Editorial

Designing for value change

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Prometheus has grown four years older since its last and highly controversial special issue, published in 2017 on the *Shaken Baby Debate*. But, as always, *Prometheus* is committed to open discussion and dissemination of scientific research, regardless of the potential backlash or controversy that may ensue from such a venture, a venture that is at the core of authentic scholarship.

Since the beginning of 2020, the world has changed irrevocably, making once-held norms seem obsolete in favour of new ways of being in the world and new technologies emerging to face these new ways of living. Although it has been a long-held insight in the philosophy of technology that technical systems are carriers of values, the SARS-CoV-2 pandemic has made manifest how these values, and their incarnations in sociotechnical systems, can likewise change. *Prometheus* has, since its inception, danced in tandem with the critical interpretations, theories, and methods for understanding innovation, and how innovations fundamentally impact and are impacted by the world in which they emerge and are situated. For this reason, Steffen Steinert, Tristan de Wildt, and I chose to guest edit this special issue on designing for value change and chose *Prometheus* as its home.

Given that a lot of Dutch universities have a long and strong tradition of thinking about technology and its impact, it is no wonder that most of the papers that comprise this special issue come from Dutch-based scholars who are intimately familiar with the importance of technologies and how they change over time. The Netherlands is primarily an engineered country, even the most apparently superficial changes in design and implementation can have cascading social effects across space and time. The burgeoning debates surrounding how these technologies embody values, how those values change over time and how that change affects other entangled systems is at the heart of this special issue.

Ibo van de Poel's paper, 'Understanding value change', inaugurates the special issue and discusses the process of how values change over time, with specific reference to sociotechnical systems. Van de Poel proposes an analysis of value change where he explores how we can understand it from a descriptive and a normative account. He concludes by discussing the implication of those different accounts for the design of new technologies, adopting a value-sensitive design and responsible innovation approach.

In 'Exploring value change', Tristan de Wildt and Vanessa Schweizer explore the emergence of new value structures, in whole or in part, arguing that such structures emerge as a consequence of the interaction of technological systems and the environments in which they are being introduced. The authors explore these structures using semi-quantitative scenario techniques applied mainly to two examples from two very different contexts: the implementation of voice assistants and the search for effective therapies against malaria.

In 'The streetlights are watching you: value change and the future of public lighting', Taylor Stone focuses on an often-ignored technology, streetlights, to explore the notion of ubiquitous value change. Stone distinguishes between their social and symbolic functions, arguing that this helps to identify novel design requirements, thus opening up creative possibilities in design spaces that consider the ubiquity and impact of changing values over time. Orsolya Friedrich, Selin Gerlek, Johanna Seifert and Sebastian Schleidgen follow up Stone's work in 'Value change through information exchange in human–machine interaction'. They explore how HMI can influence and thus shape the values of human agents involved in such interaction. In addition, they introduce the novel notion of eValuation to distinguish emerging types of value in HMI.

In 'Imagining digital twins in healthcare: designing for values as designing for technical milieus', Bas de Boer, Carla Strasser and Sander Mulder investigate the digital twin, which is an emerging tool for preventive medicine. Based on ideas from Gilbert Simondon, they propose that the notion of technical milieu can help designers to imagine possible types of digital twins and how

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the introduction of digital twins may change practices of valuing. Furthermore, based on interviews with potential users, they present six kinds of digital twins that align with the values of future users.

In 'Techno-moral change through solar geoengineering: how geoengineering challenges sustainability', Benjamin Hofbauer argues that these geoengineering technologies force us to reconsider and reassess such values as well-being, justice and nature. Taking a closer look at the ethical debate on geoengineering through stratospheric aerosol injection, he demonstrates that this technology, in particular, serves as an excellent example of how technology itself acts as a spark for value change.

Tom Coggins, in **'**More work for Roomba? Domestic robots, housework and the production of privacy', argues that the supposed abdication of labour to technologies like domestic robots does not necessarily reduce the total amount of work we humans need to complete in domestic domains. Coggins contests the notion of lowering human labour through abdication, arguing instead that such a relationship with domestic robots changes the nature and priorities of labour rather than reducing it.

In 'Future value change: identifying realistic possibilities and risks', Jeroen Hopster builds on John Danaher's notion of axiological possibility space by introducing the idea of realistic possibilities to determine how value change might be identified. By adopting a risk-oriented perspective and an exploration of the historical understanding of value change, Hopster argues that axiological futurism can benefit from both these approaches.

In their paper, 'Twisted thinking: technology, values and critical thinking', Lavinia Marin and Steffen Steinert propose adopting critical thinking when it comes to values, specifically for the values our technologies should be aligned with. However, extant accounts of critical thinking ignore values or treat them as an unexamined given. To ameliorate this and to put critical reflection about values and value change on a more secure footing, Marin and Steinert propose a value-centred account of critical thinking.

Value change and its relationship with technologies over time is a complex and convoluted challenge, difficult to untangle. However, the burgeoning literature dedicated to the topic is growing and deservedly so. A special issue dedicated to the very idea of value change as well as its relation to specific technologies will help us to conceptualize and evaluate technology's impacts. We are confident that this issue will serve as a catalyst that will help to spark dialogue within the academic community about taking seriously the problems and progress of value change.

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