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## VIRTUE RESPONSIBILISM, MINDWARE, AND EDUCATION

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Understanding and counteracting the negative effects of biased cognition currently represents a major challenge for psychologists and philosophers interested in how human beings think. In his paper, Steven Bland sheds light on the complexity of the challenge and offers an insightful ameliorative approach to handling the problem of cognitive biases from a virtue-theoretic perspective, concluding with a focus on the educational strategies that can help students acknowledge and counter the effects of biased cognition.

Biased cognition is an obvious source of epistemic vice, but there is some controversy about whether cognitive biases generate reliabilist or responsibilist epistemic vices. Bland's argument, in a nutshell, is that since the development of cognitive biases is due to the interplay of internal psychological processes and external (i.e., environmental) conditions, it cannot be expected that a solution to the problem tackles only one of these dimensions. According to Bland, the most promising way to counteract our proneness to biased cognition involves a *coordinated* approach that divides the epistemic labour between *inside* strategies, which mitigate the effects of reliabilist epistemic vices by implementing better reasoning processes, and *outside* strategies, which mitigate the effects of responsibilist epistemic vices by modifying the environment where biasing vices proliferate.

We argue that the complex architecture on which Bland's coordinated approach is grounded appears to lose some stability once we analyze more closely its pillars. We shall concentrate our attention on the notion of reliabilist and responsibilist epistemic virtues that the approach should foster as well as on the educational implications of Bland's view.

Consider first Bland's account of reliabilist epistemic virtues, according to which they are easier to cultivate (and more stable) than traditional responsibilist epistemic virtues. While this might be true of reliabilist epistemic virtues in general, it is not clear that these features apply to the reliabilist

epistemic virtue that does much of the work on Bland's view, namely *sound mindware*. Mindware works like a cognitive faculty and is in charge of our logical inferential capacities, statistical reasoning, and experimentation. Mindware counts as epistemically virtuous to the extent that it reliably produces accurate beliefs, but its acquisition and deployment are not as immediate and easy as our perceptual faculties and memory. If it is true that mindware can be trained internally through instruction and exercise, then it also involves a complex and varied set of competences, which presumably require time to be acquired and refined, much like the responsibilist epistemic virtues we can deploy to counter biased cognition.

Furthermore, as Bland notes, for mindware to work effectively it is also necessary that the individual be aptly disposed and motivated to correct their posture toward their own reasoning processes. Besides marking a further difference between mindware and standard reliabilist epistemic virtues, this feature suggests that the acquisition of good mindware depends on the possession and correct deployment of responsibilist cognitive traits, which require instruction and habituation. Thus, it is far from clear that the key reliabilist epistemic virtue in Bland's view has an advantage over responsibilist epistemic virtues as regards how easy it is to cultivate the trait.

A further concern with the notion of sound mindware has to do with the responsibility that Bland associates to its correct deployment. Bland seems to think that through instruction and habituation one can learn how to reason in a way that mitigates one's proneness to cognitive biases and this, in turn, makes one responsible for failing to do so in the relevant situations. It strikes us as odd to concede that one can be held responsible for exercising (or failing to exercise) sound mindware. If responsibilist cognitive traits provide the necessary motivation for one to be aptly disposed towards discriminately exercising one's inferential capacities that form part of one's mindware, then the attribution of responsibility should target the enabling and motivating traits rather than the reliable ability (the sound mindware) itself.

Consider now the educational implications of Bland's approach. For Bland, the problem with standard epistemic virtue-based educational accounts is that they aim at fostering responsibilist epistemic virtues and thus appeal to internalist and individualistic strategies, which appear unable to counter biased cognition directly. The educational reform suggested by Bland is that epistemic virtue-based approaches include specific strategies of *cognitive outsourcing*. More specifically, these should be strategies that outsource the cognitive abilities through which students process available information. These strategies include helping students acknowledge the difficulties of personal debiasing (and the relevance of situational and environmental interventions in this regard), and highlighting the pros and cons of collective deliberation over individual deliberation as a way to counter biased cognition.

Our concern with this proposal is that it is unclear that such cognitive outsourcing strategies involve any great departure from what an educational approach centered on responsibilist epistemic

virtues would demand. For wouldn't the development of the responsibilist epistemic virtues in this educational context naturally go hand-in-hand with the cultivation of the kinds of strategies that Bland casts as 'cognitive outsourcing'? Think, for example, of how the development of a responsibilist epistemic virtue like intellectual humility might dovetail with making individuals more aware of situations in which relying on their individual cognitive resources could be especially problematic. In short, it seems that what Bland is describing is less a critique of the educational role of standard responsibilist epistemic virtues than a credible description of what such a role should look like once fleshed out in a way that is suitably responsive to relevant empirical work on the amelioration of cognitive bias.<sup>1</sup>

## REFERENCES

- Orona, G. A., & Pritchard, D. H. (*Forthcoming*). 'Inculcating Curiosity: Pilot Results of an Online Module to Enhance Undergraduate Intellectual Virtue', *Assessment & Evaluation in Higher Education*.

## NOTES

<sup>1</sup> As a concrete example of this point, consider the *Anteater Virtues* curriculum project at the University of California, Irvine, which is run by one of the present authors (DHP). This project is devoted to educating for the intellectual virtues, and thus for the responsibilist epistemic virtues, but it also includes, as part of this, practical guidance on how, for example, social media misinformation plays on one's cognitive biases, and how to guard against this. For a recent educational study of this project, see Orona & Pritchard (*forthcoming*).