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DISCUSSION RESPONSES

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New horizons, old friends: taking an 'ARIA in six keys' approach to the future of R(R)I

Stevienna de Saille

University of Sheffield, Sheffield, UK

ABSTRACT

This response reflects upon the issues brought up by the Discussion Paper with regard to the loss of RRI funding in Horizon Europe, and what that might mean for early career scholars in our community and our field. As a knowledge project aimed at institutional change, one could argue that RRI is still incomplete and we must now anticipate a threat to that completion. However, that should not stop us from also anticipating the possibilities of an R(R)I whose future is ours as a community to determine.

KEYWORDS

Horizon Europe; future of RRI; early career scholars; mainstreaming RRI

Discussions of Responsible (Research and) Innovation[1] generally frame R(R)I as both process and outcome, with a great deal of exploration of 'responsibility' but much less upon 'innovation' – this is particularly true at the policy level, where over the last decades it has been increasingly tied to the promotion of GDP growth. To counter this, my colleagues and I have argued for a growth-agnostic reconfiguration of 'innovation', one which simply focusses on the take-up and circulation of novelty whether inside, outside or against the market (de Saille et al. 2020). Extending this discussion to encompass forms of innovation which we have called Responsible Stagnation (RS) – searching for new ways to do old things with less throughput, and new things to do with what we already have – leads me to ask 'to what extent can we use the latter idea (in the face of a potential slowdown in funding opportunities and/or intellectual attention) to find new ways to do R(R)I itself?'

What follows are my reflections in response to the issues brought up by Shanley et al. (2022) in their own response to the loss of RRI funding in Horizon Europe, and what that might mean – particularly for early career scholars – in our community and our field.

I should begin by saying that there is nothing in this paper with which I fundamentally disagree. I should also note that I am one of that group of scholars who has benefitted enormously from the fact that RRI was becoming policy at exactly the same time as I was beginning my first post-doc, on a project titled, not coincidentally, 'The Emergence of Responsible Research and Innovation'.[2] Although not one of the early projects funded by the EC (and perhaps *because* we were not funded by the EC) this allowed me an interesting vantage point, a kind of insider ethnography

CONTACT Stevienna de Saille s.desaille@sheffield.ac.uk University of Sheffield, Sheffield, UK

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seeking to make sense not only of this interesting new practice, but of the whole institutional apparatus of the EC and the importance of its funding structures for an academic career vis-à-vis its political function as an institution promoting growth of a competitive common market.

Over the last not-quite decade, my own conception of RI/RS has evolved through what I sometimes refer to as 'an ARIA in six keys'. Although this is rooted in the EPSRC's AREA framework, as that tends to be more familiar to the scientists and engineers I work with in the UK, the simplified *Anticipate – Reflect – Engage – Act* framework leaves out aspects of the original six keys of RRI which are in fact desirable and necessary to incorporate in order to achieve real responsibility (whether process or outcome) in innovation – in particular, gender equality, access to (science) education and information, and developing new modes of governance. Whether within STEM research or society in general, we still have a very long way to go on all three counts; advancing the former two, in fact, should always be part of RI's ethical imperatives, particularly where it comes to questioning not just who bears the risks and benefits of 'innovation', but who constructs its very definition, and for what purpose.

ARIA allows us to frame the different stages not so much as a wheel of tasks to accomplish, but as iterative sets of questions to be answered: Anticipation (what might this do?), Reflection (what are our knowledge gaps about that?), Inclusion (how might we fill those gaps?), Action (how can we take that new knowledge forward?) … which brings us back to what might happen then, and onward.[3]

As a knowledge project aimed at institutional change, one could argue that (speaking specifically of the European Commission) RRI's emergence is still incomplete and we must now anticipate how the loss of funding in Horizon Europe may threaten that completion. With this, I agree. But that should not stop us from also anticipating the possibilities of an RRI which is no longer an agenda whose legitimacy is derived from a political entity whose mantra is 'innovation for growth'. Perhaps instead, the evolution of R(R)I is now ours to determine, as a community encompassing any number of national, regional or technology-specific flavours, and now welcoming a new generation.

As Shanley et al. note, R(R)I is built on longstanding traditions; but does it really matter that old wine is poured into new bottles, if the wine itself has aged well? Our knowledge gaps with regard to the effects of mainstreaming RRI in Horizon Europe are large, and there is much uncertainty in the community right now. However, I would argue that even if we agree that R(R)I has not yet achieved its goal of institutionalisation, this does not mean that it has failed. One could even argue that, if it is indeed essentially a scientific/intellectual movement (SIM) (Brundage and Guston 2019), its trajectory now should be a de-institutionalisation which in fact separates 'responsible' from innovation policy and allows it to gather grassroots momentum and meanings, so that these in turn may develop the power and personnel to infiltrate and change institutional behaviour on the broader, more diverse levels required. And this takes time, more than the decade or so since the idea was codified amongst a small group of well-placed actors at EC level. But that there is a community of some kind, and that its edges are being made fuzzier and more inclusive through projects which have reached out to connect R(R)I to cognate fields, initiatives and movements – in

engagement, design and education as well as responding to societal demands for repairable technology, changes to business practice, and myriad aspects of social justice – seems to me without question. Instead of foreseeing the end of R(R)I, I agree with Fisher's assessment that 'responsible innovation as a necessary aspiration is here to stay' (2018, 353); and that we are instead entering a phase of reinvention (Fisher 2020), a new turn of ARIA's wheel.

So is RRI, to borrow a phrase from the musical Hamilton, a moment or a movement? Movements often do go into abeyance when political opportunities are withdrawn, and re-emerge when new opportunities arise (Taylor 1989); perhaps we should be looking to firm up the structures, resources and personnel that can ensure survival from one wave to another without much financial support. This journal certainly provides a valid and lively abeyance structure. But the activist phase of a movement can also disappear as new institutional opportunities open up, within which the goals of a movement can be pursued; to some theorists, that is in fact a measure of its success in mainstreaming new forms of knowledge and practice (Eyerman and Jamison 1991). We can see evidence of this too, in the many forms of 'little rri' (Randles et al. 2016) which were already in circulation and have been drawn into our discussions, as well as the take-up of R(R)I principles through new avenues such as national funding streams, design practices and science and engineering education (Owen, von Schomberg, and Macnaghten 2021; Stahl et al. 2021), incomplete though this may yet be.

However, mainstreaming may also mean co-optation, selling-out, and dilution of what was initially a radical agenda (as anyone familiar with the 'mainstreaming' of women's studies into sociology might argue). Certainly, there is a danger that RRI will simply fade into a meaningless tickbox, in the same way that progress in gender equity is sometimes reduced to simply counting the number of women on a grant proposal. This, I believe, is the more likely threat to R(R)I as something meaningful and capable of beneficial social change.

Which returns us to the broader, systemic aspects of R(R)I in terms of care and stewardship of the future (Stilgoe, Owen, and Macnaghten 2013), a quality which was once important to the discussions (cf. EC 2011; Owen, von Schomberg, and Macnaghten 2021), although not often mentioned amongst the more business-oriented end of R(R)I. Funding regimes are mostly out of our control, but care and nurturing of our ECRs is not, and should be a fundamental part of who we include and how (McLeod, de Saille, and Nerlich 2018). They are the future of our community, the developing scholars who we have moulded to think about technology and society in a particular way, as I and my cohort were moulded by those who had initiated the development of R(R)I. It is up to us as a community to continue to provide that support, whether they are involved directly in developing new technologies or studying, engaging with and/or trying to improve their impact. In this I am reminded of the first decade of STS, characterised by David Edge (1995) as beginning with a desk with no books and no curriculum; fifty years later this community is huge, increasingly diverse, and still going strong (Williams 2016).

R(R)I's partial rooting in that larger STS community gives it a permanent intellectual home in what is already a multidiscipline where the polyglot nature of STS works in our favour; there are many intellectual languages spoken here, many disciplinary doors through which to enter. In 2013 we hoped that to innovate responsibly could be more

than a SIM, more than a novel framework or ISO standard or set of metrics, but an entirely different way of looking at the dire problems facing the world and what kinds of societies we might help enable by the work that we do every day. In this, perhaps one of R(R)I's strongest achievements so far has been its emphasis on societal engagement as permanent and continuous (Bauer, Bogner, and Fuchs 2021). We should be no less demanding upon ourselves.

Notes

1. I thank Sally Randles and colleagues for this amalgamation. (Randles et al. 2016)
2. One of nine projects on the Leverhulme Trust Research Programme "Making Science Public", which ran from 2013-2018.
3. To a large extent, even the papers in this journal can be subdivided into explorations of those question-sets, beginning with a launch issue editorial which attempted to anticipate some of the benefits (and potential risks) of R(R)I (Guston et al. 2014).

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributor

Stevienna de Saille is a Lecturer in Sociology in the Institute for the Study of the Human (iHuman), Department of Sociological Studies, University of Sheffield.

ORCID

Stevienna de Saille http://orcid.org/0000-0002-8183-7771

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