

Book review, published in *Journal of Moral Philosophy*, 18 (1), 2021, pp. 87-90 (<https://doi.org/10.1163/17455243-18010003>). Below is the author's manuscript.

Shannon Vallor, *Technology and the Virtues: A Philosophical Guide to a Future Worth Wanting* (New York: Oxford University Press, 2016), 328 pages. ISBN 9780190498511 (hardback), £ 32.49. Available also in paperback: ISBN 9780190905286, £ 21.99.

Shannon Vallor's '*Technology and the Virtues*' is a book that we direly need. My hope is that people in various fields read it and that it can function as 'a philosophical guide to a future worth wanting', as its subtitle proposes. Now, why do we need this book? And why now?

This was the third time that I read the book. While I was reading it, a Congressional Hearing of four tech giants' CEOs was happening in the United States. Amazon's Jeff Bezos, Apple's Tim Cook, Facebook's Mark Zuckerberg and Alphabet/Google's Sundar Pichai were grilled with questions about their companies' impacts on society. Fake news and disinformation on social networks corrode democracies and upend elections. Online platforms have become monstrous monopolies that force people into gig-work and extract value from society and nature. People stare at their mobile phones instead of looking fellow people in the eyes.

This state of affairs is the starting point for Vallor's book. 'How can we chose wisely from the apparently endless options that emerging technologies offer?' she asks; and continues to explain that: 'The choices we make will shape the future for our children, our societies, our species, and others who share our planet, in ways never before possible' (p. 3). She posits that ethics and technology are intricately related: 'Ethics and technology are connected because technologies invite or afford specific patterns of thought, behaviour, and valuing; they open up new possibilities for human action and foreclose or obscure others' (p. 2).

The book consists of three parts. In Part I Vallor advocates turning to virtue ethics in order to address today's challenges regarding emerging technologies. Virtue ethics is a necessary and valuable alternative to consequentialism or deontology. In Part II she discusses not only the Aristotelian tradition of virtue ethics, but also Buddhist and Confusion traditions, to develop a *global* perspective on virtues that are needed for human flourishing in our time. Part III has four chapters in which ideas from Parts I and II are applied to discuss four types of emerging technologies: social media; surveillance; robots; and human enhancement.

Foundations for a Technomoral Virtue Ethic (Part I)

Vallor convincingly argues that we need to turn to virtue ethics if we want to properly think about *emerging* technologies: technologies that are currently being developed—not yet ready, e.g., technologies based on advances in nanotechnology, biotechnology, information technology and cognitive science (NBIC) (p. 27), which can have disruptive impacts on society. Two other main ethical traditions, consequentialism and deontology, will work only partially because emerging technologies have not yet crystallized into one specific form.

Imagine, e.g., a consequentialist with the task to talk about a robot system that is being developed for providing care to elderly people and for supporting care workers. There is a wide range of actors and stakeholders involved, with a diverse range of roles and possibly conflicting interests. There are many unresolved issues and open questions. It will be very challenging to do the math: to identify and assess all the plusses and minuses. Likewise, a deontologist will find it hard to articulate a categorical imperative for, e.g., a surveillance system that is being developed by a private-public partnership and which includes cameras in public places and face recognition software with machine learning. Identifying, discussing and valuing all the relevant duties and rights, of all the relevant actors and stakeholders, will be challenging indeed. Again, there are too many question marks. By definition, we know very little about how emerging technologies may function in practice; and even less about how exactly people will use them in daily life and about their precise impacts on society.

Vallor argues that virtue ethics, 'a way of thinking about the good life as achievable through specific moral traits and capacities that humans can actively cultivate in themselves' (p. 10) *does* enable us to have meaningful dialogues about the ethics of emerging technologies.

In my experiences with applying virtue ethics, in technology development and innovation projects, I have found that it enables the people involved to *zoom-out* and *zoom-in*. They can *zoom-out* and discuss what type of society they find 'worth wanting' and whether the technology they work on may help or hinder to move towards such a society. And they can *zoom-in* and discuss diverse design options and details of the technology they work on, and how it may support people to cultivate virtues that contribute to a society 'worth wanting'.

Cultivating the Technomoral Self (Part II)

Vallor discusses Aristotelian, Buddhist and Confusion traditions with lots of care. In her comparative analysis, she looks for resemblances, with ample attention for many nuances within and between these traditions. Nowhere does she simplify matters. Moreover, she positions the book in the current revival and practical application of virtue ethics and draws from, e.g., Alisdair MacIntyre's concepts of *practice*, *narrative* and *tradition* (p. 45).

Substantively, she discusses seven 'core elements of the practice of moral self-cultivation' (p. 64): moral habituation; relational understanding; reflective self-examination; intentional self-direction of moral development; perceptual attention to moral salience; prudential judgement; and appropriate extension of moral concern. This provides a context for her discussion of a series of 'technomoral' virtues that we do need to cultivate in our time: honesty; self-control; humility; justice; courage; empathy; care; civility; flexibility; perspective; magnanimity; and wisdom (pp. 118-155). In software jargon, we can read this as an 'update patch'. Some are updates of classical virtues, like justice (a '*reliable disposition to seek a fair and equitable distribution of benefits and risks of emerging technologies*', p. 128) and courage (a '*reliable disposition toward intelligent fear and hope with respect to the moral and material dangers and opportunities presented by emerging technologies*', p. 131). Other virtues are relatively new, like flexibility (a '*reliable and skilful disposition to modulate action, belief, and feeling as called for by novel, unpredictable, frustrating, or unstable*

technosocial conditions, p. 145) and *perspective* ('a reliable disposition to *attend to, discern, and understand moral phenomena as meaningful parts of a moral whole*', p. 149).

How to Live Well with Emerging Technologies (Part III)

I found the third part especially interesting. Here, the preceding ideas come together. Vallor discusses four emerging technologies: *social media*, which, by the way, I would characterize as *very consequential*, rather than *emerging*, because they are currently already operational; *surveillance*, with an interesting twist, to surveillance by individuals (not by corporations or states) in 'quantified self' practices, via which people monitor their own behaviours; *robots in war and in care*, with arresting examples of what it means to provide care or to engage in war, e.g., the role of courage in these very different fields; and *human enhancement*, with a discussion of technomoral *wisdom*, 'knowing what to wish for'.

One of the lively examples that stuck to me is in the chapter on social media. Vallor describes a video advertisement for Facebook Home (2013: https://youtu.be/yF3Nk4YIU_Y), which features a girl at a family dinner, immersed in what she sees on her mobile phone's screen and disconnected from the people in the room. This example is a starting point for a discussion of the need to cultivate virtues like courage, self-control, empathy and civility.

Ideas for Connections and Applications

The book is an excellent contribution to moral philosophy, applied ethics and ethics of technology. In addition, I can imagine fruitful connections to other fields; e.g., to political philosophy and development economics, to discuss the roles of policies and institutions in enabling people to cultivate relevant virtues and extend relevant human capabilities (e.g., Ingrid Robeyns, *Wellbeing, Freedom and Social Justice: The Capability Approach Re-Examined*, Cambridge, Open Book Publishers, 2017), or to moral psychology (e.g., Mark Alfano, *Moral psychology: An introduction*. Cambridge, Polity Press, 2016) or computer-human interaction (e.g., Helen Sharp, Jennifer Preece and Yvonne Rogers, *Interaction Design: Beyond Human-Computer Interaction*, Indianapolis: Wiley, 2019), to empirically study the ways in which people may cultivate virtues in interaction with technologies.

Above, I already mentioned the way in which virtue ethics can facilitate people to zoom-out, to the level of impacts on society, and zoom-in, to the level of specific design choices. In addition, I have found that virtue ethics can help people who work in innovation projects to view the technology they are working on as a *means*, rather than as an *end*—the latter easily happens in technology-oriented contexts. This is a distinctive and appealing feature of virtue ethics. People who work in tech often experience ethics as a *barrier* or *brake* pedal to innovation. Not so with virtue ethics; virtue ethics offers them an aspirational framework to steer their innovation projects and move it forwards, towards a 'future worth wanting'.

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