Introduction to the Symposium on Sabine Roeser's *Risk, Technology, and Moral Emotions*

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Technological risks and their acceptability is one of the key topics in the ethics of technology and engineering ethics, reflected in the various papers and Special Issues in the journal *Science and Engineering Ethics* devoted to risks and risk-related decision making (e.g. Doorn et al. 2016; Cerutti 2010; Guntzburger et al. 2019; Wikman-Svahn and Lindblom 2019; Ghasemi et al. 2019; Murphy and Gardoni 2008).

Risks ethicists widely recognize that decision-making about the acceptability of risks is not a purely scientific and quantitative issue but requires that ethical considerations, such as due attention for distributive issues, autonomy, and availability of alternatives, are duly taken into account (cf. Hansson 2013; Doorn 2015). Risk analysts and managers are also now starting to acknowledge this too (Aven and Renn 2009). Many contributions in the current risk ethics literature focus on the acceptable level of risk (Wikman-Svahn and Lindblom 2019; Murphy and Gardoni 2008), the question how to deal with uncertainty and unintended side-effects of technologies (Doorn et al. 2016), and psychological studies of how people perceive risks (Ghasemi et al. 2019).

One of the critical gaps in the risk ethics literature is how to deal with emotions triggered by new technologies. Especially in case of new and potentially disruptive technologies, the introduction of these technologies may trigger intense emotions, such as fear and indignation. While risk managers are sometimes inclined to take these emotions as irrational, insights from empirical research on emotions suggest a more nuanced view on the rationality of emotions, where emotions are needed for cognitions or emotions are themselves a form of cognition. Building on these empirical insights, some psychologists (e.g. Frijda 1986; Lazarus 1991)

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and philosophers (e.g. Solomon 1993; Roberts 2003; Deonna and Teroni 2012) therefore defend so-called cognitive theories of emotions, which give emotions a more positive role in cognition.

In this book symposium, three scholars respond to the monograph by philosophy professor Sabine Roeser (Delft University of Technology, the Netherlands) *Risk, Technology, and Moral Emotions* (Routledge 2018). Building on cognitive theories of emotion, Roeser argues that moral emotions can play an important role in judging ethical aspects of technological risks, such as justice, fairness, and autonomy. While focusing on technological risks, the book addresses foundational meta-ethical issues as well, and is therefore of interest to people working in different areas of philosophy—such as ethics, decision theory, philosophy of science, and philosophy of technology.

The contributions in this book symposium originate from two sessions at philosophy conferences, where a panel discussion was devoted to the book: the annual meeting of the Dutch Research School of Philosophy (Onderzoekschool Wijsbegeerte—OZSW) in November 2017, in Doorn, The Netherlands; and the meeting of the Central Division of the American Philosophy Association (APA) in February 2018 in Chicago. The symposium consists of three commentaries on the book, partly presented at these two conferences, and a reply by Roeser to her critics.

Roeser's book is divided into three parts: a critical overview of contemporary views of the relationship between emotions and risk decision making, Roeser's own theory of emotions, and the implications of her analysis for managing technological risks. Each of the commentators focuses on the middle part of the book where Roeser advances her own account of emotions, but also takes into account the third part of the book, which is devoted to deliberation and public participation. Interestingly, the commentators all mention that, although they disagree with some parts of the theory, they support the more practical claims advanced in the third part of the book.

Madeleine Hayenhjelm (forthcoming) (Umeå University, Sweden) focuses on the metaethical claims of Roeser's theoretical framework, and she brings up three points for discussion. Where Roeser rejects the sharp distinction between emotion and rationality, arguing that emotions can be cognitive and affective at the same time, Hayenhjelm sees a less prominent role for emotions in more generic, theoretical and abstract moral knowledge. According to Hayenhjelm, such knowledge could be acquired in a purely rational way, that is, without emotions. Second, Hayenhjelm questions the epistemic status that emotions should be given: are they "direct but fallible perceptions of moral truth or should they be seen as more opaque pointers towards underlying moral values that are indispensable contributions that require additional scrutiny"? The third point addresses the participation of lay people in decision making about risks. While both Roeser and Hayenhjelm seem to be in favour of including lay people in decision making, they differ in the motivation of why this should be so. For Roeser, it is "exactly because laypeople do involve emotions in their responses to risk that they also include evaluative considerations about risk that are left out of quantitative approaches", whereas Hayenhjelm argues for participation by lay people on democratic grounds.

The contribution by Sven Nyholm (forthcoming) (Utrecht University, the Netherlands) focuses on Roeser's metaethical defense of consulting emotions in the ethical assessments of technological risks. He links his contribution to Roeser's aim to present an alternative understanding of values, emotions, and the rationality of lay-people in assessing technological risks. Like Hayenhjelm, he disagrees with some of Roeser's claims, but he agrees with the view that lay people should be included in the decision making. Nyholm distinguishes between two premises. The first claims that "one of the key things our emotions do is to make clear to us what our values are: they 'point' us towards our values". The second claims that "in ethical reasons, we should make use of the full range of our values". Nyholm is most concerned with the moral realism underlying these premises, which he considers an unnecessarily controversial position to adopt. In Nyholm's view, defending the claim that we should consult our emotions when we engage in ethical reasoning about technological risks does not require an endorsement of this moral realism.

The last contribution is by Steffen Steinert (forthcoming) (Delft University of Technology, the Netherlands) who focuses on the analogy between ethical intuitions and mathematical axioms. Since Roeser states that we should understand ethical intuitions as moral emotions, emotions play the same role for basic moral beliefs as mathematical intuition plays for axioms. Based on the literature on mathematical axioms, Steinert questions this analogy. In mathematical axioms, there are two kinds of evidence: (1) intrinsic evidence (i.e. mathematical intuition), and (2) extrinsic evidence, like explanatory power and fruitfulness. If we should understand ethical intuitions as basic moral beliefs, as Roeser claims, and if they are like mathematical axioms, the intrinsic evidence for these intuitions is another intuition, Steinert argues. For Steinert, this is reason to conclude that the more fitting analogy is between basic moral beliefs and axioms and not between ethical intuitions (i.e. moral emotions) and axioms. This in turn prompts the question as to whether "we have access to basic moral beliefs *exclusively* via moral emotions or [whether there are] other forms of ethical intuition that are non-emotional" [emphasis in original]. If there are other forms of ethical intuition, Steinert wonders what are the differences between those we have access to via our emotions and those we have access to otherwise. And if we can distinguish between these two forms, does one form gives us better access to basic moral beliefs or moral values?

In the second part of his contribution, Steinert discusses the importance of cultivating moral emotions and he challenges Roeser to provide more ideas on how this can be done. In her response, Roeser argues for moral education, where she—not surprisingly—also sees a role for education of emotions.

In her response, Roeser (forthcoming) meticulously discusses the various points of agreement and disagreement between her and the contributors. She notes the importance of the fallibility of moral emotions in her view, and the necessity of including a diversity of perspectives as well as a plurality of kinds of analyses (such as logical and empirical as well as emotional) of technological risks. She defends the positive contribution of her commitment to moral realism in strengthening the overarching aim of the evaluation of risks, namely, getting this right.

The response suggests that the discussion of the moral and epistemological status of emotions is far from settled, but also that there is a lot to gain when taking moral

emotions more seriously. We would like to thank the three commentators for their careful comments on the book, and Sabine Roeser for her reply. We hope that this book symposium provides an engaging introduction into this very topical and urgent aspect of technological risk and risk-related decision making.

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