## THE PHILOSOPHER'S CORNER MASSIMO PIGLIUCCI

Massimo Pigliucci is the K.D. Irani Professor of Philosophy at the City College of New York. His academic work is in evolutionary biology, philosophy of science, the nature of pseudoscience, and practical philosophy. His books include *Nonsense on Stilts: How to Tell Science from Bunk* and *Philosophy of Pseudoscience* (coedited with Maarten Boudry). More by him at http://newstoicism.org/.

## Feng Shui, Demarcation, and Virtue Epistemology



eng shui means "wind" and "water." The goal of feng shui is to obtain water and store the wind, but it's unclear what exactly that means. A place with good feng shui supposedly brings good luck, while one with bad feng shui brings bad luck. The practice depends on the underlying concept of qi, a kind of vital force fundamental in Chinese philosophy, treated as the basic constituent of the universe. Sindhuja Bhakthavatsalam and Weimin Sun (2021), in a paper published in Science & Education, used feng shui to introduce readers to the concept of virtue epistemology as a different way to look at the infamous demarcation problem, the quest for what differentiates science from pseudoscience.

One current way to think about pseudoscience is that it is a "doctrine whose major proponents try to create the impression that it represents the most reliable knowledge on its subject matter" (Hansson 2013). While standard approaches to demarcation attempt to uncover universal criteria that distinguish science from pseudoscience, there is another way to go about it: turn the focus on the epistemic agent, the practitioner of pseudoscience. The goal

of this approach, often referred to as virtue epistemology, is to improve epistemic conduct, our own as well as that of others. We do so by paying attention not so much to whether a given notion is right or wrong but to whether the agent has acted virtuously or viciously when arriving at (and defending) that particular notion.

Back to feng shui for a moment. Bhakthavatsalam and Sun argue that both providers and consumers of feng shui engage in epistemic vices. For instance, it's a well-established fact that there is no agreement among providers about the actual practice, with different "masters" giving contrasting advice under similar conditions. One would think that this should worry the practitioners just as much as the consumers. Yes, there is no attempt within the field to arrive at a consensus, a good example of the vice of intellectual isolationism, or lack of willingness to engage with others, including one's own (alleged) peers.

As Bhakthavatsalam and Sun put it:

Maintaining strong ontological or even empirical commitments to concepts not rooted in any kind of empirical support clearly shows lack of reasoning, intellectual dogmatism, laziness, indifference, obtuseness, or some combination of these. ... The majority of these people lacks key epistemic virtues such as curiosity, open-mindedness, and impartiality. They often exhibit epistemic vices such as gullibility, overly relying on (questionable) authority, and being carried away by bias and prejudice. (Bhakthavatsalam and Sun 2021, 1440)

Or consider this description by Quassim Cassam of a typical conspiracy theorist: "He ignores critical evidence because he is grossly negligent, he relies on untrustworthy sources because he is gullible, he jumps to conclusions because he is lazy and careless. He is neither a responsible nor an effective inquirer, and it is the influence of his intellectual character traits which is responsible for this" (Cassam 2016, 164).

Fine, but what, exactly, is a *virtue*? In moral psychology, it is defined as a stable behavioral disposition, or "competence," of an agent. When you say, for instance, that your friend is a generous person, you mean that, other things being equal, she behaves generously, for instance by devoting her time, money, or other resources to other people or to socially worthy causes.

Virtues, then, pertain to individuals who should want to be virtuous because that's good for them, first and foremost. Part of the perennial problem of pseudoscience is to understand why its practitioners are content with what are obviously unvirtuous epistemic traits, such as engaging in rationalizations rather than logical thinking. It is all about character, what shapes it, how to improve it, and what may motivate people to work on it.

A major aspect of the idea is that bad epistemic practices are the reflection of underlying epistemic vices, so that identifying the vices goes at least some of the way toward explaining the practices. For instance, failure to consider alternative explanations for certain phenomena may be the result of negligence or dogmatism. Cherry-picking data may reflect prejudice or confirmation bias. Sharing untested or unjustified claims on social media may be linked to dishonesty and epistemic arrogance. And so on.

Of course, nothing insulates scientists themselves from indulging in epistemic vices, hence the occasional scientist engaging in vaccine or climate denialism. But now that we look at those cases from the point of view of virtue epistemology, we have an account of why there always are minoritarian groups of such otherwise legitimate scientists: again, it goes down to their character. A curious byproduct of virtue epistemology is that it turns out that there are cases when ad hominem arguments, usually considered an informal logical fallacy, are in fact justified: an attack on the (epistemic) character of a vicious agent becomes legitimate because it is part of the overall argument for why the public should not trust that agent.

As an example, take the infamous case of vaccine denialist Andrew Wakefield. When talking about vaccines, it is perfectly reasonable not only to present scientific facts about the efficacy and safety of vaccines but also to point out that one of the major driving forces behind the anti-vaxx movement is a known fraud. This isn't unwarranted character assassination; it is pertinent information that helps people make up their minds about the controversy.

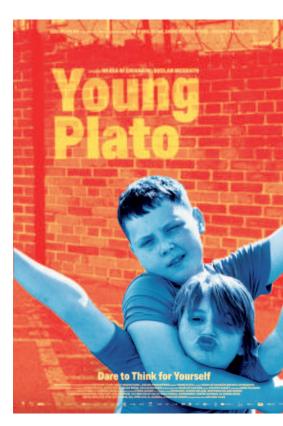
The obvious question then becomes: How do we use virtue epistemology to improve things? Several suggestions have been made in this regard. One way to look at the issue is structurally. Sustained progress will be made only once we focus our attention on the educational institutions that currently fail to teach virtue epistemology (or, indeed, virtue ethics more generally), not just on individual malpractice. Yes, we can point to epistemically vicious individuals, but the broader issue is how come so many

consumers of pseudoscience are themselves epistemically unvirtuous. The idea is that we should engage in epistemic engineering: changing the educational environment to promote virtue.

One excellent example of how to do this can be seen in the documentary Young Plato (2021), which focuses on how the principal of an elementary school in Belfast decided to start teaching practical philosophy to his kids. The results were immediate and heartwarming. It should be obvious that the best way to change things for the better in the long term is to teach virtue epistemology to young kids so that a new generation arises that values intellectual and epistemic virtues from the get-go. Instead, most of our efforts are aimed at debunking the convictions of adults, who are typically entrenched in their worldview and insulated from skeptical criticism.

Along similar lines, Bhakthavatsalam and Sun in their paper make the practical, and perhaps counterintuitive, suggestion of teaching pseudoscience at the pre-college level, with an emphasis on contrasting epistemic virtues and vices. Instead of shielding our kids from pseudoscience, we should actively expose them to it, under guidance, so that they more readily develop the necessary critical thinking skills to properly handle it as adults. Let them read pro-pseudoscience papers, dissect them, compare them to actual scientific papers, and draw their own conclusions about the reliability of sources, the soundness of experimental procedures, and the like.

Another researcher, Alessandra Tanesini (2016) has surveyed the available educational literature in this context and has identified four common approaches that have been fruitfully utilized by educators: (i) Direct and formal instruction about the virtues, where kids are introduced to the very concepts of virtue and virtue ethics; (ii) Exposure to role models, such as Carl Sagan, so that students have several examples to emulate in their own epistemic practices; (iii) Actual practice of virtuous behaviors, guided or supervised by the teachers, with the goal of developing intellectual honesty, conscientiousness, respect for factual accu-



racy, and the like; and (iv) Enculturation into virtue, so that kids begin to adopt the virtue ethical approach not just when it comes to epistemological problems but in every aspect of their behavior, the goal being to help develop better characters and prepare them to be better citizens of an open society.

There is a significant amount of literature in developmental psychology backing up the notion that virtues are character traits that we can work on and improve, no matter what baseline we start with as a result of genetics and early upbringing environment. What makes us functional adults is that we become responsible for our virtues and vices, own up to them, and strive to improve.

## References

Bhakthavatsalam, Sindhuja, and Weimin Sun. 2021. A virtue epistemological approach to the demarcation problem. *Science & Education* 30:1421–1452.

Cassam, Quassim. 2016. Vice epistemology. *The Monist* 99(2):159–180.

Hansson, Sven Ove. 2013. Defining pseudoscience and science. In M. Pigliucci and M. Boudry (eds.). *Philosophy of Pseudoscience*. Chicago, IL: University of Chicago Press, 61–77.

Tanesini, Alessandra. 2016. Teaching virtue: Changing attitudes. *Logos and Episteme* 7(4):503–527.