STS and Innovation:
Borderlands, Regenerations and Critical Engagements

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Abstract
This introduction to a thematic collection on the relationship between STS and innovation poses three main questions. When it comes to engaging with and acting upon socio-technical change, is 'innovation' part of the solution or of the problem? How should we view the relationship between STS approaches to innovation and neighbouring fields, especially Innovation Studies (IS)? What new conceptual and empirical resources can STS bring to the study of innovation (including the possible redefinition and reframing of the term itself)?

Innovating in the Here and Now
Innovation is a matter of concern which flows across local, regional and trans-national settings: from policy documents and industrial strategies to university missions, new products and services. It exists both as a normative imperative and as a mundane matter of everyday life. Innovation finds expression through new materialities and discursive forms. And it is communicated and co-constructed in many ways.

Generally, it is presented in the singular – as 'innovation'. However, it is given shape with multiple meanings and varied effects: especially across the faultlines of gender, ethnicity, class and place. It can be defined in many ways (as social, citizen, user-driven, frugal, inclusive, responsible or transformative innovation, among others: Gaglio et al. 2019; Godin et al. 2021). Nevertheless, the dominant policy approach still imagines a linear model of basic research and technical invention leading to industrial application and economic gain (Godin 2017).

As will be discussed in this collection of essays and reflections, innovation presents a dilemma for STS scholars. To offer this as our first question, *when it comes to engaging with and acting upon socio-technical change, is 'innovation' part of the solution or of the problem*?

On the one hand, STS scholarship is critical of much of what passes for innovation: driven by short-termist and profit-oriented imperatives, creating social, health-related and environmental problems, divisive in its

operation. One can make a good case that innovation is an over-inflated concept, bursting under the strain of serving as an all-purpose solution and panacea ([Pfotenhauer and Jasanoff 2017](#); [Suchman and Bishop 2000](#)).

On the other hand, it seems that innovation must be a solution since the challenges of social, political and environmental change require new – or reimagined – forms of action and organization, co-working and intervention. This more positive perspective calls for fresh thinking about the underlying concept and its meanings: to re-work an old STS slogan, could innovation be otherwise? ([Woolgar and Lezaun 2013](#)).

As STS scholars, we cannot simply stand against innovation. And yet working to facilitate it risks heavy compromises and co-option. At this point, we are obliged to consider relations with innovation which take us beyond the conventional 'good innovation'/'bad innovation' binary. In particular, notions of withdrawal, reduction, disruption, regeneration, 'exnovation' and responsible stagnation become relevant ([Goulet and Vinck 2017](#); [de Saille et al. 2020](#)). Meanwhile, socio-technical innovation can both strengthen communities and weaken them, exacerbate divisions and enable new expressions of imagination and mutual care.

Innovation is characteristically associated with large corporations, global hotspots and Silicon Valley entrepreneurs (but also see [Okune and Mutuku 2023](#)). STS scholarship has repeatedly pointed to the power of international political economy in shaping our socio-technical futures ([Hess et al. 2017](#); [Mirowski and Sent 2008](#); [Sismondo 2010, 189–204](#); [Waldby and Mitchell 2006](#)). However, inspired by the creativity, care and resourcefulness of health workers during the COVID-19 crisis, it can also be seen as a matter of 'innovating in the here and now' ([de Bode 2021](#)). To quote Patricia Davidson, the Dean of the Johns Hopkins University School of Nursing:

> When you're in the here and now, and the issue is in front of you – that's a pretty good motivation to do something different and better ([ibid., 53](#)).

> Just the pain of watching the suffering of another is a pretty good motivation to be creative' ([ibid.](#)).

This reminds us too that although innovation is often spoken of in terms of 'things' – a vaccine, a robot, an electric car – it is just as much about thinking in new ways, re-assembling socio-technical relations and figuring out what can be done in specific settings.

As this thematic collection will suggest, STS research has contributed much to our understanding of innovation as a social, intellectual and material process. STS has a long heritage of working not simply for or against innovation but also *with* it as an object of analysis and exploration – including the substantial contribution of scholars such as Madeleine Akrich, Wiebe Bijker, Michel Callon, Benoît Godin, Pierre-Benoît Joly, John Law, Loet Leydesdorff, Nelly Oudsoorn, Trevor Pinch, Arie Rip, Lucy Suchman, Andrew Webster, Robin Williams, Steve Woolgar and Sally Wyatt (among many others). Current discussions of 'responsible innovation' ([Owen and Pansera 2019](#); [Stilgoe et al. 2013](#)) only strengthen the argument that STS has brought a distinctive conceptual, empirical and political perspective to these matters. If further evidence were

needed, 'innovation' is embedded in the names of some major STS centres – not least in Paris, Edinburgh and Tempe, Arizona.

However, STSers are not alone in their attention to innovation. To put it provocatively, while relevant work has been going on within STS, a large edifice marked 'Innovation Studies' has been constructed right outside our collective front door. Several STS colleagues have made significant contributions to this (Williams 2019). Here special note should be made of the enduring and boundary-spanning role of STS researcher Arie Rip and close colleagues (Calvert and Rip 2018; Deuten and Rip 2000; Kuhlmann and Rip 2018; Rip and van Lente 2013; Schot and Rip 1997).

This brings us to the second question underpinning this thematic collection: *how should we view the relationship between STS approaches to innovation and neighbouring fields, especially Innovation Studies* (*IS*)? While STS has been shaping its identity, IS scholars have been doing likewise – drawing more obviously on policy-oriented and economics-based perspectives (see Joly et al. 2010; Williams 2019). Should we then see the fields of STS and IS as overlapping, competing or quite separate territories? Perhaps some common ground (even rapprochement) between STS and IS is both possible and desirable? Perhaps there is already such a high degree of inter-connection that it is hard to separate them in any meaningful way? And perhaps STS can learn something from IS: for example, in facilitating greater engagement with the world of policy and practice?

Our third question is deliberately open: *what new conceptual and empirical resources can STS bring to the study of innovation* (*including the possible redefinition and reframing of the term itself*)? One major aim of this thematic collection is to engage critically, reflexively and experimentally with this key area of socio-technical practice in order to enlarge our sense of future possibility. Three questions therefore shape this introductory essay and the collection that follows:

- When it comes to engaging with and acting upon socio-technical change, is 'innovation' part of the solution or of the problem?
- How should we view the relationship between STS approaches to innovation and neighbouring fields, especially Innovation Studies (IS)?
- What new conceptual and empirical resources can STS bring to the study of innovation (including the possible redefinition and reframing of the term itself)?

Two things (at least) about these questions should by now be obvious. First of all, they inter-connect closely. Our response to question one, for example, will have consequences for how we approach the other two questions. All of the questions are likely to have consequences for the redefinition and reframing issue: given these different perspectives and settings, what should innovation actually *mean* for STS scholars?

Secondly, all the questions represent an opening to the discussion and cannot (indeed, should not) be answered in one essay. That is the very point: to start a process of reflection but by no means to finish it. If

this collection encourages a larger discussion among STS scholars about the significance of innovation, then a main aim will have been achieved.

STS Engagements with Innovation: A Brief Retrospective

It is hard to move forward without first pausing to consider some of the contributions already made by STS to the study of innovation. As the long (and incomplete) list of significant scholars has just suggested, that is a substantial body of work. In line with the comments in the previous section, STS research usually approaches innovation not as a separate and discrete phenomenon but as part of a larger entanglement (or assemblage) of socio-technical relations: not as a 'thing-in-itself', but as one element within a more complex pattern of social and material dynamics.

This entanglement can make it difficult to ring-fence STS work on innovation. Are feminist theories of technology also about innovation – or does 'innovation' belong to a very different epistemological and ideological framework? One can ask the same question about public engagement with science and technology or the study of patient groups and health movements. In the case of public engagement with science, a good argument can be made that the conventional exclusion of innovation processes from public scrutiny represents a substantial impediment to the democratic process (Stirling 2015). More generally, whilst Innovation Studies more confidently places 'innovation' as its central concern and focus, STS research is more cautious about the term itself and the conceptual baggage it carries. To put it provocatively, does the language of 'innovation' immediately privilege one model of capitalist and technocratic development?

Certainly, STS research has been attentive to the concerns, uncertainties and dilemmas which both surround and help shape innovation. There is a tendency for researchers in the Innovation Studies tradition to claim a 'neutral' stance with regard to the societal implications of specific innovations – perhaps assuming that 'innovation is good for you' (Soete 2019). In contrast, STS scholars have often addressed the potentially-harmful consequences of socio-technical change, including questions of risk, regulation, choice, vulnerability, responsibility and governance. Sheila Jasanoff has encapsulated this as *The Ethics of Invention* (2016). Ian Scoones and Andy Stirling have phrased the underlying issue as *The Politics of Uncertainty* (2020). Nik Brown and colleagues discuss related topics in terms of *Contested Futures* (2000). Developing from the early STS literature on controversy studies, STS typically presents socio-technical development in ambiguous, conditional and societally-challenging terms – and therefore as requiring public scrutiny, critical analysis and active governance (Irwin 2006; Laurent 2021). This sceptical approach can be presented as a distinctive strength of STS scholarship. However, it can limit the capacity of STS scholars to engage proactively with the progressive potential of certain forms of socio-technical change.

Going further, STS research has taken a sceptical approach not only to specific forms of innovation but also to larger innovation models and their application in specific settings: especially the linear model of innovation and the widely-employed concept of National Innovation Systems (Godin 2012, 2019; Godin and Vinck 2017; Miettinen 2002). In a similar vein, Tim Flink and David Kaldewey have drawn attention to

'travelling concepts' and the power of models and ideas across settings ([2018](#)). Certain applications of the National Innovation Systems model have been criticized for ignoring 'situated socio-political contexts and local realities' ([Delvenne and Thoreau 2012](#)). From this perspective, the widespread language of innovation policy leads to key assumptions about the form and direction of socio-technical development remaining unquestioned (see also [Blok and Lemmens 2015](#); [Irwin et al. 2021](#); [Joly 2017](#)).

In contrast to the presentation of innovation as a universal force, STS research has specifically explored the manner in which innovation is constructed within particular settings. As Sebastian Pfotenhauer and Shiela Jasanoff have phrased this, innovation should not be seen as a unitary concept but 'as a plurality of imaginaries of innovation' ([Pfotenhauer and Jasanoff 2017, 801](#)): 'Innovation models are not sets of practices that travel unchanged across social, cultural, and jurisdictional boundaries. Rather, they are responses to local imaginaries that reflect countries' prior conceptions of, and justifications for, the need for innovation. . .' ([ibid.](#)). The point is that what might appear to be the same innovation can be reconstructed very differently across locations ([Irwin et al. 2021](#)). Whilst innovation is often presented as an unstoppable impetus, STS research is careful to explore the conditions of its imagination, enactment and performance.

It follows also from this methodological and conceptual approach that STS research has especially engaged with relations between 'users' and 'producers' (see for example: [Oudshoorn and Pinch 2008](#); [Oudshoorn et al. 2004](#); [Woolgar 1990](#)). Conventional approaches to innovation typically make a separation between the developers of innovation (for example, private companies) and those who will subsequently use it ('consumers' or 'customers'). However, an important strand of STS research has analyzed the manner in which users 'react, imaginatively reconfigure, and provide feedback, such that designs are reshaped by the unanticipated meanings people develop through practice.' ([van den Scott et al. 2017, 501](#)). Such an approach challenges the notion that there is a single and identifiable 'innovator' ([Woolgar 1990](#)). It should be emphasized that IS has also actively engaged in this field: not least through the work of Eric Von Hippel (for example, [2005](#)).

One consequence of this general orientation is that STS research has directly challenged the idea of innovation diffusion. Whilst an important strand within innovation research has explored the 'transmission' of innovations across new markets and settings, STS research has questioned the underlying notion of a one-way flow of innovation from source to consumer (or user). Bruno Latour has notably argued for the replacement of the one-directional concept of diffusion with a 'translation' perspective: power is not concentrated in one object, multiple parties are active participants, and the innovation itself is not fixed but re-defined according to meaning and context ([Latour 1986](#)). Once again, innovation is best seen as a continuous process of transformation, re-use and re-configuration.

Importantly, STS has also set out to engage with marginalized experiences of innovation across a range of communities and settings (see, for example, [Invernizzi et al. 2008](#)). Notably, feminist scholars have addressed the gendering of technoscience. As Lucy Suchman has observed, feminist research has often explored relationships between humans and technology in a way that exposes the sometimes 'politically

charged' and 'variously compromised' nature of this terrain but also reveals 'new spaces for theoretical and political action' ([Suchman 2008, 153](#)). Once again, we are alerted to the implicit meanings and tacit assumptions embedded within specific forms of innovation. We are also led to consider alternative imaginaries of what innovation might – and could – be ([van Lente 2021](#)). What other futures are possible?

It should be noted too that STS research has contributed to new ways of reconfiguring and developing processes of socio-technical change, highlighting questions of democratic control over technology but also the manner in which innovation can address social and environmental challenges. These issues can be formulated as 'responsible innovation' but also in terms of constructive technology assessment, anticipatory governance, upstream engagement, transformative innovation and innovation democracy ([Barben et al. 2008](#); [Schot and Rip 1997](#); [Schot and Steinmueller 2018](#); [Stilgoe et al. 2013](#); [Stirling 2015](#)). Again, this is an area where IS and STS scholarship often overlap and cross-fertilise.

Undeniably, there is an important and well-established foundation of STS scholarship on innovation. Indeed, one can suggest that STS has developed a distinctive perspective: sceptical about both specific and general claims regarding the benefits of innovation, attentive to issues of risk, uncertainty and contestation, committed to the contextual analysis of the different sites of innovation, willing to raise questions of democracy, citizenship and alternative possibility in this crucial area of future-making.

Much work has been done. However, this collection is based on the idea that more could be achieved and that this could have larger consequences for the future development of both STS and innovation. Having paused a while to reflect on the previous relationship between STS and innovation, we can now look forward to the discussion across this thematic collection and especially the three opening questions. We begin with the first: is innovation part of the solution or the problem?

For, Against, Both?

We have suggested that STS brings a characteristic degree of scepticism to 'innovation talk' – and notably to claims made by those promoting innovation as a universal 'techno-solution'. Putting that in explicitly normative terms, one recurrent implication from STS concerns the pressing the need to consider the kinds of socio-technical change that are likely to be of greatest benefit – and to which societal groups. At the same time, the role of larger publics, citizens, campaigning organizations, workers, citizen scientists and various other knowledge producers comes into focus. As the long tradition of STS work around public engagement with science suggests; socio-technical change needs to be seen not only from the perspective of its promoters but also in terms of a much more diverse set of economic, political, ethical and technical challenges. Issues of temporality, collective concern, infrastructures and justice become important here too.

As already noted, it follows that STS research cannot be squeezed into a binary for/against position with regard to innovation. One good reason for this is that STS research often specifically explores the uncertainties and ambivalences of innovation. As Steve Woolgar and Geoff Cooper have expressed this:

'technology is good and bad; it is enabling and it is oppressive; it works and it does not; and, as just part of this, it does and it does not have politics' (Woolgar and Cooper 1999, 443).

This is an important discussion for STS – especially if it is to intervene in contemporary debates concerning future directions for science, technology and innovation (for example, Schot and Steinmueller 2018). Let me offer three thoughts.

The first is that an awareness of the specificities and ambivalences of innovation should sensitize STS scholars to the diverse – and often unequal – manner in which innovations are enacted and experienced. STS research directs our attention to innovation not simply in terms of (for example) a specific vaccine but also of the whole socio-technical network within which it is given shape and meaning. Political debate over vaccine safety often reduces this to a series of technical characteristics regarding particular vaccine types – with 'risk' a much-discussed factor. STS research reminds us that this particular innovation only makes sense in the larger context of healthcare systems, patterns of inequality and trust, global relations and industry-government entanglements.

The second argument revives an old discussion about the acceptability of risk. It can be hard to determine whether an innovation (or a risk) is acceptable in itself. However, we can legitimately draw attention to the social and institutional processes through which it is generated and ask whether *these* are societally acceptable and good for purpose. At this point, our attention turns again to the scientific, industrial and public networks and assemblages which generate, enact and perform innovations.

The third thought is that the question as to whether innovation is part of the solution or of the problem can be answered at two levels: specifically, with regard to particular forms of innovation; and more generically, with regard to the overarching concept of 'Innovation'. Considering both the specific and generic dimensions of innovation, it may be the responsibility of STS to keep what we can term 'solution-problem ambivalence' as open as possible. After all, it is impossible to understand the forces which drive innovation without a symmetrical awareness of both 'innovation as solution' and 'innovation as problem'.

The View from Across the Fence

Our second question addresses the relationship between STS research into innovation and, especially, the field of Innovation Studies (or IS). What happens if we view innovation as a 'borderland' (Strathern 2004): a zone where different perspectives and ways of thinking interact?

Most historical accounts of Innovation Studies, like those of STS, settle roughly for the 1960s/early 1970s as their point of genesis (Godin 2012, 2017; Fagerberg et al. 2013). As Lundvall confidently described it in 2013, IS '50 years later had developed into a relatively large field consisting of several thousand researchers with numerous inter-disciplinary research projects, much econometric work, relations with a range of scientific disciplines, and receiving much attention from the outside.' (Lundvall 2013, 21).

Importantly for our discussion, some IS scholars have been taking stock of their field. As one example, Bhupatiraju et al. (2012) have conducted a bibliometric analysis of STS, IS and Entrepreneurship. Their 'overall main conclusion . . . is that the social science literature on knowledge, technological change and innovation has developed in a progressively more compartmentalized manner. In terms of their citation profiles, the three fields . . . now appear as largely distinct, not as part of a strongly connected field.' (ibid., 1216).

According to this narrative, it has not always been this way. In the 1960s and 1970s, IS and STS 'still overlapped to a considerable degree' and shared 'a large number of common roots in terms of their early sources of inspiration' (ibid.). This pattern changed from the 1970s, when STS developed in a more sociological direction while IS travelled the path of macroeconomics and industrial dynamics – and later, business and management studies. In another contribution, Martin has presented a citation analysis of the field of science policy and innovation studies (SPIS). Martin addresses STS specifically within a discussion of 'missing links?'. Noting that '(t)here are only a few instances of interactions between the two fields' (Martin 2012, 1236), the argument is that, for much of the 1970s, 1980s and 1990s, the two communities have mainly worked in isolation (see also Martin et al. 2012).

At this point, I have to interject that this 'isolationist' account seems to me too stark. Indeed, we have already noted the substantial number of STS researchers who have successfully operated in this borderland. From my perspective, Robin Williams' account of a steady divergence between the more constructivist orientation of STS and the positivist epistemology of IS seems more persuasive and also more subtle (Williams 2019; see also Williams and Velasco 2016). Certainly, many scholars have managed to operate in both fields – or perhaps their research is labelled in different ways when different audiences are addressed (see Woolgar et al. 2009). More specifically, the publications in French of scholars such as Madeleine Akrich, Michel Callon and Dominique Vinck (and indeed writings in other non-English languages) may be missed by this form of citation analysis.

But does the alleged IS/STS divergence really matter? After all, academic fields often specialize over time. To take other examples, history of science has gone one way, science policy another, scientometrics has found its own path too, each with its own journal and conference structure.

In this case, and at least for some IS scholars, the 'great divergence' does seem to matter because of what is then lost from the study of innovation (see also Martin 2016). As Soete has suggested, '. . .the time seems ripe to try to pull together again STS and economic approaches to STI. One approach would be to jointly address a number of specific policy problems from an STS and economics approach with the intention of highlighting the different insights each approach might offer.' (Soete 2019, 853). However, in order to achieve this 'it is time for STS . . . to come out of its disciplinary comfort zone describing concepts, taxonomies and theoretical frameworks and pragmatically describe how particular challenges of sustainability and social inclusion . . . would be addressed' (ibid.).

It might be concluded from these comments that the divide between STS and IS is effectively unbridgeable – or that the cost of building bridges is just too great. At the same time, there is a certain symmetry at work here. STS has not generally aimed to contribute to scholarship in econometrics, macroeconomics and industrial dynamics. IS is not renowned for its feminist scholarship, ethnographic perspective or work on public engagement. As we have suggested, 'innovation' is generally seen as a more ambivalent and contested category by STS scholars than it is within IS.

It is certainly relevant to ask what IS misses by not engaging more with STS scholarship. However, looking at this relationship in reflexive terms, it is equally important to ask what STS might be missing by not participating in even greater cross-border exchange?

Here, a number of possibilities come to mind. STS might lose out on scholarly insights developed within IS and other 'borderland' disciplines. It might fail to gain influence within certain policy circles where IS is strong. It might underplay the significance of, especially, economics-based analysis. It might miss the opportunity to contribute to current political debates (for example, around the role of the state in generating new economic, social and technological opportunities: Mazzucato 2013). And, as Soete provocatively suggests, STS might not devote sufficient energy to the cross-disciplinary treatment of larger societal challenges and 'transformative' issues. For those who worry that STS is insufficiently visible within public and political debates, the invitation to engage even more fully and explicitly with issues such as sustainability and social inclusion is certainly attractive. Nevertheless, cross-border engagement has its challenges and its risks.

There is no space here to review the vast scholarly literature on cross-disciplinarity, the travel of ideas and scholarly borderlands. Important starting points can be found in the work of Barbara Czarniawska and Bernward Joerges, Isabelle Stengers and Dominique Vinck (Czarniawska and Joerges 1996; Stengers 1987; Vinck 1999). Here we can simply consider one productive way of viewing these matters.

Marilyn Strathern has reflected deeply on the nature of interdisciplinarity (for example, 2004). Her exploration of 'commons and borderlands' raises questions concerning the flow of ideas across academic communities: what she calls 'knowledge on its travels'. Ideas need a home – or at least a belief in the existence of a home: '(d)isciplines are ways of keeping distinct the origins not just of ideas and materials, but of work practices, lines of authentication and accountability . . . their distinctiveness is a fiction but a convenient one' (Strathern 2004, 45). However, and as she quotes Gillian Beer, '(i)deas cannot survive long lodged within a single domain. They need the traffic of the apparently inappropriate audience.' (Beer cited in ibid., 36).

One indication of STS' scholarly maturity could reside in its capacity to engage on equal terms with IS and other borderland neighbours as welcome but also 'inappropriate' audiences. Notice, however, that what I just referred to as 'scholarly maturity' is also a provocation to those STS scholars who would prefer not to

think of STS in such terms. Is the price of borderland engagement that STS has to acknowledge itself as a distinct discipline with its own sense of identity and heritage?

New Directions

Our third and final question enquires about the future conceptual and empirical resources that STS can bring to the understanding of innovation – including redefining and reframing the central term. Certainly, discussion in the previous sections has suggested an even more diverse relationship between STS and innovation: a relationship where what was termed 'solution-problem ambivalence' is kept open and inappropriate audiences are actively (if cautiously) welcomed. This suggests too that there must be considerable openness regarding the notion of innovation itself: never singular or pre-determined, always open to contextual re-framing and re-configuration.

It seems that there is no shortage of future resources which could be brought to the study of innovation. Here, other contributions to this thematic collection will have much to add – and to debate. Let me throw three final ingredients into what is already a rich mix.

The first concerns the global character of these issues. STS is now rightly devoting attention to the varying contexts and settings of our field of study (Kreimer and Vessuri 2018; Lin and Law 2019). Questions of international comparison, difference and, not least, inequity seem particularly relevant to the study of innovation. To ask one obvious question, how does the dominance of certain corporations, nations and regions over high-tech innovation affect those living in poorer, less globally-influential nations – and those living in unequal contexts and settings within even richer nations? Whose imaginaries and whose framings win out within situations of power imbalance, difference and inequality? The STS-innovation relationship offers an important means of opening up larger questions, challenges and dilemmas relating, not least, to marginalized experiences and inequities of different kinds. In that way also, and in case there should be any doubt, these crucial issues are placed at the core of STS.

The second is that it seems crucial for STS to capture at least two dimensions of innovation. On the one hand, the tendency to cultural replication and reproduction of prevailing perspectives and models. On the other, and drawing upon ideas of co-production and translation in particular, the varied ways in which innovations are domesticated, enacted and contextualized. We can think of this as a tension between 'isomorphic' (DiMaggio and Powell 1983) and 'difference-making' forces. It seems more appropriate, however, to explore the ways in which isomorphic and contextual dynamics are woven together within specific settings (Irwin et al. 2021). The study of innovation is then also a study of 'knowledge on its travels' (Czarniawska and Joerges 1996) and how what counts as knowledge and knowledge-related practices are co-produced within particular settings. Seen through the lens of 'isomorphic difference', innovation becomes at least as crucial an area for STS as the world of the laboratory or the public engagement event.

The third issue takes us back to a previous discussion concerning the processes and networks which generate innovation at both a specific and generic level. At this point, the relationship between innovation and

democracy comes firmly into focus (Stirling 2015). The responsibilities, limitations, problems and challenges of democracy with regard to innovation represent a crucial area for analysis and action. This suggests the need for critical scrutiny of the implicit assumptions and unchallenged purposes within conventional innovation processes. Going further, we are reminded that our definition of innovation should be extended to include expressions of creativity, care, concern, hope and resourcefulness beyond the logic of the marketplace. *Could innovation be otherwise?*

Acknowledgements

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