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Epistemic Situationism, Epistemic Dependence, and the Epistemology of Education

J. Adam Carter and Duncan Pritchard

9.1 Epistemic Situationism

Situationism is an important strand of criticism that has been leveled against contemporary virtue-based ethical theories. The general line of argument, as pioneered by such figures as John Doris (1998, 2002) and Gilbert Harman (1999, 2000, 2003), targets virtue ethicists' postulation of stable character traits—i.e., moral virtues and vices—in the service of explaining moral (and immoral) behavior.¹ The situationist critique begins with what looks like an uncontroversial observation about what is required for any virtue ethics to hold water—namely, that something like the stable character traits that virtue ethicists postulate could in fact play the kind of role they are meant to play in theory. At the very least, it must not be implausible to think that stable dispositions, of the sort that moral virtues are claimed to be, could largely explain why morally good (or bad) individuals behave as they do across ranges of variable situations. If the connection between the alleged stable character traits postulated by virtue ethics and the target morally relevant behavior were to be exposed as very weak, then this would certainly cast doubt on the material adequacy of virtue ethics. The matter of what explains human behavior is itself one that falls (at least partly) within the magisterium of moral psychology. Therefore, there is a straightforward sense in which the material adequacy of virtue ethics is open to empirical investigation.

With this picture in mind, situationists have called attention to a wide range of evidence from moral psychology in order to demonstrate that how a subject responds to a situation turns out to be in fact highly sensitive to specific features of the situation, including ones of which the subject may be consciously unaware. These influencing situational factors include ambient light levels and sounds, ambient smells and mood

¹ For a helpful overview of the situationist challenge to virtue ethics, see Alfano & Loeb (2014, § 3.1).

depressors, and so on. Accordingly, situationists submit that what often best explains a subject's actions is not their character (where this involves stable character traits of a virtue-theoretic kind), but rather how they are responding to the particular situation in hand. *A fortiori*, what best explains a subject's moral actions is not, contra virtue ethics, their moral character (i.e., their exercise of moral virtue), but rather situational factors. As Harman has summarized the thrust of the situationist challenge:

We very confidently attribute character traits to other people in order to explain their behaviour. But our attributions tend to be wildly incorrect and, in fact, there is no evidence that people differ in their character traits. They differ in their situations and in their perceptions of their situations. They differ in their goals, strategies, neuroses, optimism, etc. But character traits do not explain what differences there are. (Harman 1999, § 8).

Harman's point here is that two agents with similar character traits may behave very differently as a result of purely situational factors, and hence it seems that it is the situational factors, rather than the character traits, which explain the differences in behavior.

Given the emergence over the past several decades of virtue-based approaches in epistemology—according to which the stable *cognitive* character traits of a subject, such as her intellectual virtues and cognitive abilities, take center stage—it is unsurprising that this style of critique would be recast along epistemic lines. In recent work, Mark Alfano (2012, 2013, 2014) has led the charge on this score, and so our focus will be on his work. To get a flavor of the kinds of consideration that fuel a situationist critique of virtue epistemology, consider John Turri's (this volume) highlights of some cognitive biases that seem, on the face of things, in stark tension with the idea that epistemic standings, like knowledge, arise out of the exercise of stable cognitive traits:

We're less likely to recognize someone's face after working on difficult crossword puzzles than reading; we overestimate distances and upward angles when tired or carrying heavy equipment; we're worse at judging distances in hallways than in a field; we're more likely to accept a written claim as true when it's easy to read; we're more likely to judge someone credible who speaks quickly; we're more likely to think that easy to pronounce stocks will outperform difficult to pronounce ones. Add to these the more familiar biases and foibles with names—the availability bias, the confirmation bias, the anchoring bias, the false consensus effect, base-rate neglect, the conjunction fallacy—enumerated in textbooks on judgment and decision making. (Turri, this volume, § 2).

The matter of just how these kinds of situation-dependent heuristics and biases bear on the material adequacy of virtue epistemology requires a bit of ground clearing. This is because virtue epistemology admits of two very different varieties, each of which, as Alfano notes, is subject to a distinct version of the situationist challenge.

According to one variety of virtue epistemology, known as *virtue responsibilism*, the intellectual virtues have a central role to play in epistemology.² On this view, for

² For some prominent versions of virtue responsibilism, see Code (1987), Montmarquet (1993), and Zagzebski (1996).

example, the exercise of intellectual virtue is at least necessary for the acquisition of knowledge, and may even be the overarching epistemic ingredient of knowledge.³ Intellectual virtues, like moral virtues, are broad categories of cognitive traits which involve distinctive motivational states (e.g., a desire for the truth) and which are specifically reasons-responsive. Examples of intellectual virtues include open-mindedness, curiosity, and intellectual courage. The intellectual virtues are often contrasted with mere cognitive faculties and cognitive abilities, such as the cognitive traits involved in the basic perception of one's immediate environment. Cognitive faculties and abilities can be very specific cognitive traits and need not involve distinctive motivational states or responsiveness to rational considerations. All that is required is that they are reliable (in the relevant conditions) and suitably integrated with the subject's other character traits to count as part of the overarching cognitive character of the subject.⁴

With this distinction between intellectual virtues on the one hand and cognitive faculties and abilities on the other, we can thus draw a contrast between virtue responsibilism and a more permissive kind of virtue epistemology known as *virtue reliabilism*. Whereas virtue responsibilism puts the exercise of intellectual virtues, specifically, on center-stage, virtue reliabilism focuses in addition on these less sophisticated cognitive character traits too. So, for example, virtue reliabilists typically hold that while exhibiting the right cognitive character traits is at least necessary for knowledge, the cognitive character traits in question need not be the intellectual virtues specifically, but could also be the subject's cognitive faculties or abilities.⁵

Given the obvious analogies between moral and intellectual virtues, it is natural to suppose that the situationist challenge as applied to the former will be equally applicable to the latter, in that our intellectual virtues can no more play the explanatory role that virtue responsibilism supposes than the moral virtues can play the intended explanatory role in virtue-ethical theories. This is just the conclusion that Alfano (2012, 2013) has extracted.⁶ At the very least, just as virtue ethics can't accept the situationist challenge without endorsing a fairly extensive moral scepticism (i.e., that we display very little by way of *bona fide* moral behavior), so virtue responsibilism can't accept

³ While Zagzebski (1996) offers an analysis of knowledge exclusively in terms of a certain relationship obtaining between the subject's cognitive success (i.e., her true belief) and her exercise of intellectual virtue, Montmarquet (1993) and Code (1987) merely note the necessity of intellectual virtue for knowledge.

⁴ For more on the notion of cognitive integration in play here, see Palermos (2014).

⁵ For two influential presentations and defenses of virtue reliabilism, see Sosa (1988, 1991, 2007, 2009), Greco (1999, 2000, 2003, 2007, 2009). For a helpful overview of the literature on virtue epistemology with a particular emphasis on the distinction between virtue responsibilism and virtue reliabilism, see Axtell (1997). Note that while the term "trait" is more typically associated with the kinds of character virtues with distinctive motivational states highlighted by virtue responsibilists, we do not mean to imply that the reliabilist's abilities and faculties could not also fall under the heading of traits, albeit of a different kind.

⁶ As Alfano (2013: 139) puts it:

The sorts of seemingly trivial and normatively irrelevant situational factors that plague traditional moral virtues (mood elevators, mood depressors, situational demand characteristics) also wreak havoc in our epistemic lives, at least when it comes to our motivation to believe the truth and avoid error.

the epistemic situationist challenge without endorsing a fairly extensive epistemic skepticism (i.e., that in fact we know very little, and far less than we hitherto supposed).^{7,8} If we take it as given that we do not want to endorse ethical or epistemic positions which commit us to skeptical positions in these areas, then there is a straightforward tension between ethical/epistemic situationism on the one hand, and virtue ethics/virtue responsibilism on the other.

The applicability of the situationist challenge to virtue reliabilism, however, is not so clear. In particular, one could plausibly argue that what often give rise to knowledge on this view are cognitive character traits which are so different from moral virtues as to be immune from the situationist challenge. That is, in crediting an agent with knowledge on the virtue reliabilist view, we might only be saying that she has formed a true belief via a reliable belief-forming process which is sufficiently integrated with the other reliable belief-forming processes that make up her cognitive character. Since there is no appeal to motivational states or reasons here, much less to actions, situationists can't straightforwardly appeal to the putative clash that is found in the ethical case between what agents take to be motivating their actions and what, according to situationism, is in fact motivating their actions.⁹

Can virtue reliabilism thereby evade the situationist challenge? One ground for skepticism on this score has been ably identified by Alfano (2014). For while the foregoing indicates that virtue reliabilist accounts of knowledge *simpliciter* might not be subject to the situationist challenge, that is compatible with the idea of such a challenge being specifically directed at the virtue reliabilist treatment of *inferential knowledge* in particular. After all, inference does involve actions, reasons, and corresponding motivational states—one is, after all, self-consciously and actively reasoning on a particular epistemic basis because one regards this basis as a guide to truth. There

⁷ Note that the skepticism threatened here is one that Alfano directs toward one who wishes (as the virtue responsibilist does) to retain the idea that knowledge essentially involves a certain etiology—i.e., that knowledge is the product of intellectual virtues that have the features that responsibilists tell us such virtues have. Given the claimed incompatibility between the empirical evidence and the countenancing of such character virtues, Alfano takes himself to have shown that a condition on knowledge the responsibilist insists is necessary for knowledge can't be satisfied, a consequence of which is that there is much less knowledge than ordinarily thought. Note that this particular skeptical consequence does not depend upon Alfano establishing that we are in fact radically mistaken about our beliefs. It is the responsibilist's "character-trait etiology" condition on knowledge, rather than the "truth" condition, which is specifically being targeted by appeal to the empirical evidence. Of course, Alfano may also hold that the empirical evidence indicates that we're often mistaken. But the point is that it is not this point about being mistaken that is underwriting the skeptical dilemma which he poses to the responsibilist. Thanks to Abrol Fairweather for suggesting clarification on this point.

⁸ See, however, Carter & Gordon (2014) for an argument, premised upon Alfano's distinction between high-fidelity and low-fidelity virtues, to the effect that the intellectual virtue of open-mindedness, in particular, is not jeopardized by Alfano's situationist critique.

⁹ For an especially helpful discussion of the virtue reliabilist's stance toward the kind of motivational requirement on epistemic virtues often embraced by virtue responsibilists—especially Zagzebski (1996)—see Sosa (2016). At the crux of Sosa's remarks on the matter is that an alleged love of truth is often going to be negligible in cases of individuals who manifest intellectual virtues in order to achieve practical aims. Consider here, as Sosa does, the hedge-fund manager and waste-disposal engineers who "seek the truths relevant to their work only for their instrumental value."

is thus the potential for there to be a mismatch between what one believes is prompting the resulting judgment and what is actually effecting this response. As Alfano (2014) has argued, the wide-ranging literature on cognitive heuristics and biases and their role in our inferential judgments seems to support the situationist claim that there is indeed such a mismatch within this epistemic realm.¹⁰ In particular, Alfano argues that the belief-forming processes actually employed by agents when making inferences are not the kind of reliable cognitive abilities described by reliabilist virtue theory, but in fact heuristics—in particular, the *availability* and *representativeness* heuristics—which are not generally reliable at all.¹¹ Situationists can thus maintain that reliabilist virtue epistemology is incompatible with the idea that we have the kind of widespread inferential knowledge that we typically ascribe to ourselves.

Note that Alfano has almost certainly *underplayed* his hand here. In effect, his response to virtue reliabilism is to note that while knowledge in general might not on this view entail the use of the kind of cognitive traits that are undermined by the situationist critique, inferential knowledge does entail the use of these cognitive traits. This is because the latter kind of knowledge is by its nature rationally grounded knowledge—i.e., which is formed, as it were, in the “space of reasons”—as opposed to being the kind of knowledge which is acquired in the “mechanical” and non-reasons-responsive ways permitted by virtue reliabilism. But notice that even virtue reliabilists characteristically grant that much of our mature human knowledge is rationally grounded in this sense, whether it is inferential or non-inferential.

So, for example, while the virtue reliabilist may allow that the kind of spontaneous and unreflective perceptual beliefs formed in response to one’s environment can count as *bone fide* knowledge purely in virtue of being the product of one’s reliable cognitive traits, they surely would not want to regard all perceptual belief as being on a par with this basic kind of perceptual belief. Think, for instance, of the observations made by a seasoned detective at a crime scene. These beliefs are perceptual too, but even when non-inferential they can involve considerable intellectual sophistication and explicit responsiveness to rational considerations.¹² Indeed, such beliefs would seem to manifest intellectual virtue, even by virtue-reliabilist lights, and hence if they amount to knowledge it would be as a result of this manifestation of intellectual virtue. The point is that while virtue reliabilists grant that knowledge can be acquired in mechanical ways outside of the space of reasons, they would be unwise to go further and deny that much of our mature human knowledge is of the reasons-responsive variety.

¹⁰ This literature is now vast. For two seminal treatments of the topic, see Tversky & Kahneman (1973), Tversky & Kahneman (2002). See also Sunstein (2002) on how emotional state affects probabilistic inference, and Slovic (1987) on biases affecting risk-perception judgments.

¹¹ There is now a vast literature just on these two heuristics. For more on the availability heuristic in particular, see Tversky & Kahneman (1973). For more on both heuristics, see Tversky & Kahneman (2002). Note that while such heuristics are not generally reliable, they can nonetheless be very narrowly reliable in certain kinds of environments or circumstances.

¹² For further discussion on this point, see Carter & Pritchard (forthcoming).

It follows that insofar as one grants that the situationist challenge is applicable to the virtue-theoretic account of rationally grounded knowledge, then it will undermine much of what passes as mature human knowledge (inferential or otherwise), even by virtue-reliabilist lights. Expressed a bit more carefully, we can put this point in terms of a dilemma. On the one hand, suppose that virtue reliabilism takes the usual route of allowing that much of our mature human knowledge is rationally grounded. It will then have to deal with the situationist challenge. On the other hand, suppose that virtue reliabilism evades that challenge by maintaining that even our mature human knowledge is the product of mechanical cognitive processes outwith the space of reasons. But the price of this evasion of the situationist challenge is a very radical form of epistemic externalism which runs counter to mainstream thinking about knowledge in epistemology.¹³

In what follows we will assume that the virtue reliabilist will opt for the first horn of this dilemma. The upshot is that on either a responsibilist or a reliabilist reading, virtue epistemology seems subject to the situationist challenge, just as the corresponding virtue-theoretic proposals in ethics have been made subject to this challenge. For sure, that challenge may be slightly blunted if one opts for virtue reliabilism rather than virtue responsibilism. But as we have seen, even here the challenge is both *prima facie* genuine and extensive. Henceforth, in evaluating this challenge we will focus on rationally grounded knowledge—i.e., the kind of knowledge which is typically possessed by mature human knowers—and on the cognitive abilities that produce such knowledge, where these abilities include, but may also be other than, the intellectual virtues. Since our target will be explicitly knowledge that is in the space of reasons, we can bracket the issues raised by the virtue responsibilism/virtue reliabilism distinction.

Moreover, we will also take it as given, for the sake of argument, that skepticism about rationally grounded knowledge is not an option. Note that this does not mean that we have all the rationally grounded knowledge that we ordinarily take ourselves to have. Indeed, there may well be good reasons in the empirical cognitive-science literature which should prompt us to downgrade the extent to which we ascribe this knowledge to ourselves. But that modest kind of empirically orientated skepticism about rationally grounded knowledge is not what is at issue in the debate with the epistemic situationist. In keeping with the reach of the parallel situationist challenge in ethics, the epistemic situationist rather claims that the virtue epistemologist ought to grant that much of our putative rationally grounded knowledge is illusory, since it does

¹³ For an in-depth recent attempt to reconcile the kind of rational responsiveness often associated with knowledge and epistemic justification with the virtue-reliabilist program, see Sylvan & Sosa (forthcoming). In particular, they remark that:

[W]e agree that epistemic justification may require possessing sufficient epistemic reasons, and that basing one's beliefs on such reasons may even suffice for these beliefs to be justified. But we think that this is true only because possession and proper basing are themselves grounded in the deeper normative property of competence, which applies to more basic attitudes than beliefs (e.g., attractions to assent). (Sylvan & Sosa forthcoming, § 1).

not bear the explanatory connection to our cognitive traits that virtue epistemology claims is necessary for such knowledge. Accordingly, if skepticism about rationally grounded knowledge is not an option, then the success of the situationist challenge would entail the falsity of virtue epistemology.

9.2 Strong and Weak Epistemic Situationism, Robust and Modest Virtue Epistemology

So just how challenging is the situationist critique of virtue epistemology? To properly answer this question, we first need to disambiguate the claim being advanced by the epistemic situationist. Consider first a strong reading of the epistemic situationist thesis:

Strong Epistemic Situationism (SES): Cognitive ability often plays, at most, very little explanatory role in our acquisition of (what we take to be) rationally grounded knowledge.

Contrast strong epistemic situationism with the following weaker claim:

Weak Epistemic Situationism (WES): Cognitive ability often does not play a primary explanatory role in our acquisition of (what we take to be) rationally grounded knowledge.¹⁴

If SES is correct, then this looks very much at odds with *any* plausible construal of virtue epistemology, since it is crucial to virtue epistemology to regard our cognitive abilities as playing an important explanatory role in the acquisition of rationally grounded knowledge.

Importantly, however, the kind of empirical evidence that is offered in support of epistemic situationism does not license SES. This evidence at most demonstrates that there is a range of cases where situational factors unconnected with one's cognitive agency play an important role in explanations of our acquisition of what we take to be rationally grounded knowledge. This is, after all, the most reasonable conclusion to draw if one grants (without qualification) that the cases of heuristics and biases used in the service of the situationist's argument demonstrate what they purport to demonstrate.

But by itself this evidence, and any conclusions about the relationship between situational factors and cognitive success that can be reasonably drawn from the evidence, show only that in such cases the subject's cognitive success (i.e., her true belief) is not *primarily* attributable to her exercise of cognitive ability, and that only gets you WES

¹⁴ Note that SES and WES are not mutually exclusive, in that if SES is true then WES would trivially follow. What's relevant to our argument is that SES is a *stronger* position than WES; even if one embraces WES, one is not thereby committed to SES. Thanks to Mark Alfano for requesting clarification here.

rather than SES.¹⁵ If that's right, then epistemic situationism will need to find a way to motivate its critique of virtue epistemology which only appeals to the weaker WES.

We can bring this point into sharper relief by considering an example from the empirical literature which is often cited in support of epistemic situationism, the Duncker candle test.¹⁶ In this classic psychological experiment, the task faced by subjects is that of fixing a candle to a vertical corkboard so that no wax drips onto the floor. The objects offered to the participants to complete this task are the following: a candle, a box full of tacks and a book of matches. The key to the solution to the puzzle is to recognize that the box of tacks can be emptied to hold the candle. Once the box is emptied, the problem-solver then just needs to tack the box (with the candle in it) to the wall and strike a match to light the candle. Subjects tested struggled to appreciate this simple solution, the problem being that it is very natural to think of the box holding the tacks as merely a container for the tacks. As such they failed to realize that it could be used in this other way (a cognitive phenomenon known as "functional fixedness"). In contrast, if subjects are presented with the very same items for performing this task, but with the tacks already removed from the box, then they tend to very quickly recognize that the box can be used to solve the problem in hand. An important datum revealed by the two versions of the test is that the manner in which materials are presented to an agent can thus have a significant bearing on that agent's ability to perform a problem-solving task, even though this is intuitively an entirely epistemically irrelevant factor.

Epistemic situationists claim that cases like this, where merely situational factors play an explanatory role in our successful cognitive performances, are common. If that's right, and we will grant this claim to the epistemic situationist, then the empirical evidence supports WES. In the Duncker candle test, for example, it seems clear that whether or not most agents are able to easily solve this puzzle depends, at least in significant part, on how the materials in questions are presented to them. It follows that when an agent succeeds in forming a true belief about the solution to the puzzle, her cognitive abilities are not playing a primary explanatory role in bringing about this success.

What such cases do *not* show, however, is that the agent's cognitive success is not explicable, in significant part, by appeal to her cognitive abilities. After all, the point of the Duncker candle test is not that agents' cognitive abilities play no significant explanatory role in their cognitive success, but rather just that a situational factor is playing a surprising explanatory role in this regard—one that is sufficient to ensure

¹⁵ As a point of clarification, we are not suggesting that WES is incapable of underwriting an important skeptical challenge—on the contrary, we go on to suggest (in § 9.4) that it does do so, albeit not the same kind of skeptical challenge that the epistemic situationist originally lays claim to.

¹⁶ See Duncker (1945). Note that in what follows we will not be disputing the empirical studies that situationists cite, but rather taking them at face-value and arguing that they don't demonstrate quite what the epistemic situationist claims they demonstrate. That's not to say that there aren't grounds for skepticism about these empirical studies. To take a prominent example, Gigerenzer (e.g., 2007, 2008) has argued that many of these supposed cognitive "biases" in fact involve belief-forming processes which should be extolled rather than regretted.

that the primary explanation of the cognitive success is not the agent's exercise of cognitive ability. Thus, the empirical evidence doesn't support SES, but only WES.¹⁷

Crucially, however, the viability of WES as the bulwark of the epistemic situationist critique of virtue epistemology very much depends on whether the view being targeted is of a *robust* or a *modest* nature. What differentiates robust from modest virtue epistemology is the extent to which a subject's rationally grounded knowledge is attributable to her exercise of cognitive ability. On the robust view, rationally grounded knowledge results only when the agent's cognitive success (i.e., her true belief) is *primarily attributable* to her exercise of (relevant) cognitive ability.¹⁸ In contrast, according to the modest view, all that is required is that the agent's cognitive success is *significantly attributable* to her exercise of cognitive ability. That is, modest virtue epistemology allows that the agent's cognitive success need not be primarily attributable to her exercise of cognitive ability, and so enables factors outside of the subject's manifestation of cognitive agency, such as epistemically friendly features of her physical or social environment, to play an explanatory role in her cognitive success, including explanatory roles that will be (once discovered) surprising.¹⁹

Whereas WES is clearly in direct conflict with robust virtue epistemology, it is entirely compatible with modest virtue epistemology. The latter, after all, explicitly allows that an agent can acquire rationally grounded knowledge even though her cognitive success is not primarily attributable to her exercise of cognitive ability. Hence, in principle at least, a subject could acquire, by virtue-epistemic lights, *bona fide* rationally grounded knowledge even though situational factors have an obvious bearing on the subject's cognitive success in question (as in the Duncker candle test). Just so long as the subject's cognitive success is at least significantly attributable to her exercise of cognitive ability, then the influence of situational factors need not be a bar to rationally grounded knowledge.²⁰

¹⁷ For a sustained discussion of this point, see Pritchard (2014b). Note that we do not regard the supporter of WES as taking on the additional theoretical burden of delineating the precise bounds of what counts as "primary." The situationist who lays claim to WES on the basis of the empirical evidence can point out that, on any plausible construal of "primary," it looks as though the empirical evidence safely establishes that often cognitive ability does *not* play a primary explanatory role.

¹⁸ Note that in what follows we will take it as given that the cognitive abilities in play are the relevant ones, and so will drop this caveat. We will also take it as given that the explanatory relation in question involves the subject *manifesting* those cognitive abilities. For further discussion of the notion of manifestation in this regard, and an explanation of why merely standing in the relevant explanatory relation will not suffice for manifestation, see Turri (2011). For some key examples of robust virtue epistemology, so conceived, see Sosa (1988, 1991, 2007, 2009), Greco (2009), and Zagzebski (1996).

¹⁹ Pritchard draws this distinction between robust and modest virtue epistemology—or "strong" and "weak" virtue epistemology, as is sometimes put ↓ in a number of works. See, for example, Pritchard (2009b: Ch. 3, 2012), Pritchard et al. (2010: Ch. 2), and Kallestrup & Pritchard (2011, 2012, 2013).

²⁰ There is logical space for an even stronger version of epistemic situationism than we consider here—call this *super-strong epistemic situationism* (SSES)—according to which the empirical evidence is said to support the view that cognitive success is *primarily* attributable to environmental factors. This is of course stronger than SES or WES. We take it that our rationale for revealing that SES is unsupported will reveal why the stronger SSES would be even less tractable.

In the next section, we will be arguing that modest virtue epistemology is a much more plausible way of thinking about virtue epistemology than its robust counterpart, and we will demonstrate this point by appeal to the phenomenon of *epistemic dependence*. In so doing we will consider some concrete ways in which situational factors can have a bearing on, but nonetheless be entirely consistent with, rationally grounded knowledge. That said, in a subsequent section we will concede that epistemic situationism can at least demonstrate that a large body of our rationally grounded knowledge involves much less by way of *cognitive achievement* than we imagine. Thus although epistemic situationism does not succeed in establishing the radical conclusion that it advertises, it does establish a weaker claim.

9.3 Epistemic Dependence

The thesis of *epistemic dependence* is the view that whether or not an agent's true belief amounts to knowledge can depend on factors beyond her cognitive agency.²¹ Such epistemic dependence comes in both positive and negative varieties, and applies to both rationally grounded and non-rationally grounded knowledge. *Positive epistemic dependence* is when an agent manifests very little cognitive agency (i.e., much less than would normally suffice for knowledge), but where her cognitive success amounts to knowledge nonetheless because of factors external to her cognitive agency. *Negative epistemic dependence*, in contrast, is when an agent manifests a high level of cognitive agency (i.e., of a level that would ordinarily easily suffice for knowledge), but where the cognitive success does not amount to knowledge because of factors external to her cognitive agency. Both negative and positive epistemic dependences support modest virtue epistemology over its robust counterpart.

A good example of positive epistemic dependence is forming a true belief via testimony in epistemically friendly conditions. Such a belief may well be largely acquired by trusting one's informant, and hence may involve very little by way of cognitive agency on one's part. And yet, in the right kind of epistemic conditions, it is widely held that this belief can amount to knowledge.²² The explanation seems to be that the epistemically friendly environment is taking up some of the "epistemic slack" in this regard, and so ensuring knowledge even despite the low level of cognitive ability on display. That is, while one cannot gain testimonial knowledge by

²¹ It's important to be clear that the epistemic dependence thesis is *not* the trivially true thesis that whether or not an agent's *belief* amounts to knowledge can depend on factors outside her control. After all, the obtaining of the state of affairs in virtue of which a given belief is true and thus a candidate for knowledge is typically outside of the control of the believer. Rather, the claim is the non-trivial and more interesting claim that whether or not an agent's *true* belief amounts to knowledge can depend on factors outwith her cognitive agency—something that is in tension with robust virtue epistemology even though robust virtue epistemology grants, along with all contemporary theories of knowledge, that the obtaining of the state of affairs rendering a target belief true can be outside our control even when the target belief is known.

²² This is a point embraced on both sides of the reductionism/anti-reductionism divide in the epistemology of testimony. For further discussion on this point, see Lackey (2008).

merely trusting an informant—i.e., one had better exercise some relevant cognitive abilities, such as in terms of which informant one asks and in terms of one's willingness to accept what one is told—it needn't be the case that one's cognitive success is primarily creditable to one's cognitive agency as robust virtue epistemology insists. Instead, the weaker display of cognitive agency required by modest virtue epistemology can suffice for knowledge.²³

A straightforward way to appreciate negative epistemic dependence is by considering an *epistemic twin earth case*.²⁴ Consider two counterpart agents, *S* and *S**, the former on earth and the latter on twin earth, who are microphysical duplicates with identical causal histories. Both *S* and *S** form the true belief that *p*. Suppose that *S* and *S** inhabit identical physical environments, both in terms of their *local* environment (i.e., their current environment which they are causally interacting with) and in terms of their *global* environment (i.e., the environment which they would be normally causally interacting with, where this could be different from their local environment). With these similarities in hand, let us stipulate now that the only difference between *S* and *S**'s circumstances concerns their respective *modal* environments; in particular, that while there are close possible worlds where *S** forms a false belief that *p* on the same basis as in the actual world, there is no close possible world where *S* forms a false belief that *p* on the same basis as in the actual world.

The upshot of this difference in *S* and *S**'s modal environments is that a true belief which is common to both subjects can differ in terms of whether it is subject to knowledge-undermining epistemic luck, in that the true belief formed by *S** on twin earth could *easily have been false*, though this is not the case for *S* on earth.²⁵ That said, notice that *S* and *S**'s true beliefs, formed on earth and twin earth, are *equally* attributable to their exercise of cognitive agency, even despite the clear difference in their susceptibility to knowledge-undermining epistemic luck. Put differently, the fact that *S**'s modal environment would undermine *S**'s knowledge of the target proposition but not *S*'s does not itself seem to matter for the purposes of assessing the degree of epistemic agency exhibited by *S* and *S** in their forming the (true) target belief. In short, then, manifestations of cognitive agency that would ordinarily suffice for knowledge

²³ For more on positive epistemic dependence, see Kallestrup & Pritchard (2012). Note that since it is stipulated in this case that the subject has rational support for her belief (i.e., that she isn't merely trusting her informant, or forming her belief in a reliable but rationally "blind" fashion), it follows that there are cases of positive epistemic dependence which apply specifically to rationally grounded knowledge. See also footnote 24.

²⁴ For more on epistemic twin-earth cases and epistemic dependence more generally, see Kallestrup & Pritchard (2011, 2012, 2013). Such cases, and the general phenomenon of epistemic dependence, build on Pritchard's earlier distinction between intervening and environmental epistemic luck and his associated critique of robust virtue epistemology. See Pritchard (2009a, 2009b: Ch. 3–4, 2009c, 2012) and Pritchard et al. (2010: Ch. 2–4). See also footnote 23.

²⁵ We take it as given for our purposes that one cannot know that *p* if one's belief that *p* could very easily have been formed on the very same basis and yet been false. Certainly, this claim is widely endorsed in epistemology. For a recent exchange on the relationship between knowledge and epistemic luck, see Hetherington (2013) and Pritchard (2013c).

can nonetheless (as in the case of S^*) fail to suffice for knowledge, thanks to factors outside of one's cognitive agency.²⁶ *Contra* robust virtue epistemology, one can set the knowledge threshold for manifestations of cognitive ability as high as one likes and yet it still be the case that one could cross this threshold and yet fail to have knowledge due to factors beyond one's cognitive agency.²⁷

While the phenomena described by both positive and negative epistemic dependences are important to understanding why modest virtue epistemology is preferable to its robust counterpart, the type of epistemic dependence that is particularly relevant for our dealings with epistemic situationism is positive epistemic dependence. Recall that the epistemic situationist needs to be able to appeal to WES in order to undermine virtue epistemology. If the type of virtue epistemology in play is of the modest variety, however, then it needn't immediately follow that the presence of situational factors in the explanation of one's cognitive success entails that one lacks rationally grounded knowledge. Instead, it could be that in such situational cases one nonetheless exhibits sufficient levels of cognitive agency to count as having such knowledge. Far from undermining virtue epistemology in general, then, the empirical evidence cited by epistemic situationism would instead be a further strike in favor of modest virtue epistemology as opposed to its robust counterpart.

The issue thus comes down to whether we can plausibly reconceive of a large body of situational cases (at least those ones involving cognitive success) as being instances of positive epistemic dependence—i.e., ones where the subject exhibits relatively low levels of cognitive agency but counts as having rationally grounded knowledge nonetheless due to factors outside of her cognitive agency. With this in mind, reconsider the Duncker candle test described above, and let's focus on the version of the case where the subject easily solves the puzzle, but only because the box is presented to her separately from the tacks. Earlier we granted that this is a genuine case where situational factors are playing a significant explanatory role in the subject's cognitive success. Note, though, that it is also crucial to the example that the subject is displaying cognitive ability too. The point is not that there is no relevant cognitive ability on display, but rather that the subject is effectively being helped by the situational factor.

The question is why this should be thought so different to other cases of positive epistemic dependence, such as the testimonial case noted earlier. After all, just as the knowledgeable informant is effectively carrying some of the epistemic burden with regard to our hero's rationally grounded knowledge in the testimonial case, so one could similarly argue that the experimenter is playing an analogous role in the

²⁶ For further discussion and defense of the claim that one's modal environment is not relevant to one's manifestation of cognitive agency, see Kallestrup & Pritchard (2011, 2012, 2013).

²⁷ Note too that although the example just offered of negative epistemic dependence makes no mention of the subject's rational support for her belief in the target proposition, we can easily add that she has such rational support without it undermining the point of the example. Thus the phenomenon of negative epistemic dependence, just like the phenomenon of positive epistemic dependence, is as applicable to rationally grounded knowledge as it is to non-rationally grounded knowledge.

situational case. Isn't the experimenter effectively carrying some of the epistemic burden in setting up the experiment in such a way that the subject avoids a certain kind of cognitive bias (i.e., functional fixedness) and hence has a route to rationally grounded knowledge?

Note too that just as we can imagine versions of the testimonial case where there are no other agents involved, we can also imagine cases where the cognitive bias at issue in the Duncker candle test is not present but not because it has been engineered away by the experimenter. In the testimonial case, for example, we could stipulate that the information the subject is looking for just happens to be posted on an information board (i.e., it hasn't been posted there for the specific use of our subject). Similarly, we could imagine environments where subjects are posed problems of the kind found in the Duncker candle test but, as it happens, in such a way that the cognitive bias in question doesn't arise. For example, just suppose one approaches, outside of the context of an experiment, the very same task and where (due to non-experimental circumstances, suppose, someone had just counted the tacks), the box is already presented apart from the tacks.²⁸ If we are happy to treat the former (testimonial-style) case as a case of positive epistemic dependence, and hence as rationally grounded knowledge, then why not the latter?

Let's consider another situational case, cited by Turri (this volume), which is that individuals are (unbeknownst to them) more likely to judge a speaker as credible when that speaker talks quickly.²⁹ If our subject is in an environment in which—whether by design or not—reliable informants tend to speak quickly while unreliable informants tend to speak slowly, then her epistemic performance—i.e., the extent to which she forms true testimonial beliefs—will be significantly enhanced. This situational factor will thus carry some of the explanatory burden in her cognitive successes, and hence we will not treat her cognitive successes as being primarily attributable to her cognitive abilities. Nonetheless, this doesn't entail that our subject isn't manifesting relevant cognitive abilities in this regard (much less that she lacks a rational basis for her beliefs, so formed), or that these abilities are not playing a significant explanatory role in her cognitive success.³⁰ If so, then this could well also be a case of positive epistemic

²⁸ We could run an analogous version of such a case in terms of mood elevation, where we suppose that one just happens to be in an environment with features that trigger the elevated mood that facilitates successful task performance.

²⁹ Note that we are taking it as given here that this is a genuine situational factor (and that there isn't in fact a correlation between talking slowly and dishonesty which subjects are at least unconsciously picking up on). See here Miller et al. (1976) for a study that an anti-caffeine message was found to be more credible to subjects when delivered at 195 words per minute than at 105 words per minute. See also, however, a later study by Smith & Shaffer (1991), according to which rapidity of speech and perceived credibility positively correlate only when the hearer is *not* already inclined to agree with the target message, whereas rapidity was claimed to negatively correlate with perceived credibility of messages antecedently agreed with.

³⁰ This point is compatible with maintaining (as we do) that one's attaining cognitive success in such a fashion precludes one's cognitive ability being that to which the success is *primarily* creditable. For a more detailed discussion regarding the distinction between the notions of "primary" and "significant" we're using here, see Kallestrup & Pritchard (2011, 2012, 2013) and Carter & Pritchard (2014).

dependence, and we submit that this is just the right way to think about these cases if indeed the agent's cognitive abilities are carrying a significant part of the explanatory burden. The agent is, effectively, simply in an epistemically friendly environment with regard to testimony in which a lower level of display of cognitive agency on her part can suffice for knowledge, including rationally grounded knowledge.

We think that this point generalizes, in that the empirical evidence cited by epistemic situationism has not offered us grounds for thinking that there is in general a tension between WES and (modest) virtue epistemology. At the very least, the onus is on the epistemic situationist to explain why we should not treat these cases as instances of positive epistemic dependence.

9.4 Reframing the Epistemic Situationist Challenge

Despite the critical remarks of the last section, the phenomenon of positive epistemic dependence nonetheless highlights a way of re-casting the epistemic situationist challenge, albeit in a mitigated form. For although we have seen that this phenomenon entails that the acquisition of rationally grounded knowledge by modest virtue-theoretic lights is compatible with situational factors, there are other epistemic standings which do not exhibit positive epistemic dependence.³¹ Accordingly, although we have rescued rationally grounded knowledge—indeed, knowledge *simpliciter*—from the situational challenge, there is scope to resurrect that challenge as regards other epistemic standings, standings which depend more on cognitive ability than knowledge.

We can bring this point out by considering different kinds of *cognitive achievement*. Broadly speaking, just as we can understand an achievement as a success that is due to one's ability, so we can understand a specifically cognitive achievement as a cognitive success that is due to one's cognitive abilities. Within this broad definition of a cognitive achievement, we can identify two grades of epistemic agency in terms of the level of cognitive achievement that features in the relevant cognitive success:

Strong Cognitive Achievement: Cognitive success which is primarily creditable to one's cognitive agency.

Weak Cognitive Achievement: Cognitive success which is to a significant degree creditable to one's cognitive agency.³²

³¹ Nor, indeed, negative epistemic dependence, though we will continue to focus on positive epistemic dependence since this is the variety of particular interest when it comes to epistemic situationism.

³² For further discussion of both achievements and cognitive achievements in particular, see Pritchard (2009a), 2009b: Ch. 3–4, 2009c, 2010a, 2012) and Pritchard et al. (2010: Ch. 2–4). Note that it is standard in this discussion to only regard what we are here calling strong cognitive achievements as *bona fide* cognitive achievements, but the question of where we put the threshold for *bona fide* cognitive achievements isn't relevant to our current purposes and so it ought to be uncontentious to treat weak cognitive treatments as genuine cognitive achievements.

The fact that knowledge, including rationally grounded knowledge, exhibits positive epistemic dependence means that weak cognitive achievements can sometimes suffice for knowledge.³³ Given the discussion from the previous section, this also means that weak cognitive achievements can be compatible with situational influences on one's cognitive performance.

Interestingly, however, we also granted above that epistemic situationism *did* undermine the idea that one's cognitive successes are primarily creditable to one's cognitive agency (and hence we effectively granted that it would pose a problem for robust virtue epistemology). Accordingly, even given the correctness of modest virtue epistemology, it follows that situationism does have implications for our epistemic standings, just not as regards rationally grounded knowledge. In particular, epistemic situationism undermines the idea that our rationally grounded knowledge is as creditable to our cognitive abilities as we ordinarily suppose, to the extent that much less of our rationally grounded knowledge amounts to a strong cognitive achievement as we might imagine. That is, since we are unaware of these situational factors, we tend to overestimate the role of our cognitive agency in our acquisition of rationally grounded knowledge and hence treat that agency as the primary explanatory factor in our cognitive success. But what epistemic situationism demonstrates is that often our rationally grounded knowledge exhibits only a weak cognitive achievement, on account of the situational factors in play.³⁴

One reason why this point is important is that some significant epistemic standings seem to *essentially* involve strong achievements. For example, consider the epistemic standing involved in *understanding-why*, as when one acquires an understanding why something specific is the case (e.g., why X is the answer to a particular mathematical problem). Understanding-why can often be epistemically more demanding than knowledge. For example, one can know that X is the solution to a particular mathematical problem because someone authoritative has told you this. It need not follow that you understand why this is the solution to the problem.³⁵ In such a case, one might

³³ Interestingly, while positive epistemic dependence demonstrates that weak cognitive achievements sometimes suffice for knowledge, negative epistemic dependence demonstrates that strong cognitive achievements are sometimes *insufficient* for knowledge. Even knowledge and strong cognitive achievements thus come apart. In what follows, however, we will be setting this point to one side, since what presently concerns us is just the fact that weak cognitive achievements can sometimes suffice for knowledge.

³⁴ Note that Pritchard—see, for example, Pritchard et al. (2010: Ch. 4)—has argued for the importance of an even stronger grade of achievements that not only satisfies the rubric for strong cognitive achievements but which also involves either the overcoming of a significant obstacle or the manifestation of a high level of cognitive skill. If epistemic situationism demonstrates that a large body of our rationally grounded knowledge doesn't reach the threshold for strong cognitive achievements then, *a fortiori*, it also demonstrates that a large body of our rationally grounded knowledge doesn't reach the threshold for this even stronger kind of cognitive achievement too.

³⁵ It is quite common in the recent epistemological literature to contrast understanding with mere knowing in this way. Here, for example, is Kvanvig (2003: 192) on this point:

[O]ne can know many unrelated pieces of information, but understanding is achieved only when informational items are pieced together by the subject in question.

know the solution to the problem in virtue of forming one's belief is an epistemically suitable manner by relying on the authoritative informant. To this extent, one's cognitive success is at least partly to do with the exercise of one's cognitive agency. But it is only if one masters the subject matter in question, such that one comes to an understanding of why this solution is correct, that one's cognitive success would count as primarily creditable to one, and hence a strong cognitive achievement.³⁶ In general, understanding-why comes apart from (the corresponding instance of) knowledge because while the latter only requires a weak cognitive achievement on the part of the subject, the former requires a strong cognitive achievement.³⁷

Given this point, one implication of the fact that situational factors can undermine strong cognitive achievements is that they can be a bar to the acquisition of understanding-why. To see this, consider two versions of the Duncker candle test. In the first, the subject—let's call her "Candy"—is set the test in the usual way by being given the tacks in the box. In the second, "Dunky" is in contrast given the tacks and the box separately. Dunky thus has an epistemic advantage, in virtue of the situational factor in play, which Candy lacks. Now imagine that they both successfully complete the task in hand, but that Dunky would have struggled with this test had he not had this situational advantage.

We've already noted that Dunky's cognitive success only constitutes a weak cognitive achievement as opposed to a strong cognitive achievement, and hence that situational factors are having an epistemic impact here. Candy's cognitive success, in contrast, does amount to a strong cognitive achievement, in that she wasn't subject to the functional bias. Relatedly, there is also a potential difference between Dunky and Candy in terms of their understanding. In particular, while there is no barrier to crediting Candy with an understanding of why this is the solution to the puzzle, there is a barrier in Dunky's case, just as there is a barrier to crediting him with a strong cognitive achievement. This is that a situational factor is playing an important, but unrecognized, role in his cognitive success. Of course, like Candy, he will think that he does understand why this is the solution to the problem. But the big difference between the two is that there was an unrecognized situational factor in play which made this cognitive task much easier for Dunky than it was for Candy. Given this fact about the case, we would be

³⁶ We are not denying that testimonial exchange—especially continued testimonial exchange over time, such as concerning mutual interactions between a teacher and a student—can play an important role in facilitating for the testimonial recipient a mastery of the subject in question. The point is just that attaining such a mastery isn't guaranteed to be acquired with the minimal level of agency that would suffice for one to count as *knowing* a proposition by testimony, agency that just involves not asking someone who appears unreliable, not being willing to trust anything the testifier says, etc.

³⁷ For further discussion of this point, see Pritchard (2014a) and Pritchard et al. (2010: Ch. 4). Note that on Pritchard's view, understanding-why—just like strong cognitive achievements, as explained in footnote 33—comes apart from the corresponding knowledge in *both* directions. All that is important for our purposes is that understanding-why (unlike knowledge) demands strong cognitive achievement, and so we will set this further point to one side. Even so, it is significant, since it further reinforces the idea that understanding-why, unlike knowledge, is a type of strong cognitive achievement.

naturally disinclined to credit Dunky with understanding-why this is the solution to the question in hand, since we know that Dunky would have struggled with this test had the situational factor not been present.³⁸

The point is that in order to exhibit understanding-why, one needs to be able to take the kind of cognitive ownership of one's cognitive success that is involved in a strong cognitive achievement. Thus if one's cognitive success does not constitute a strong cognitive achievement, then it's not a plausible candidate for understanding-why. This means that the capacity for situational factors to undermine strong cognitive achievements entails that it can also undermine understanding-why. Epistemic situationism therefore does have important implications for our epistemic standings, just not the implications that were originally advertised by the situationists.

9.5 A Case Study: The Epistemic Goals of Education

Putting all these points together, we can see the implications of epistemic situationism by considering how they play out in the particular sphere of education. We will focus on the initial wholesale educational development of a child. A natural, broadly virtue-theoretic picture of the epistemology of education regards the ultimate epistemic goal of education as being the enhancement of the child's range of cognitive abilities—including, crucially, her intellectual virtues—so that she becomes an epistemically autonomous subject.³⁹ One way of putting this point is that the educator is helping the student to develop her cognitive abilities to such a level that she can then take cognitive ownership of her further educational development.⁴⁰

One can contrast this conception of the epistemic aims of education with one on which the educator merely instills lots of facts into the students, and disregards the development of their cognitive abilities.⁴¹ For example, imagine that the students are

³⁸ To clarify this point, it will be helpful to consider a potential line of objection. On one way of describing the situations of Candy and Dunky, it looks as though Candy is faced with a tougher problem, and Dunky an easier (separate) problem. From here, it seems reasonable to conclude that while Candy attains understanding-why in the harder case, Dunky *also* attains understanding-why, albeit with respect to an easier and distinct problem. The point we are making is compatible with granting this claim. Our crucial point, however, is brought out only when the task is held fixed across the two cases, so that we are assessing Candy and Dunky's epistemic standing with respect to the same task. Here it is clear that Candy has a kind of cognitive ownership (not reliant on assistance from situational factors) which Dunky lacks. Thanks to an anonymous referee for raising this point.

³⁹ That one goal of education is to prepare an individual for intellectual autonomy is a central theme of Winch (2006). For a recent statement of this kind of view, see Baehr (2013). See also Siegel (2003) and Pritchard (2013b; 2014c; forthcoming).

⁴⁰ Which is not to say that education is only concerned with developing the cognitive abilities of the agent which supervene on "internal" (i.e., body-bound) features of the subject. See Pritchard (2010b; 2014c; forthcoming). Furthermore, note that the kind of cognitive ownership one can take of one's educational development is not regarded by us as *entirely* unconstrained, but rather constrained within the plausible limits of cognitive autonomy already unavoidably in place given considerations to do with epistemic dependence. Thanks to Abrol Fairweather for requesting clarification on this point.

⁴¹ The idea that the epistemic end of education is concerned with the development of a student's cognitive abilities and understanding, as opposed to merely the inculcation of information, is a familiar *motif*

instructed to learn these facts by rote, and not to critically appraise what they are told.⁴² On this model, the students may well acquire lots of knowledge, but they won't develop their epistemic autonomy (at least, not as a result of this educational strategy at any rate). Relatedly, the level of cognitive achievement displayed by these students will tend to be a lot lower than their counterparts whose cognitive abilities are being developed, in that their cognitive agency is playing a vastly reduced role in their cognitive successes. They will thus exhibit fewer strong cognitive achievements. One consequence of this is that their level of understanding-why will be lower too since, as we noted earlier, this kind of epistemic standing requires strong cognitive achievements.

A common metaphor employed when spelling out what is involved in the educational development of a student's cognitive abilities is that of *scaffolding*.⁴³ The educator creates an epistemically friendly environment—i.e., an epistemically *scaffolded* environment—which promotes the student's cognitive success and the development of her nascent cognitive abilities. Over time, the scaffolding is removed and the student takes on greater levels of epistemic autonomy with regard to her cognitive development. Eventually, the scaffolding is removed completely, and the student becomes epistemically autonomous, able to direct her own educational development. As the scaffolding is removed, so there are more opportunities for the student to exhibit higher levels of cognitive achievement, including strong cognitive achievements. In this way, she can move from merely knowing lots of facts to gaining more elevated epistemic standings, like understanding-why.⁴⁴

The analogy with situational factors here should be apparent. Indeed, although a scaffolded learning environment needn't involve situational factors, one can easily imagine how it might. In fact, one could envisage how an empirically orientated educational theory might make use of situational factors to promote positive learning environments. Consider again our example of the Duncker candle test. In developing a student's problem-solving abilities, one might initially pose the puzzle in the situation

in the philosophy of education. In a recent survey piece on the epistemic ends of education, for example, Robertson (2009: § 1) writes, citing Elgin (1996) and Siegel (1988), that "the goal [of education] is not information per se, but, rather, knowledge that is significant and organized in patterns that contribute to perspective and understanding in orienting thought and action." See also Elgin (1999a; 1999b) and MacAllister (2012).

⁴² In order to keep matters simple, note that we are taking it as given that the students are being told facts. Another variant of this case would be one where the students are told to uncritically accept false dogma, but this raises complications that are not relevant to our current concerns.

⁴³ See, for example, Foley (1994) and Simons & Klein (2007). This idea is often traced to Vygotsky's (e.g., 1978) educational theory. See in particular his notion of the *zone of proximal development*, which effectively involves educators creating favorable learning conditions for their pupils, a process which in the contemporary educational literature is often called "scaffolding" ↓ e.g., Wood & Middleton (1975) ↓ though Vygotsky never used this term himself. For a useful recent overview of Vygotsky's educational theory, see Davydov & Kerr (1995).

⁴⁴ There are of course epistemic standings, such as wisdom, that are plausibly higher yet on the continuum of epistemic agency. For a discussion of wisdom as an epistemic state, see Whitcomb (2010).

ally advantageous manner.⁴⁵ If the student solves the puzzle, she thus exhibits a weak cognitive achievement. But on the virtue-theoretic model of the epistemology of education, the educator would not be content to rest there. She would instead want to see how the student performs when the scaffolding is removed—i.e., how the student performs doing related tasks but without the presence of the situational factor.⁴⁶ Only then will the student develop her understanding of why this is the correct solution to the problem, and thereby develop her relevant cognitive abilities. Only then will she exhibit strong cognitive achievements.

We can glean several conclusions from this discussion of educational development. The first is that the role of scaffolding in this domain—and in particular the fact that such scaffolding is only a bar to gaining the higher epistemic standings, and not necessarily to knowledge acquisition—reinforces the point made earlier about how situational factors can be compatible with the acquisition of knowledge. In the relevant respects, after all, an epistemically advantageous situational factor is analogous to a scaffolded environment. Indeed, as we just noted, one can imagine a scaffolded environment as employing situational factors. Another way of putting this point is that scaffolding is essentially a type of positive epistemic dependence.

The second point follows from the first, which is that knowledge of situational factors can be used to facilitate educational scaffolding. The presentation of a task can make that task easier for the child in ways that the child is completely unaware of. For example, using one's knowledge of functional bias to set up a problem in a fashion which better enables that child to solve it is just an instance of making use of cognitive science to inform educational practice, akin to appealing to the cognitive science of memory to better enable children to extend their vocabulary.⁴⁷

Third, notice that becoming aware of the role of advantageous situational factors in one's cognitive success is at least part of the process of ensuring that these factors cease to undermine the extent to which one's cognitive success is creditable to one's cognitive agency. Of course, as is commonly noted in the literature on this topic, merely knowing about a situational factor is not itself a guarantee that one will thereafter acquire the ability to spot such factors and avoid the influence of them.⁴⁸ But it is at least a first step

⁴⁵ This would be an instance of *epistemic paternalism*, albeit at work in such a way that it is ultimately meant to *promote* a subject's (epistemic) autonomy, rather than undermine it. For further discussion of epistemic paternalism, see Ahlstrom-Vij (2013) and Pritchard (2013a).

⁴⁶ To be clear, we are not suggesting that the educator *begin* with the more difficult scenario, but rather that the pedagogical processes in play should—at least usually—ultimately be geared towards the removal of the relevant scaffolding. Thanks to Mark Alfano for suggesting clarification here.

⁴⁷ For example, research into the “method of loci” has influenced a lot of work on memory enhancement. Essentially, the idea is to exploit the way in which our spatial memory is more effective than our factual memory by remembering facts in spatial terms (e.g., in terms of so-called “memory palaces”). Although one can trace this idea back to antiquity, it has recently been extensively studied by cognitive scientists and found to be highly effective. See, for example, Maguire et al (2012). Another example of how cognitive science has fed into educational practices in the realm of memory enhancement, is with regard to so-called “spaced repetition.” See Pavlik & Anderson (2008).

⁴⁸ A very helpful overview of the epistemological ramifications of cognitive biases, with a particular focus on the point that many of them are hard to correct for, is offered in Ahlstrom-Vij (2013).

in this direction, and when it comes to certain kinds of situational factor it may suffice. The functional fixedness example is a case in point. For many people, recognizing that this bias affects their ability to solve problems of this kind can be a springboard towards avoiding this bias in future problem-solving.

The point of the foregoing is that the epistemology of education nicely illustrates the point that the ramifications of epistemic situationism for virtue epistemology are not nearly as stark as epistemic situationists suppose. On the one hand, we find the phenomenon of positive epistemic dependence on display in this domain, and indeed playing a central role specifically within a broadly virtue-theoretic approach to the epistemology of education. This reinforces our point from earlier that the acquisition of knowledge is compatible with the presence of situational factors. On the other hand, although we can incorporate into this domain our point from earlier that situational factors can undermine strong cognitive achievements (and thus elevated epistemic standings like understanding-why), we have also seen how an empirically orientated educational theory might actively *exploit* such factors.

9.6 Conclusions

We have argued that epistemic situationism poses less of a challenge to virtue epistemology than hitherto supposed. In particular, we have argued that so long as virtue epistemology is properly understood—i.e., along modest lines, such that it can accommodate the phenomenon of epistemic dependence—then there is no essential tension between rationally grounded knowledge and the presence of epistemically advantageous situational factors. Nonetheless, we have argued that such situational factors can undermine epistemic standings which are more elevated than knowledge, such as understanding-why, by preventing agents from exhibiting strong cognitive achievements. Finally, we have put these points to work in the context of the epistemology of education by showing how situational factors can actually be utilized within a plausible virtue-theoretic account of the epistemic ends of education.⁴⁹

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