The wicked problem of Socially Responsible Innovation

Steven M Flipse¹, Johannes H De Winde², Patricia Osseweijer^{1,3} & Maarten C A van der Sanden¹

Reply to: **ES Dove & V Özdemir** (in this issue)

One of the goals of our article on the DNA of Socially Responsible Innovation (SRI) was to start a discussion on how to implement SRI in research and development (R&D). We are therefore grateful for the contribution by Dove and Özdemir; we feel that exactly such dialogue is necessary to advance innovation to the next level.

We acknowledge that the “ecosystem” of science, technology and society is much larger than the collaborative space between the natural scientist and the social sciences scholar that we describe in our article. Yet, our article portrays a starting point to “flesh out” SRI, making it tangible in innovation practice. Unfortunately, in discussions about SRI, perspectives for action are often omitted, which disconnects theoretical analyses on what SRI entails from “what I will do tomorrow in the laboratory.”

At the core of SRI is an ill-defined “wicked problem.” The basis of this problem is that all levels of the innovation system—individual scientists, universities, industry, politics, society, and so on—generate emergent effects, which cannot be reduced to one single, most important element in the knowledge development system. As such, we feel that even the analysis and integration of political forces can only to a limited extent provide a concrete contribution. As such, we question whether political forces are at the heart of the issue, as Dove and

Özdemir propose, given that policy aspects of sciences and technology often remain elusive to those who work on R&D.

We would encourage exploring the value of adding a political narrator layer [1], but this assessment does not bring us closer to SRI, neither on practical nor on theoretical levels. By starting exactly at the heart of R&D, i.e. the laboratory, we could obtain system-level insights into how SRI-related effects are intertwined, which includes political effects. Still, system-level insights are futile if they do not provide practical starting points, or perhaps even and protocols for SRI. Entrenching ourselves in overly self-reflective socio-scientific debates about SRI could in fact paralyse the development of functional SRI procedures.

In our opinion, collaborative spaces in which researchers from the natural and social sciences work together, can constitute such starting points. There is no indication that this “blunts” the social scientist’s critical and analytical role; rather, a collaborative space is a place where critical views are not only tolerated but also appreciated and taken seriously [2,3], since they help specify the “wickedness” of the SRI challenge.

The epigenome is an interesting metaphor to further illustrate this wickedness. Still, the epigenomic view is reductionist in nature and may assert that SRI can at some point be “explained” by simply understanding the metaphorical “biological circumstances.” The question is whether one can realistically explain SRI in such a way, or whether it is

more prudent to focus at certain parts of the system, which we have done in our research. As Dove and Özdemir highlight, this yields a more limited image of SRI, but at least a valuable and useful image, out of which further research on how to shape “effective” SRI can emerge bottom-up instead of top-down.

Finally, the answer to Dove and Özdemir’s final question—does this (a more positive corporate image of science and technology) drive for keeping up appearances of socially responsible innovation really concern society—is “yes.” Institutes, research, scientists, industry, funding, politics, and so on are all part of society, with their own respective—positive or negative—impact on science and technology. One could even argue that keeping up appearances could be a good starting point for SRI, for appearances are the only way to illustrate SRI action to the outside world. We invite the authors and others to adopt the practical, trial-and-error approach, knowing that only practice makes perfect.

Conflict of interest

The authors declare that they have no conflict of interest.

References

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¹ Delft University of Technology, Science Education & Communication, Delft, The Netherlands. E-mail: s.m.flipse@tudelft.nl

² Leiden University, Leiden, The Netherlands

³ BE-Basic, Delft, The Netherlands, E-mail: s.m.flipse@tudelft.nl

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