

Educating for Good Thinking: Virtues, Skills, or Both?

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Article abstract

This paper explores the relationship between intellectual virtues and critical thinking, both as such and as educational ends worth pursuing. The first half of the paper examines the intersection of intellectual virtue and critical thinking. The second half addresses a recent argument to the effect that educating for intellectual virtues (in contrast to educating for critical thinking) is insufficiently action-guiding and therefore lacks a suitable pedagogy.

Educating for Good Thinking: Virtues, Skills, or Both?

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Abstract: This paper explores the relationship between intellectual virtues and critical thinking, both as such and as educational ends worth pursuing. The first half of the paper examines the intersection of intellectual virtue and critical thinking. The second half addresses a recent argument to the effect that educating for intellectual virtues (in contrast to educating for critical thinking) is insufficiently action-guiding and therefore lacks a suitable pedagogy.

Résumé: Cet article explore la relation entre les vertus intellectuelles et la pensée critique, à la fois en tant que telles et en tant que buts éducatifs dignes d'être poursuivis. La première moitié de l'article examine l'intersection de la vertu intellectuelle et de la pensée critique. La seconde partie aborde un argument récent selon lequel l'enseignement des vertus intellectuelles (par opposition à l'enseignement de la pensée critique) est insuffisante pour guider l'action pédagogique et manque donc d'une pédagogie adéquate.

Keywords: virtue epistemology, philosophy of education, intellectual virtues, critical thinking

1. Introduction

When it comes to the proper aims or goals of education, few would deny the importance of imparting disciplinary knowledge and intellectual skills like reading, writing, and arithmetic. Many would also agree that these do not exhaust the aims of education. A good education should also enable students to learn *how to think*; it should inspire a “love of learning” and produce “lifelong learners.” As Dewey remarks:

While it is not the business of education to prove every statement made ... it is its business to cultivate deep-seated and effective habits of discriminating tested beliefs from mere assertions, guesses, and opinions; to develop a lively, sincere, and open-minded preference for conclusions that are properly grounded, and to ingrain into the individual's working habits methods of inquiry and reasoning appropriate to the various problems that present themselves. No matter how much an individual knows as a matter of hearsay and information, if he has not attitudes and habits of this sort, he is not intellectually educated (1910, p. 25).

This further aim of education, an aim that is at once intellectual *and* personal, isn't easy to pin down. What exactly is involved in being a good thinker or lifelong learner?

One venerable response to this question appeals to the notion of critical thinking: in addition to transmitting disciplinary knowledge and rudimentary intellectual skills, education should also equip students with an understanding of what it means to think well, together with the corresponding intellectual abilities and dispositions. It should form students into critical thinkers (Siegel 1998).

A more recent response, drawing on resources from virtue epistemology, appeals to the concept of intellectual virtues, understood as the character attributes of good thinkers and learners.¹ Here the idea is that, in addition to transmitting familiar knowledge and skills, education should also have an impact on the intellectual *character* of students. It should nurture meaningful progress in developing qualities like curiosity, open-mindedness, intellectual courage, and intellectual humility (Macallister 2012; Battaly 2006; Baehr 2013).

This paper looks closely at the relationship between intellectual virtues and critical thinking, both as such and as ends worth pursuing in an educational context. In the first half of the paper, I'll examine the intersection of intellectual virtue and critical thinking.² In the second half, I'll address a recent argument to the effect

¹ For an overview of virtue epistemology, see Battaly 2008.

² I addressed this question in Baehr 2019. In the present paper, I hope to deepen and extend the account developed there.

that educating for intellectual virtues (by contrast with educating for critical thinking) is insufficiently action-guiding and therefore lacks a suitable pedagogy.

2. The relationship between intellectual virtues and critical thinking

How, then, should we understand the relationship between intellectual virtues and critical thinking? Are these distinct phenomena? Do they overlap? If so, to what extent and how? To answer these questions, we must first say a bit more about what each of these constructs amounts to.

I begin with intellectual virtues. As noted, these are the personal qualities or character attributes required for good thinking and learning, including curiosity, intellectual autonomy, intellectual humility, attentiveness, intellectual carefulness and thoroughness, open-mindedness, and intellectual courage and tenacity (Baehr 2021, Ch. 2).³

Intellectual virtues, as I conceive of them, have three primary dimensions (Baehr 2015a; for similar views, see Tishman 2000 and Ritchhart 2002, Ch. 3).⁴ The first is a competence dimension. Each intellectual virtue has a characteristic competence (or cluster of competences), such that to possess the virtue, one must be skilled or competent at a certain sort of activity that distinguishes this virtue from others. To possess the virtue of open-mindedness, for instance, one must be skilled or competent at perspective-switching; to possess curiosity, one must be competent at asking

³ For other useful treatments of these or related intellectual virtues, see King (2021), Roberts and Wood (2007), Battaly (2015), and Zagzebski (1996).

⁴ In Baehr 2015, I defend a *four*-dimensional model, the fourth dimension being an “affective” one. According to this model, intellectual virtues also involve the experience of fitting or appropriate affections (e.g., delight in inquiry and pain at cognitive error). I omit this dimension here for two reasons. First, it doesn’t come into play in the discussion that follows. Second, instantiating the affective dimension of an intellectual virtues is not, on my view, *necessary* for the bare or minimal possession of that virtue; rather, it’s necessary only for its “full” or “complete” possession. Hence the claim that the intellectual virtues have three *primary* dimensions.

relevant and thoughtful questions; to be intellectually autonomous, one must be skilled at independent thinking; and so on.

But a person can, of course, be capable of perspective-switching, even of perspective-switching in a highly competent manner, and yet be *unmotivated* to use this skill. Thus, intellectual virtues also have a motivational dimension. To possess an intellectual virtue, one must be motivated to use or deploy its characteristic competence. The precise nature of this motivation is a matter of debate among virtue epistemologists. According to one widely held view, intellectual virtues involve an element of *intrinsic* epistemic motivation, meaning that intellectually virtuous persons deploy their virtue-specific competences at least partly out of a concern for “epistemic goods” like truth and knowledge considered as such (Zagzebski 1996; Battaly 2015; Roberts and Wood 2007; Baehr 2011). This is part of why intellectual virtues reflect favorably on the *character* of the person who possesses them.⁵

A person can instantiate the competence and motivational dimensions of an intellectual virtue while failing to possess the virtue itself. For, the person can lack good *judgment* about when, toward whom or which ideas, to what extent, or in what way to manifest or deploy the virtue’s characteristic competence (Tishman, Jay, and Perkins 1993). In this case, while the person might, say, be capable of perspective-switching at a very high level, if they lack a good sense of when or how to do so, they’ll fall short of the virtue of open-mindedness. This is, of course, a familiar Aristotelian point. For Aristotle, when it comes to virtue-relevant activity, the virtuous agent (*phronimos*) can be counted on to identify the “mean,” that is, to reliably judge when, how, to what

⁵ The idea that intellectually virtuous persons deploy their virtue-specific competences “at least partly” out of an intrinsic concern with epistemic goods is important. The virtue epistemologists in question don’t deny that intellectually virtuous persons are also motivated to engage in intellectually virtuous activity out of other, non-epistemic (e.g., pragmatic) concerns. They insist on an element of intrinsic epistemic motivation, however, since, if a person were consistently to inquire in intellectually careful and thorough ways, say, but only as a means to gaining the admiration of their peers or winning arguments with their partner, their carefulness and thoroughness wouldn’t reflect favorably on them as a person, and therefore wouldn’t count as genuine character virtues.

extent, and with whom to engage in this activity (Aristotle, ca. 350 B.C.E./2000).

To summarize, intellectual virtues have three primary dimensions. To possess the virtue of intellectual humility, for instance, a person must be *competent* at attending to and “owning” their intellectual limitations and mistakes, *motivated* to use this ability, and have good *judgment* about when, how, in what way, and on what occasions to do so.⁶

I turn now to an overview of critical thinking. There are, in fact, many different conceptual models of critical thinking on offer in the philosophical and psychological literature (e.g., Bailin et al. 1999, Ennis 1987, McPeck 1990, Paul 1990, and Lipman 1991). I will focus here on one of the most well-developed and influential models, namely, Harvey Siegel’s dual-component account (Siegel 1988, 1997, 2009, and 2016). According to Siegel, critical thinking has a twofold structure: it involves a ‘reason assessment’ (RA) component and a “critical spirit” (CS) component.

Siegel describes the RA dimension as follows:

The basic idea here is simple enough: a critical thinker must be able to assess reasons and their ability to warrant beliefs, claims and actions properly. This means that the critical thinker must have a good understanding of, and the ability to utilize, principles governing the assessment of reasons (1988, p. 34).

These principles are of two main types: “subject-specific principles which govern the assessment of particular sorts of reasons in particular contexts” and “subject-neutral, general principles which apply across a wide variety of contexts and types of reason.” The former includes principles applicable to, for example, the “proper assessment of works of art, or novels, or historical documents,” while the latter consists of “all those principles typically regarded

⁶ These “dimensions” needn’t be understood as metaphysically distinct *parts*. For instance, when the competence dimension of an intellectual virtue is possessed in its fullness, it may be very difficult to disentangle it from the virtue’s judgment dimension. In any case, in distinguishing between different “dimensions” of an intellectual virtue, I primarily mean to distinguish between different perspectives or angles from which they can profitably be examined or understood.

as ‘logical,’ both formal and informal,” including “principles regarding inductive inference, avoiding fallacies, proper deductive inference,” and so on (Siegel 1988, pp. 34-35).

While some theorists have equated critical thinking with the use or possession of such reasoning skills (e.g., Missimer 1990), Siegel argues convincingly that the RA component is not sufficient for critical thinking or at least for being a critical *thinker*:

In order to be a critical thinker, a person must have, in addition to what has been said thus far, certain attitudes, dispositions, habits of mind, and character traits, which together may be labelled the “critical attitude” or “critical spirit.” Most generally, a critical thinker must not only be *able* to assess reasons properly, in accordance with the reason assessment component, she must be *disposed* to do so as well; that is, a critical thinker must have a well-developed disposition to engage in reason assessment. (1988, p. 39)

Siegel elaborates on the ‘critical spirit’ (CS) component of critical thinking as follows:

One who has the critical attitude has a certain a certain *character* as well as certain skills: a character which is inclined to seek, and to base judgment and action upon, reasons; which rejects partiality and arbitrariness; which is committed to the objective evaluation of relevant evidence; and which values such aspects of critical thinking as intellectual honesty, justice to evidence, sympathetic and impartial considerations of interests, objectivity, and impartiality ... A possessor of the critical attitude is inclined to seek reasons and evidence; to demand justification; to query and investigate unsubstantiated claims. Moreover, a person who possesses the critical attitude has habits of mind consonant with the just-mentioned considerations. Such a person habitually seeks evidence and reasons, and is predisposed to so seek—and to base belief and action on the results of such seeking (*ibid.*).

With initial characterizations of intellectual virtues and critical thinking before us, we can turn our attention to how these concepts might be related to each other. I’ll approach this question by way of two more specific queries: (1) Can a person be intellectually

virtuous without being a critical thinker? (2) Can a person be a critical thinker without being intellectually virtuous?

2.1. Intellectual virtue without critical thinking?

I begin with the first question: Is it possible for someone to be intellectually virtuous while failing to be a critical thinker? Given the dual nature of Siegel's model, it is also useful to divide this question in two. I will consider, first, whether the possession of intellectual virtue is consistent with a failure to instantiate the CS component of critical thinking and, second, whether it is consistent with the absence of the RA component.

Can a person be intellectually virtuous while failing to instantiate the CS? On the face of it, this seems doubtful. For, as we've seen, the CS includes "habits of mind" and a "character" that "rejects partiality and arbitrariness," "is committed to the objective evaluation of relevant evidence," and "values such aspects of critical thinking as intellectual honesty, justice to evidence, sympathetic and impartial considerations of interests, objectivity, and impartiality" (Siegel 1988, p. 39). This sounds very much like virtuous intellectual character.⁷ Indeed, it names several putative virtues like "objectivity," "impartiality," and "intellectual honesty." Is the possession of a broad array of intellectual virtues *sufficient* for something like the full instantiation of the CS? Put another way, are there perhaps some aspects or elements of the CS that a fully intellectually virtuous person might fail to possess? I won't attempt to answer this question here.

What, then, about the RA component of critical thinking? Can a person be intellectually virtuous while failing to be a competent reasoner in the relevant sense? In response, I'll attempt to show that there is, in fact, a very substantial overlap between intellectual virtues and the RA component of CT.

First, the judgment dimension of intellectual virtues is partly constituted by RA competences. Again, to possess an intellectual virtue *V*, one must have good judgment about when, toward whom, in what way, and for how long to deploy the skill or com-

⁷ We'll see further on that this isn't quite right. However, the sense in which it's wrong doesn't go against the present point.

petence proper to V. This requires being a *competent reasoner* with respect to the considerations that fix the relevant values or parameters. It requires being alert to and properly assessing the importance of these considerations. For instance, if I possess the virtue of open-mindedness, I will be capable of thinking through and weighing various considerations concerning when, in what way, and for how long to take up and consider alternative points of view. These judgments must be *competent*: I must *reasonably* or *accurately* determine when, how, and for how long to engage in perspective-switching. Given that every intellectual virtue has a judgment dimension of this sort, it follows that every virtue also has at least an aspect of the RA component of critical thinking.

Second, the competence dimension of an intellectual virtue also overlaps with the RA component. Again, each virtue has a characteristic skill or ability that involves engaging in a particular sort of intellectual activity. With open-mindedness, the activity is perspective-switching; with intellectual humility, it is attending to and owning one's intellectual limitations; with intellectual carefulness, it's being alert to and avoiding potential errors; and so on. To possess the competence associated with a given virtue, it isn't enough merely to engage in the corresponding intellectual activity. If I regularly engage in perspective-switching but do so at the wrong time or with regard to the wrong ideas, I lack the competence proper to the virtue of open-mindedness. Or if I obsess about my intellectual limitations or am hypercautious about the possibility of making trivial mistakes and I'm incapable of overcoming this, then while I might possess the abilities associated with intellectual humility or carefulness in some minimal way, I won't possess them in the way or to the extent necessary for the possession of the corresponding virtues. Indeed, I may possess one of the corresponding intellectual vices (e.g., intellectual servility or scrupulosity).

This underscores the point that to possess the competence specific to a virtue V, I must be capable of engaging in the kind of intellectual activity characteristic of V *well* or *excellently*—that is, at the *right* time, in the *right* way, toward the *right* persons or ideas, and so on. Importantly, what counts as 'well' or 'excellently' or 'right' isn't arbitrary or arational; instead, it is fixed or

determined by *reason*.⁸ To be competent at perspective-switching, I must be capable of engaging in this activity rationally or in ways that are likely to help me get to the truth and avoid error. The same requirement holds for being competent at limitations-owning, error-avoidance, or other activities characteristic of intellectual virtues. Thus, virtue-specific competences are *rational* competences.⁹

Does it follow that we should conceive of virtue-specific competences as a subset of RA competences? This isn't as obvious as one might think. It depends on how exactly we should understand the scope of the RA component of critical thinking.

The label 'reason assessment' suggests that the scope of this component is limited to the assessment of reasons for or against some claim, belief, hypothesis, interpretation, or course of action. Such activity indeed receives the lion's share of attention in Siegel's descriptions of the RA component.

However, if this is how the scope of the RA component is to be understood, it would be a mistake to think of virtue-specific competences merely or even primarily as RA competences. For, virtue-specific competences manifest in an array of intellectual activities that go beyond the assessment of reasons. Open-mindedness, for instance, can manifest in a person's efforts to *imagine* or "enter into" an alternative perspective (a precondition for assessing the rational credentials of that perspective). Curiosity often expresses itself in *wondering* or formulating questions, which precedes any effort to answer them. And attentiveness and carefulness often have *perceptual* applications: I might look attentively and carefully at something in my visual field prior to assessing the logical or evidential implications of my perceptual experience.

Now, it may be that Siegel or other theorists conceive of the scope of 'reason assessment' or critical thinking in significantly broader terms than what I've just suggested. Bailin and Siegel seek

⁸ See Aristotle, *Nicomachean Ethics* Bk. II, Ch. 6.

⁹ While, as indicated, I think there is an important connection between epistemic rationality as I'm conceiving it here and truth, I'm not wedded to any particular account of this relation. I intend for what I say about the relationship between intellectual virtue and epistemic rationality to be compatible with a variety of ways of understanding the nature and structure of the latter concept.

to minimize the distinction between ‘creative thinking’ and ‘critical thinking,’ noting that the former often involves a rational dimension and the latter a creative dimension (2003 pp. 186-187). If we are to understand the domain of critical thinking in such a way so that it covers or includes the kind of intellectually virtuous activity described above, then it may be that virtue-specific competences are simply a subset of RA competences. It is worth noting, however, that in this broad construal, what is meant by ‘critical thinking’ or even ‘reason assessment’ isn’t necessarily very critical and certainly needn’t involve an *assessment* of reasons. It is also noteworthy that, in this more expansive picture, critical thinking begins to look co-extensive with something as broad as *rational intellectual activity* or intellectual activity that is truth-oriented in one way or another. We will return to this point below.

Before moving on, it is worth considering briefly whether there are aspects of the RA component of critical thinking (taken as a whole) that go *beyond* virtue-specific competences. Minimally, the RA component of critical thinking would seem to include certain kinds of *knowledge* that an intellectually virtuous person might lack. This includes knowledge of things like the difference between an inductive and deductive argument, the nature of validity and soundness, informal and formal fallacies, truth tables, valid inference and equivalence rules, and so on.¹⁰ It might also include certain quite narrow technical *skills*, like the ability to complete a complex proof in predicate logic or to calculate the probability of a given symbolic statement. It isn’t difficult to imagine a person who attains a high level of intellectual virtue but lacks these elements of the RA component.

What about broader, more generic RA competences like the ability, in ordinary life, to follow a complex line of argument, grasp connections between disparate ideas, evaluate counterevidence, or avoid elementary logical errors? Could a person be intellectually virtuous and lack competences of this sort?

Here it is worth comparing (1) the relationship between intellectual virtues and the kind of RA competences just noted with (2)

¹⁰ We might expect an intellectually virtuous person to exhibit some sensitivity to at least some of these norms. The point is that such a person needn’t have explicit, propositional knowledge of them.

the relationship between intellectual virtues and cognitive faculties like vision, memory, and introspection. As I've argued elsewhere (Baehr 2015b), intellectual virtues manifest in the *use* or *operation* of these faculties. We *look* carefully and attentively; persevere in an effort to *recall* some bit of information; and *introspect* with honesty and humility. Indeed, it is difficult if not impossible to imagine a person who possesses a significant level of intellectual virtue without at least some of these or related cognitive faculties. In this sense, intellectual virtues are "parasitic" and depend for their operation on the possession of cognitive faculties. More precisely, their operation is partly *constituted* by the operation of these faculties.

Similarly, intellectual virtues can and often do manifest in the use of RA competences, whether broad or narrow. In an exercise of intellectual *carefulness*, a person might avoid denying the antecedent. In exercise of intellectual *autonomy* or *tenacity*, they might stick with and be able to follow a complex and unexpected line of reasoning. Intellectual *humility* and *courage* might enable a person to see and accept that a cherished theory has been refuted by a proposed counterexample. Here as well it is difficult if not impossible to imagine someone who possesses a wide range of intellectual virtues without possessing and exercising a rather wide range of RA competences. How could such a person have or exercise good *judgment* concerning their virtue-specific abilities? And how could they act or think accordingly, that is, how could they engage in the kind of intellectual activity characteristic of intellectual virtues in the right way, at the right time, and so on? The picture that is emerging suggests that a person will possess RA competences more or less in proportion to their level of intellectual virtue.¹¹

A remaining question is whether a person who is *fully* or *maximally* intellectually virtuous might nevertheless lack some RA competences. Once again, the answer to this question depends in part on what exactly counts as an RA competence. It also depends on what it would mean for a person to possess, say, the full range

¹¹ This is even more likely if, as noted above, we accept a wide view of RA competences according to which their operation is co-extensive with something like rational intellectual activity.

of intellectual virtues and to possess these virtues to a full or maximal extent or degree. I won't attempt to answer these questions in the limited space I have here. Nor do I find them especially pressing. The more important point, for the purposes of this paper, is that there is a very substantial overlap or intersection between intellectual virtues and RA competences. Specifically, the judgment and competence dimensions of an intellectual virtue are partly constituted by RA competences.

Thus, to return to our initial question, we have arrived at the conclusion that a person cannot be intellectually virtuous while failing to be a critical thinker. Again, intellectual virtues appear to be sufficient for much if not all of the CS components of critical thinking, and they involve the possession and operation of at least a good many elements or aspects of the RA component. There is, then, substantial overlap between intellectual virtue and critical thinking.

2.2 *Critical thinking without intellectual virtue?*

Now let us consider the converse question: namely, can a person be a critical thinker without being intellectually virtuous? Once again, it will be helpful to divide the question in two.

First, can a person possess the CS component of critical thinking while failing to be intellectually virtuous? On the face of it, it looks like the answer is no. Again, Siegel (1988) suggests that the CS component involves characteristics like impartiality, objectivity, and intellectual honesty. However, this conclusion would be hasty. According to Siegel, a person can instantiate the CS but be an *incompetent* reasoner:

These attitudes, dispositions, and character traits can be manifested or exercised well or badly from the epistemic point of view ... For example, I can be disposed to seek reasons and evidence but be bad at finding them; I can try my best to conform belief, judgment, and action to epistemic principle but be unsuccessful at so conforming them; I can strive to assess reasons in accordance with appropriate epistemic criteria but have only the dimmest grasp of the relevant criteria and their application and so evaluate the strengths of proffered reasons badly (2016, p. 97).

As I understand Siegel's view, the primary function of the CS component of critical thinking is to supply the *motivation* or *inclination* to deploy the kinds of skills and abilities that constitute the RA component of critical thinking. A person can have strong RA abilities but not care about using them. The CS component bridges this gap, supplying the requisite motivation. Accordingly, a person might possess (try to possess?) the kind of objectivity or intellectual honesty that is part of the CS but be incompetent or unsuccessful in their exercise of these qualities. If so, the person would lack the *virtues* of objectivity and intellectual honesty. For, again, we've seen that to possess either of these virtues, one's exercise of their characteristic competences must be skilled or rationally competent. Therefore, possessing the CS does not guarantee that the possessor has a significant level of intellectual virtue.

A more important question is whether a person could instantiate the RA component of critical thinking without being intellectually virtuous. There is at least one obvious way in which this might occur, namely, the person might have a broad range of RA abilities but lack the motivation to use them (they might instantiate the RA but not the CS component of critical thinking). Thus, a more interesting question is: can a person possess the CS *and* RA components of critical thinking without being intellectually virtuous? There are, it seems, a couple of ways in which this might occur.

First, as noted above, virtue epistemologists have tended to characterize intellectual virtues as involving an element of intrinsic epistemic motivation, the idea being that part of why intellectual virtues reflect well on who we are as persons is that they involve caring about certain epistemic goods as such. A person who is habitually careful, thorough, and tenacious in their thinking for the sole purpose of winning a Nobel Prize or appearing smarter than their peers wouldn't be intellectually virtuous according to this way of thinking. However, it isn't clear to me whether such a person necessarily would be deficient from the standpoint of critical thinking. This depends, it seems, on whether the CS component of critical thinking involves an element of intrinsic epistemic motivation. I won't pursue this issue any further here.

Second, depending on how broadly we understand the scope of critical thinking or 'reason assessment,' it may be possible for a

person to instantiate both the CS and RA components of critical thinking while still being significantly deficient in intellectual virtue. Again, the activity characteristic of intellectual virtues goes considerably beyond that of assessing reasons. It involves imaginative operations like conceiving of hypotheses or explanations and entering into foreign or alternative worlds or perspectives. It also involves wondering, contemplating, observing, introspecting, and remembering, all of which can and often are either prior or subsequent to rational assessment and evaluation. Of course, if, contrary to the label, we're to understand 'reason assessment' as coextensive with something like 'rational intellectual activity,' then it may be that anyone who instantiates the CS and RA components of critical thinking will be broadly intellectually virtuous. Once again I'll leave this question open.

To summarize, we've found that intellectual virtue is likely to be sufficient for the CS component of critical thinking and that it substantially intersects or overlaps with the RA component. We've also found that the CS component of critical thinking is evidently insufficient for the possession of intellectual virtue and that the combination of the CS and RA components substantially overlaps with but may have a narrower scope than intellectual virtue. This is further confirmation of the deep and substantial overlap between intellectual virtue and critical thinking.

3. Intellectual virtue, critical thinking, and effective pedagogy

In a recent paper, Ben Kotzee, Adam Carter, and Harvey Siegel (2021) argue that an IV approach to education lacks a suitably action-guiding pedagogy compared with a CT approach. There is much in this paper that I cannot address in the balance of the present one. But I do want to briefly examine and respond to the authors' main argument against an IV approach and call into question whether a CT approach fares much better relative to their concerns.

First, what exactly do Kotzee et al. (2021) mean by an IV approach? According to their characterization, this approach turns on the idea that "we should reconceive the primary epistemic aim of all education as the inculcation of the intellectual virtues" (p. 177)

and that when this aim conflicts with other educational aims, “the intellectual virtue aim should be prioritized” (p. 179).¹² I offer a quick word about this characterization before moving on to consider the authors’ argument against an IV approach.

Understood in the suggested way, even the enthusiastic applied virtue epistemologist should be wary of an IV approach. Minimally, there are *other* educational aims that seem no less important than intellectual virtue formation, even for someone who thinks such formation should be conceived of as a fundamental educational aim. Most obvious here are the kinds of disciplinary knowledge and intellectual skills noted at the outset of the paper. Suppose it were possible to inculcate intellectual virtues in students without equipping them with any knowledge of math, science, literature, history, or other perennial academic subjects or that it were possible to do so while worrying very little about their ability to read and write. Surely this wouldn’t amount to an adequate education, even if the students in question emerged with a host of intellectual virtues.

It is also implausible to think that a concern with intellectual virtue should always and everywhere outrank a concern with these other important educational aims. A weaker position, one that most who have written in defense of educating for intellectual virtues would or have defended, is that intellectual virtue formation is a *further* central and fundamental educational aim—an aim on par with, not necessarily outranking or overriding, the aim of imparting knowledge and skills.¹³

3.1 Against an IV approach

How, then, do Kotzee, Carter, and Siegel (2021) argue against an IV approach? The gist of their argument is as follows:

¹² They go on to offer a more complex and even stronger characterization of this approach (Kotzee, Carter, and Siegel 2021, p. 180). However, what I hope to show is that even this weaker characterization is too strong, at least if it’s meant to describe an educational approach that some virtue epistemologists have actually defended.

¹³ This is the position I’ve defended in several places, including Baehr (2013) and (2021).

- (1) An IV approach is committed to a broadly Aristotelian framework regarding the development of intellectual virtues.
- (2) According to this framework, intellectual virtues are acquired primarily through practice (i.e., by practicing the activities characteristic of intellectual virtues).
- (3) The only way teachers can provide students with opportunities to practice intellectual virtues is by modeling and exposing them to exemplars of intellectual virtue.
- (4) The practices of modeling and exposing students to exemplars of intellectual virtue fail to provide significant guidance concerning how students should actually think.
- (5) Therefore, an IV approach lacks an effective pedagogy.

In my evaluation of this argument, I'm going to focus mostly on premises (3) and (4). However, some brief clarificatory remarks about the other two premises are in order.

According to one interpretation of premise (1), it claims that proponents of an IV approach are stuck with an Aristotelian framework regarding the development of intellectual virtues. Here the idea would be that because proponents of this approach model their view of what intellectual virtues are on an Aristotelian view of moral virtue, they must also accept a corresponding view of how intellectual virtues are developed. This interpretation is suggested by remarks like the following: "Modelling their conception of the intellectual virtues on Aristotle's moral virtues also *has implications* for how contemporary virtue epistemologists conceive of the acquisition of the intellectual virtues" (Kotzee et al. 2021, p. 184; my emphasis).

If this is how premise (1) is to be understood, it's clearly problematic. Why should a proponent of an IV approach who thinks Aristotle's account of moral virtue suggests a plausible way of understanding the *nature* of intellectual virtue have to accept or even find especially plausible Aristotle's view of how virtues are *developed*? The former is a conceptual matter while the latter is an empirical one. While how a virtue can be developed or fostered is likely to depend to some extent on what the virtue is like, there's no reason someone couldn't accept an Aristotle-inspired view of

the nature of intellectual virtues while thinking that Aristotle's view of how virtues are acquired is importantly incomplete or even misguided.

According to a different understanding of premise (1), the point is merely that proponents of an IV approach *have in fact* subscribed to an Aristotelian framework regarding the development of intellectual virtues.¹⁴ While this gloss avoids the conflation just noted, it also weakens the overall argument against an IV approach. It leaves open the possibility that while proponents of this approach have tended to embrace an Aristotelian framework, they may proceed to revise or even reject this framework, which in turn might provide them with resources for overcoming the worry about an ineffective pedagogy. The argument targets certain purported limitations of an Aristotelian framework regarding the development or formation of intellectual virtues; but if proponents of an IV approach needn't accept or limit themselves to this framework, this opens up the possibility that they may subscribe to a different framework, one that is free of the purported limitations.

A brief remark about premise (2) is also in order. This premise stipulates that on an Aristotelian framework, intellectual virtues are acquired primarily through "practice." This premise gives expression to the familiar Aristotelian claim that "[w]e become builders by building, and lyre-players by playing the lyre. So too we become just by doing just actions, temperate by temperate actions, and courageous by courageous actions" (*NE*, Bk. II, Ch. 1). While I think this may be an overly simplistic way to understand Aristotle's own view, and certainly an oversimplification of the form a "broadly Aristotelian" framework might take, we needn't worry about this here.

3.2 In defense of an IV approach

I turn now to defending IV approaches against Kotzee et al.'s (2021) argument, starting with premise (3) of my reconstruction, which says that the only way teachers can provide students with

¹⁴ As a factual claim, this may be roughly accurate, given a wide view of what might count as an "Aristotelian" framework. Even relative to this wide conception there are exceptions (e.g., Porter 2016).

opportunities to practice intellectual virtues is by modeling and exposing students to exemplars of these virtues. As the ‘only’ indicates, this is a strong claim. Yet its strength is essential to the overall force of the argument. For, if there are other ways teachers can provide students with opportunities to practice intellectual virtues, it may be difficult to establish the conclusion that an IV approach lacks a sufficiently action-guiding pedagogy. In any case, the following remarks illustrate the authors’ commitment to this premise:

A teacher can make clear what the virtuous thing to do is *only* by holding up an example of a virtuous action and encouraging young people to copy that example in practicing how to be virtuous (Kotzee et al. 2021, p. 184, my emphasis).

[W]hile one can teach about the intellectual virtues, one cannot directly teach for the intellectual virtues. *The best we can do* is to hold up the right example and get students to practice to become like that example through imitation (*ibid.*, p. 187, my emphasis).

[A]dvocates of the IV approach deny that there can be a set of rules or procedures for teaching intellectual virtue. In so doing, they all but deny that there can really be a step-by-step guide for teaching good thinking – *all that there can be are numerous good examples* (*ibid.*, pp. 194-195, my emphasis).

So, why do Kotzee, Carter, and Siegel (2021) think the only way teachers can give their students opportunities to practice intellectual virtues is by modeling intellectual virtues and exposing their students to intellectually virtuous exemplars? Their reasoning appears to be that the only real *alternative* to doing so would be to issue virtue-directives along the lines of “think virtuously” and that such directives are non-specific and therefore unlikely to be very helpful to students who are looking to know what or how they should think (Kotzee et al. 2021, pp. 187-188). They remark: “Just like moral virtue struggles to provide concrete action guidance, the injunction ‘act like an intellectually virtuous person would’ does not provide concrete guidance regarding how to think in an intellectual dilemma situation either” (*ibid.*, p. 190).

There are several problems with this premise. First, the reasoning behind it is suspect. In particular, Kotzee et al. (2021) undersell the idea that teachers can elicit intellectually virtuous thinking by direct encouragement. Surely those of us who want our students to engage with the subject matter or with each other in intellectually virtuous ways can do better than say, simply, “Engage the subject matter virtuously” or “Discuss these topics like intellectually virtuous persons would.” Instead, we can use language that is much more fine-grained and concrete. If my students and I are approaching a complicated argument, I might say to them, “I’d like you to try to think very carefully about the meaning of each premise and whether it supports or is supported by the premises that come before and after it. Some of these connections are easy to miss.” Or if I’m seeking to generate a classroom discussion of a big question, I might say, “This is an opportunity to practice intellectual courage, to take an intellectual risk by sharing your perspective with your peers. It’s also an opportunity to just sit back and wonder.” Or, if I get the sense that my students are struggling but are reluctant to ask for help, I might say, “It’s very important to identify what you don’t understand and to ask for clarification since the next unit of the course builds on the present one.” Such directives encourage students to practice virtues like intellectual carefulness, attentiveness, courage, curiosity, and humility. And they’re quite specific. It’s very unlikely that, in response to these encouragements, my students will be mystified about what they’re being asked to do or the kind of thinking they’re being asked to engage in.¹⁵

There are, in fact, many additional ways, aside from issuing virtue-specific directives or modeling or upholding exemplars of intellectual virtue, in which teachers can provide their students with meaningful and realistic opportunities to practice and develop the virtues of good thinking. One widely discussed example is

¹⁵ Of course, if they don’t know what a premise is or what it is for one premise to support another, or if they’re incapable of forming an opinion or asking a question, or don’t know what would count as a gap in their knowledge, these directives won’t be very helpful. While unlikely, this does point to the independent importance of direct instruction in logic and critical thinking. More on this below.

‘thinking routines,’ which are carefully structured and easily repeatable protocols that can be used across subject matters to elicit the practice of intellectual virtues (Ritchhart et al. 2011; Ritchhart and Church 2020). Routines like ‘circle of viewpoints,’ ‘what makes you say that?’ and ‘see think wonder’ provide students with frequent opportunities to practice virtues like open-mindedness, curiosity, intellectual humility, carefulness, thoroughness, and curiosity. When properly used, thinking routines involve thoughtful scaffolding by the teacher, who also provides students with substantive and constructive feedback on their thinking. Moreover, thinking routines have a ‘low floor’ and ‘high ceiling,’ meaning that, while they create opportunities for quite sophisticated forms of thinking, their basic structure and demands are such that most if not all students can participate meaningfully in them. Here again, it is very unlikely that students will find themselves confused or bewildered about how to think or proceed.

Another widely discussed approach involves teaching for deep understanding, that is, using curricular and pedagogical practices that elicit the pursuit and demonstration of a complex, explanatory understanding of the subject matter (Leithwood et al. 2006; Wiggins and McTighe 2005; Perkins 1993; and Wiske 1998). This approach is importantly connected with intellectual virtues because deep understanding is something that must be *pursued* and *achieved*; it can’t be passively absorbed or received. This, in turn, means that to acquire or demonstrate the relevant grasp of the material, students must engage in activities characteristic of several intellectual virtues, such as asking thoughtful questions (curiosity), considering alternative perspectives (open-mindedness), making connections between ideas (thoroughness), identifying what one doesn’t understand (humility), avoiding careless errors (carefulness), and persisting in the face of intellectual struggle (tenacity). Thus, teaching for deep understanding involves a host of curricular and pedagogical resources and tools that offer students concrete, specific, and well-supported opportunities to practice and grow in intellectual virtues (Baehr 2021, Ch. 7).

These and related pedagogical practices can be supplemented by other, less direct practices, such as introducing students to the nature and value of intellectual virtues (Baehr 2021: Ch. 5),

providing them with opportunities to reflect on and form a ‘mental map’ of their own intellectual character strengths and limitations (Baehr 2021, Ch. 6), and creating a classroom culture or ethos conducive to deep thinking and intellectual exploration (Ritchhart 2015, 2002, Ch. 7). If students have had an opportunity to learn about intellectual virtues and their importance across a wide range of domains (from school to work to friendship), and if they’ve begun to map the terrain of their own intellectual character, then when directed to practice a particular virtue, engage in a thinking routine, or demonstrate a firm understanding of a particular concept, they’ll likely have a better idea of how to conduct their thinking and will be more motivated to do so. A similar point applies to classrooms with an established “culture of thinking,” that is, a classroom culture or ethos marked by norms, expectations, routines, language, and interpersonal relationships conducive to good thinking (Ritchhart 2015; Tishman et al. 1995).

Much more could be said about ways of providing students with well-supported opportunities to practice intellectual virtues—ways that go beyond modeling or exposing students to exemplars of these virtues. Indeed, the foregoing examples are drawn from a substantial body of practitioner-oriented research and literature on this topic that dates as far back as the 1980s. Key authors include David Perkins, Shari Tishman, and especially Ron Ritchhart, all of whom have done extensive work on how to educate for “thinking dispositions” at the Harvard Graduate School’s Project Zero research institute. This is in addition to significant literature on teaching for deep understanding and so-called “habits of mind” (Costa and Kallick 2008, 2009). These materials place, at best, a very minor emphasis on exposing students to exemplars of intellectual virtue. And while they do underscore the importance of modeling intellectual virtues, this is but one of a suite of practices and interventions they commend. Moreover, these materials are extremely practical and concrete. They provide students with specific guidance on how to think and learn. I conclude that premise (3), which again says that the only way teachers can provide students with opportunities to practice intellectual virtues is by modeling and exposing students to exemplars of intellectual virtue, is wide of the mark.

I turn, finally, to a discussion of premise (4), which asserts that modeling and exposing students to exemplars of intellectual virtue fails to provide students with sufficient guidance concerning how to think well. This premise is not without some plausibility. Suppose I want my students to practice virtues like curiosity, open-mindedness, and intellectual thoroughness in our exploration of a new topic, concept, or unit. And suppose the way I go about encouraging this practice is by exposing them to various historical and literary exemplars of the virtues in question, adding, for good measure, that in our exploration of the new topic, I'd like them to think and act *like that*. There may be a large gap between the intellectual character of these exemplars and the intellectual character of my students. Further, the context in which the exemplars apply or exercise their virtues may be quite remote from the contexts in which my students find themselves. In either case, exposing my students to virtuous exemplars may provide them with limited guidance concerning their own practice of the relevant intellectual virtues.

That said, it's not clear to me that the same worry applies, or applies to nearly the same extent, to a teacher's *modeling* of intellectual virtues. For one thing, such modeling, if done well, will be relevant to the students' immediate context or focus. If my aim is to help my students practice intellectual carefulness in evaluating a philosophical argument, I can model a very near if not exact approximation of the kind of activity I'm asking them to practice. Or, if I want my students to practice pausing, stepping back, and puzzling about a philosophical idea or claim, I can do exactly this in their presence. To be sure, my practice of these virtues may not look exactly like theirs. I may be capable of a kind of carefulness or curiosity that they can't yet manage. Nonetheless, with the appropriate forethought and scaffolding, I should be able model these and other virtues in ways that are similar enough to what my students can manage to provide them with some useful guidance.

Indeed, I doubt I'm unique on account of having learned a great deal about how to engage in the practices of my own discipline (philosophy) by watching and listening to how some of my best teachers thought and behaved: how they wondered, the questions they asked, the careful distinctions they drew, how they perceived

connections between ideas, the rigor and care with which they evaluated arguments, and so on. Learning from their example wasn't, of course, sufficient for expertise in my discipline, but it did play a major role in showing me *how* and *inspiring* me to do philosophy. As educational psychologist Lev Vygotsky remarked, "Human learning presupposes a specific social nature and a process by which children grow into the intellectual life of those around them" (1978, p. 88). While this isn't strictly a matter of the intellectual character of the surrounding parties, surely this is at least part of what children imbibe, which in turn makes a difference to the quality of their thinking.

As this response suggests, whatever force the "action-guiding objection" might have in the context of virtue ethics, its traction is limited vis-à-vis an IV approach to education. In discussions of virtue ethics, the objection is typically directed at a virtue-based analysis of right action, that is, at the claim that the rightness or wrongness of an action is fixed or determined by what a morally virtuous person would do in the situation (Hursthouse 1999, Ch. 1). Here, the concept of virtue is taken to be more basic or fundamental than the concept of right action. Thus, if we accept that an analysis of right action should provide moral agents with precise guidance concerning how they should behave in a given situation, the worry is that guidance along the lines of "You should do what a morally virtuous person would do in the situation" falls short of this standard.

An analogous view in epistemology would be a virtue-based account of knowledge or epistemic justification, for example, the view that a person is justified in believing a given claim if and only if an intellectually virtuous person would believe it. Thus, if someone were to ask in a particular situation, "What should I believe?" the answer would be: "You should believe what an intellectually virtuous person would believe in your situation." To be sure, this is less than helpful advice. However, a proponent of an IV approach needn't (and arguably shouldn't) accept the underlying view. Indeed, I think the view gets the conceptual ordering backwards (Baehr 2011, Ch. 3). Intellectual virtues equip us, at a characterological level, to satisfy the demands that epistemic rationality or justification make on our intellectual activity—

demands the conceptual basis of which are *independent* of what an intellectually virtuous person might think or believe. No part of an IV approach requires thinking otherwise. It shouldn't be too surprising, then, that the "action-guiding objection" has minimal traction vis-à-vis this approach.

The limitations of the objection can also be drawn out in another way. Suppose a teacher wants to help one of their students "think well" in a particular situation. What kind of assistance or direction might the student need? It could be that what the student needs is knowledge of the applicable rules of inference or other evaluative criteria. Or it could be that the student needs some other kind of technical information, such as how to solve a mathematical equation or interpret a poem. In cases like this, appropriate guidance from the teacher is likely to take the form of direct instruction concerning the relevant rules or techniques: "reason according to this principle," "avoid reasoning in this way," "solve the equation using these steps," and so on. Telling the student to "think courageously" or "reason openly" is likely to be of little use in this context.

However, suppose the student already possesses the logical or technical knowledge in question. Suppose they also have the corresponding technical abilities, that is, they are (at least in principle) capable of thinking in the relevant ways. In cases of this sort, the teacher's concern may be with how the student *uses* the knowledge and abilities they already possess. The teacher might see that, to reason well in this situation, the student is going to have to think independently, reason with great caution, or be willing to take an intellectual risk. It is in cases like these—cases in which good reasoning makes significant *agential* demands—that the teacher will rightly issue directives related to virtues like intellectual autonomy, carefulness, and courage. If well-chosen, these directives will provide the student with the kind of concrete and actionable information they need in order to think well.

Two points are worth highlighting in light of this discussion. First, building on the critique of premise (3) above, the discussion helps clarify that and how virtue-directives can be action-guiding. Again, where "thinking well" in a given case makes agential or characterological demands on students, their teachers will be well-

advised to instruct them on how to practice the relevant virtues. This instruction may come in the form of virtue-specific directives of a finer or coarser grain.¹⁶ Second, the discussion also makes clear that virtue-directives aren't a substitute for other kinds of directives or instruction. If a student lacks knowledge of applicable logical principles or the steps required to solve a particular kind of problem, direct instruction in those principles or steps may be what is called for. This underscores the point, which I'll return to below, that teaching for intellectual virtues isn't in opposition to teaching for critical thinking. Rather, the two approaches are importantly complementary.

3.3 Is a CT approach better off?

In this final section, I address a further claim in Kotzee et al.'s (2021) argument. They contend that a CT approach is exempt from the concerns they raise against an IV approach: "The Critical Thinking (CT) approach does what we've claimed the IV approach does not: it teaches students what critical thinking is, why it is good (and why uncritical thinking is bad), and how to think critically" (Kotzee et al. 2021, p. 191). In response to this claim, I offer two concessions and two points of caution.

First, I agree that it is worth teaching students "what critical thinking is" and "why it is good." As an epistemologist who regularly teaches logic, and for reasons indicated above, I think there is considerable value in helping students understand the principles of good reasoning, logical fallacies, the structure of epistemic justification, and so on. I also think that it is not especially difficult to transmit this knowledge: it can be taught like any other subject matter.

Second, I agree that it is also worthwhile trying to equip students with the kinds of *skills* and *abilities* typically taught in for-

¹⁶ Sometimes a relatively course-grained directive like "reason carefully" or "look attentively" may be sufficient. In other situations, a more fine-grained directive may be called for; for example, in an effort to help students practice virtues like intellectual humility and open-mindedness, a teacher might say, "I'd like you to consider the limitations of your evidence concerning this issue" or "spend some time thinking about why or how an intelligent and informed person might disagree with you."

mal and informal logic courses. Again, teaching for intellectual virtues is hardly a substitute for this. Indeed, formal and informal logic courses can be an excellent setting in which to try to nurture students' growth in intellectual virtues. Incorporating an emphasis on intellectual character formation can be a way of "humanizing" the curriculum. It can be a way of conveying to students that the purpose of these courses isn't merely to equip them with knowledge and skills, but also to have an impact on *who they are* as thinkers and learners and to help them cultivate "habits of mind" that can motivate and guide their use of the knowledge and skills on offer.¹⁷ In any case, once again, a concern with teaching for intellectual virtues doesn't negate or make obsolete a concern with teaching for critical thinking. The latter emphasizes important knowledge and skills from which all students can benefit.

Now for the cautionary notes, the first of which is that at least one of the strengths of a CT approach just noted isn't unique to that approach. Specifically, we can 'teach students what *intellectual virtues* are' and 'why they are good (and why intellectual vices are bad)' just as easily as we can teach them what critical thinking is and why it matters. All of this is a matter of direct instruction. Thus, a CT approach doesn't appear to have a leg up on an IV approach in this respect.

Kotzee et al. (2021) also assert that we can teach students how to think critically without running into any of the problems they think plague an IV approach. This claim is ambiguous. I agree that a logic or critical thinking instructor can lay out in precise detail various rules and principles that capture the formal or informal structure of good reasoning. They can also explain to students how to use these rules to assess the cogency of an argument. All of this can be done, let's assume, without running into the kinds of worries that Kotzee et al. raise for an IV approach.

But this is, at best, a very minor point in favor of a CT approach. Knowledge *about* valid inference rules, the basic structure of good reasoning, or even the steps someone might take to evaluate an argument hardly constitutes a very rich or impressive educational aim. While transmitting such knowledge may be an easy

¹⁷ For a recent logic text that takes this approach, see Byerly 2017.

win for the logic or critical thinking instructor, it is of limited significance. In any case, I take it that most proponents of a CT approach set their sights on considerably larger game. As Siegel (1988) makes clear, the aim of this approach is, at a minimum, also to equip students with the *abilities or competences* required for putting this knowledge to use. The aim isn't merely to teach students about competent reasoning; it is to form them into competent *reasoners*. And not just that: it's also to nurture in them the "critical spirit," which again involves a host of "attitudes, dispositions, habits of mind, and character traits" (Siegel 1988, p. 39).

Considered in this way, a CT approach appears to be in largely the same boat as an IV approach. When teaching a unit in statement logic, I can lay out in crystal clear detail the rules of valid reasoning and an exact procedure for using these rules to complete a successful proof. However, except in rare cases (and there will be rare cases on both sides the present divide), this will be insufficient for fostering the corresponding rational competences. To cultivate these competences, my students will need to *practice* them repeatedly. To that end, I'll assign them lengthy problem sets for homework. In class, I'll create further opportunities for them to practice these competences so that I can offer the necessary scaffolding and feedback. When introducing a new inference rule, I'll give them directives concerning when and how to use it. Importantly, I will also *model* when and how to use these abilities. And I'll do so repeatedly, explaining my technique as I go along. As this makes clear, once we take seriously the idea that educating for critical thinking isn't just a matter of teaching students *about* good reasoning, that it also involves equipping them with rational skills and abilities, the relative simplicity and ease with which the aims of critical thinking can be accomplished begin to diminish. The pedagogical approach begins to bear a striking resemblance to that of an IV approach.

Then there's the CS component of critical thinking. We'd hardly consider ourselves successful as teachers if our students acquired knowledge about good reasoning, and even gained the corresponding rational *abilities*, but remained *unmotivated* to put these things into practice. Hence the indispensability of the CS component. Here again, in light of the robustly psychological and

motivational nature of the various elements of the CS, the challenges facing a practitioner of a CT approach don't appear dramatically different from those facing a practitioner of an IV approach. Indeed, given the potential motivational effects of exposure to exemplars, critical thinking instructors interested in teaching their students to *care* about “such aspects of critical thinking as intellectual honesty, justice to evidence, sympathetic and impartial considerations of interests, objectivity, and impartiality” (Siegel 1988, p. 39) may even see fit to draw on exemplarist pedagogical methods.

I close by noting a dilemma for proponents of a CT approach. Kotzee et al. (2021) claim that the pedagogy proper to a CT approach is simple, straightforward, and more likely to be effective as compared with that of an IV approach. What we've seen, however, is that this is true only given a rather thin and weak conception of the *aims* of a CT approach. Thus, what a CT approach gains in terms of simplicity and pedagogical effectiveness it loses in terms of providing a robust educational aim. Accordingly, a better move for proponents of a CT approach is to adopt a richer and more complex account of its aim and to reckon with the pedagogical questions and challenges that come with trying to educate not merely for knowledge about critical thinking, but also for critical thinking abilities and the motivational and other psychological qualities that underly the effective and reliable use of these abilities. In taking this second approach, they may find, in proponents of an IV approach, some helpful and stimulating allies and interlocutors.

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