewhat to cognitive failure as any cognitive abilities should be). Thus, it is not inherent to a truth-centric VE model that cognitive abilities should be especially attuned to cognitive failure so that cognitive achievement is (ordinarily) safe. It is compatible with cognitive success

³² This argument is, in effect, a generalization of the argument given in the introduction to the effect that the problem of ordinary safety is prior to the problem of environmental luck. It is a generalization because this argument does not rely on the premise that the exercise of cognitive abilities ordinarily results in safe beliefs. Instead, the argument relies on the weaker premise that exercising cognitive abilities canonically results in less lucky beliefs.

³³ Cf. Jarvis [2013], Jarvis & Rubin [*unpublished*], and Carter et al. [2013a].

being a sort of truly representing and cognitive failure being a sort of misrepresenting that cognitive achievement is *not* ordinarily safe. We might put this yet another way by saying that it is not a feature of the *cognitive* domain that *cognitive* achievement is ordinarily safe (contrary to what Greco seems to imply).

This suggests that if a (truth-centric version) of RVE is correct and the problem of ordinary safety has a solution, it must be because of differences between belief and suspicion. The idea would be that managing belief involves a different type of performances than managing suspicion even though in some sense the standards for success and failure of both performances are entirely the same. Roughly, both belief and suspicion of a proposition involve a kind of commitment to the proposition's being true, but belief involves a deeper commitment to the proposition's *not being false*. So, performances involved in the management of belief should be evaluated differently so as to reflect this deeper commitment.

Strictly speaking, this suggestion does not require a modification to the performance model of normativity at the heart of RVE. Although there is a sense in which cognitive success and failure are the *same* for both belief and suspicion, there is also a sense in which they are *different*. For suspicion, cognitive success is true *suspicion* while cognitive failure is false *suspicion*. Whereas, for belief, cognitive success is true *belief* while cognitive failure is false *belief*. Consequently, how to evaluate performances is, in a sense, still fundamentally determined by the kinds of success and failure in question. Nevertheless, the point remains that the nature of belief itself makes a non-trivial contribution to understanding why belief-cognitive-achievements exhibit the anti-luck features that they do. In particular, the relative value of true versus false *belief* requires that cognitive abilities managing belief must be especially attuned to the prospects of cognitive failure. In contrast, the relative value of true versus false *suspicion* allows that cognitive abilities managing suspicion be attuned more to the prospects of cognitive success.

A more intuitive way to think about this contrast brings in the notion of *attempt*. According to the version of RVE under consideration, knowledge is type-identical to a particular kind of cognitive achievement—the kind that itself is type-identical with attributable true *belief*. Moreover, the fact that knowledge is ordinarily safe is tied up with the kind of attempt at success that belief is. The idea would be that one has to appreciate what is attempted by way of performances in order to understand how to evaluate the attempt itself. Furthermore, suspicion and belief are *different kinds of attempts* even though, for both, truth would be a successful attempt while falsehood would be a failed attempt. Attempts individuate achievements—or perhaps it is the other way around. In any case, each kind of attempt goes with a particular kind of achievement. Belief is a kind of attempt that should be especially cautious, which is why

the cognitive achievement for belief is *knowledge*, an epistemic kind that is ordinarily (indeed necessarily) safe.

Arguably, this captures what is right about Timothy Williamson's claim that "mere believing is a kind of botched knowing."³⁴ This claim does *not* require the repudiation of truth as the mark of cognitive success, but merely requires that more must be said to distinguish belief from other doxastic attitudes such as suspicion. The point is that we need more than direction of fit and truth to distinguish belief from other doxastic attitudes. To lock onto belief, we need not merely to understand what it would be for belief to be a success—i.e. truth—but what it would be for belief to be an achievement—i.e. knowledge.

But, what is it about belief that makes it a different kind of attempt than suspicion? Here, it may be that nothing can be said. It simply might be a *primitive* feature of belief and suspicion that they are the distinct kinds of attempts at possessing truth that they are.³⁵ Of course, there are differences between belief and suspicion other than that they are different kinds of attempts at possessing the truth, but these other differences may be *explananda* rather than *explanans*.

By way of example, it is sometimes rational to put justified belief to work in theoretical and practical reasoning, and, as ADMISSIONS COMMITTEE illustrates, the same can be said of justified *suspicion*. However, the possible range of circumstances in which it makes sense to put justified belief to work is obviously wider than the range of circumstances in which it makes sense to put justified suspicion to work. This is not strictly a point that rests on the local or global informational needs of any possible subject, including ourselves. Local informational needs concern what quality of information is needed to select courses of action in one's current situation; *mutatis mutandis* for global needs and one's typical situation. Whatever these needs may be, the rationality of putting justified belief to work is more modally robust than the rationality of putting justified suspicion to work—which is why we might expect to see rational agents putting belief to work in a wider range of possible circumstances. However, this difference between belief and suspicion is explained by (rather than explains) the fact that cognitive abilities managing beliefs are exercised in ways that are ordinarily safe whereas the same cannot be said of cognitive abilities managing suspicions. Justified belief isn't generally safer because it makes sense to put belief to work in more places; rather, it makes sense to put belief to work in more places because justified belief is generally safer³⁶.

This explanatory order is to be expected if it is a primitive feature of belief that it is a cautious

³⁴ Williamson [2002: 47].

³⁵ Cf. Williamson [2002: 239] on speech acts—the linguistic analogue of doxastic attitude.

³⁶ This is why, for instance, informational needs that are met through the practice of testimonial information exchange and dissemination largely traffic in representational states with a high epistemic pedigree. See here Craig [1990].

attempt at possessing the truth. Moreover, both these views are compatible with so-called “pragmatist” theories of belief.³⁷ According to these theories, what makes a token mental state qualify as a belief rather than a suspicion is the way a subject is disposed to put the state to work in theoretical and practical reasoning across a wider range of circumstances. Pragmatist theories of belief may simply be understood as theories of how token mental states come to qualify as being attempts of possessing the truth of this kind—and thus qualify as beliefs—rather than competitor theories of the belief-type itself. For those token mental states that a subject is disposed to put to work as doxastic attitudes in theoretical and practical reasoning across a wider range of circumstances, cognitive failure has a higher potential cost.³⁸ This higher potential cost sets the standard for how cautiously the token mental states should be managed. This could easily explain why the token mental states qualify as attempts at possessing the truth that are to be managed relatively cautiously—that is to say, *beliefs*—rather than suspicions.

§2.3 *Varieties of Cognitive Achievement*

We suggested in §2.2 that knowledge *cum* cognitive achievement must be (ordinarily) safe because of the kind of *attempt* at success that belief is. There is an apparent arbitrariness in suggestion. Why should belief be this cautious kind of attempt at success, so that the corresponding cognitive achievement is (ordinarily) safe? The fact that it may be a primitive feature of belief no doubt adds to this appearance of arbitrariness.

Nonetheless, the appearance of arbitrariness largely subsides once we recognize a variety of more or less cautious attempts at success with the corresponding variety of cognitive achievements. To some degree, we have recognized this variety already by acknowledging suspicion and a corresponding cognitive achievement that occurs when true suspicions are attributable to cognitive abilities. However, the variety extends far beyond just this. Indeed, we might envision an entire hierarchy of representational doxastic attitudes³⁹. In addition to *suspicion* (where the managing cognitive abilities are oriented relatively more towards gaining cognitive success) and *belief* (where the managing cognitive abilities are oriented relatively more towards avoiding cognitive failure), there is *absolute certainty*. Cognitive abilities managing absolute certainty are attuned almost entirely to the prospects of cognitive failure, so that

³⁷ See, for instance Stalnaker [1984: 15]. Cf. Speaks [2006] for a criticism of this kind of proposal. See also Ross & Schroeder [2012] for a recent and different version of pragmatism about belief.

³⁸ Cf. Greco [2012], Ball [2013], and Jarvis & Rubin [*unpublished*].

³⁹ See Carter et. al [*unpublished*] for a more detailed presentation of this proposal. Cf. Turri’s [2010] suggestion that there is a hierarchy of speech acts. This is also similar to Williamson’s [2002] countable hierarchy built on the suggestion that believing <I know <p>> is taking a stronger position believing <p>. Our proposal is more radical and it does not rely on giving up the KK principle.

cognitive successes must be gained risk-free. To qualify as a cognitive achievement, absolute certainty in some proposition must be not only safe, but *super safe*⁴⁰. Not easily could this cognitive achievement fail to be true *because*, given the evidential basis, *it could not fail to be true at all*.

Of course, the hierarchy is not exhausted by the addition of absolutely certainty alongside belief and suspicion. The respective cognitive achievements of suspicion, belief, and absolute certainty exhibit a ranking; they are increasing with regards to their (ordinary) levels of safety. Equivalently, we can think of the ranking in terms of the relative orientation of cognitive abilities towards cognitive success rather than cognitive failure, i.e. how much each is valued in the pursuit of truth by the exercise of cognitive abilities.⁴¹ Presumably, for any two representational doxastic attitudes that are ranked in one of these equivalent ways, there is some further representational doxastic attitude between.⁴² What makes each of these doxastic attitudes *representational* (unlike credal states) is the fact that each is a cognitive success (*simpliciter*) if true and a cognitive failure (*simpliciter*) if false. What distinguishes each of these representational doxastic attitudes from one another is the relative safety of their respective cognitive achievements.⁴³ Thus, while for each cognitive success is truly representing and cognitive failure is misrepresenting, they are individuated from one another by differences in how these ends are valued in the exercise of cognitive abilities.

While the postulation of a dense hierarchy of representational doxastic attitudes may seem extravagant, it has some independent motivation. Insofar as the evidential basis for accepting some proposition as true could be better or worse, it seems as if it should be possible to register this difference. The envisioned hierarchy allows for this possibility.⁴⁴ Evidential bases that ordinarily afford greater

⁴⁰ Compare here with recent work on the speech act of ‘guaranteeing’. See here Turri & Benton [2013].

⁴¹ Note that using the competition between gaining cognitive success and avoiding cognitive failure to individuate different doxastic attitudes seems contrary to James’s [1897] use of this competition. For example, this appears to undermine Kelly’s [2013] Jamesian argument against uniqueness as defended by White [2005].

⁴² An anonymous referee worried about how postulating a dense hierarchy of representational doxastic attitudes might cohere with views in contemporary cognitive psychology. It is worth noting, however, that we are proposing a hierarchy of *types* and not suggesting that all—or any particular one—of this hierarchy is, in fact, *instanced*. Our suggestion is analogous to the suggestion that the number of content-types is infinite, which does not lose plausibility even if only a finite number of content-types are ever realized by anybody’s (token) thoughts.

⁴³ Carter et. al [unpublished] effectively suggests that a ranking by safety will only turn out to be *partial*. The rationale for this suggestion is not too difficult to see. Safety is a matter of truth in nearby worlds; strictly incommensurate kinds of safety might be distinguished by specifying distinct sets of worlds to be the nearby ones. We ignore these complications here.

⁴⁴ The credal continuum also seems to allow for this possibility—although see Carter et. al [unpublished] for some discussion of some of its potential limitations in this regard. However, our envisioned hierarchy has some potential advantages for understanding finite rational agents. It is not clear that a rational agent needs to have the capacity to have every of the representational doxastic attitudes in the hierarchy in order to have capacity to have one. In contrast, it seems hard to have the

safety also support more representational doxastic attitudes from the hierarchy. If e is an evidential basis that ordinarily affords more safety than e^* for some proposition $\langle p \rangle$, there will be some doxastic attitude, d , from the hierarchy such that e supports d towards $\langle p \rangle$, but e^* does not. This allows a subject to form or withhold the doxastic attitude d as a means of registering whether her evidential basis is as strong as e or as weak as e^* . In other words, the variety of representational doxastic attitudes is not simply an artifice to avoid the appearance of arbitrariness, but a variety that is necessary for a subject to be able, in principle, to mirror the quality of her evidential basis relative to a proposition in her doxastic attitudes towards that proposition. This may be useful if the subject's local informational needs often vary from case-to-case, so that she needs to keep track of the quality of her information.⁴⁵

In any case, it is not our position that a variety of achievements is distinctive of the cognitive domain. Rather, for any domain distinguished by a kind of success and failure, some achievements within that domain will be safe and other related achievements will not be. So, no special explanation is required of the consequence that knowledge is a(n) (ordinarily) safe cognitive achievement even though a certain kind of artistic achievement isn't (ordinarily) safe. After all, in principle, there would also be a certain kind of artistic achievement that is (ordinarily) safe just as knowledge is. Perhaps, as it happens, materials and methods don't allow for that kind of artistic achievement at present; perhaps, it is not the kind of artistic achievement that is typically exhibited. But, of course, the art of pottery might well advance. Moreover, even if it doesn't, what removes the mystery for RVE is simply that there exists a kind of safe artistic achievement in principle even if it can't be exhibited in practice. If there is always a spectrum of achievement-types within any domain, knowledge would have to be somewhere in the spectrum if it were a cognitive achievement. Why shouldn't knowledge be in the part of the "safer" part of spectrum?

§2.4 *The Importance of Knowledge and Belief*

The introduction of a variety of representational doxastic attitudes with their respective cognitive achievements eliminates the need for an explanation of why, in contrast to other achievements, knowledge should be a(n) (ordinarily) safe cognitive achievement. However, it also makes it somewhat more mysterious what should be special about the cognitive achievement that is *knowledge* and the corresponding attempt at this achievement that is *belief*. Why should subjects traffic in these relatively

capacity to have some particular degree of credence in a proposition unless one also has the capacity to have any other competing degree of credence as well. If so, it is difficult to see how one could be a realist about credal states for finite rational agents.

⁴⁵ This last point is taken up further in Carter et al. [*unpublished*].

cautious attempts at possessing the truth? Why not traffic in attempts that are more cautious or bold? And, why should we be especially interested in cognitive achievements that are (ordinarily) safe? In this subsection, we will briefly address these questions before concluding in the following section.

Clearly, between knowledge and the cognitive achievement for absolute certainty, the latter would seem to be of higher quality. However, the latter is also less *attainable*. As a general rule, there are relatively few propositions in which it would be rational to invest absolute certainty. If one of the aims of inquiry is to develop a *comprehensive* view of the world, absolute certainty is a very poor medium for this pursuit. For the rational agent, there just isn't enough of it. In stark contrast, between knowledge and the cognitive achievement for suspicion, it is knowledge that is of higher quality. Rational suspicion is more readily attainable, but the reliability of the medium is, perhaps, too poor to develop an *accurate* enough view of the world for extensive use. The morale is that there is a tension between the *quality* and *attainability* of cognitive achievement.

We speculate that knowledge may be an especially interesting species of cognitive achievement because of the way it balances the trade-offs between quality and attainability.⁴⁶ Moreover, we suspect that it may make sense to traffic in beliefs rather than other representational doxastic attitudes because belief is the medium for securing this kind of balanced cognitive achievement. Although we offer no defense of these suggestions, we hope that they are plausible enough to alleviate the concern that there might be nothing to say on behalf of the significance of knowledge and belief once a wider range of cognitive achievements and representational doxastic attitudes are introduced.

§3 CONCLUSION

We began by considering a certain notorious objection to RVE—the problem of environmental luck—which requires reconciling the RVE's type-identity claim with the apparent presence of cognitive achievement in cases where environmental luck undermines knowledge. We've suggested that this problem points to a more fundamental (though overlooked) problem lurking in the background, which we've termed “the problem of ordinary safety.” This more fundamental problem for RVE crops up once we appreciate that a wide variety of achievements (e.g. artistic achievements) are *not* brought about in ways that are ordinarily safe. The problem of ordinary safety is thus that of understanding why beliefs that qualify as

⁴⁶ A similar suggestion appears in Carter et al. [2013b].

knowledge must be managed in ways that *ordinarily would be safe* whether or not they are, in fact, safe given the local environmental conditions.

In §1 we considered two unsatisfactory approaches advanced by Turri and Greco aimed at addressing these issues, and in §2 we offered a novel proposal for resolving them. Key to our positive proposal is an appreciation of the twin cognitive goods of gaining truth and avoiding error—and further, that different representational states beholden to truth are distinguished by how these twin goods are to be weighted. In taking up the attitude of being relatively certain, one attempts to gain truth in a way that weights the latter good primarily and the former hardly at all. Suspecting is an attempt to gain truth that weights the former good primarily, and the latter only marginally. With this picture in place, we're in a place to meet the problem of ordinary safety. Suspicions, when true via ability, can—because of the *kind of attempt at truth they are*—constitute unsafe achievements. Yet, knowledge *cum* cognitive achievement must be (ordinarily) safe because of the kind of *attempt* at success that belief is—namely, an attempt that (unlike other representational states beholden to truth, such as suspecting) places the premium it does on avoiding error.

We believe that this proposal is the best way to marry the virtue epistemology of Sosa and Greco with anti-luck epistemology. By recognizing that there is *generally* a hierarchy of achievement-types for any success or failure, one can explain the (alleged) anti-luck features of knowledge—or, for that matter, any other alleged achievement-type—in a *non-arbitrary manner*. While our proposal gains support from this explanatory power, it might be challenged either by offering a better alternative marriage or by undermining the idea that some such marriage is necessary. Obviously, it is beyond the scope of this paper to offer an exhaustive discussion of these potential challenges here; we highlight them to aid future discussion⁴⁷.

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