Looking beyond the 'horizon' of RRI: moving from discomforts to commitments as early career researchers

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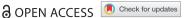Danielle Shanley, Joshua B. Cohen, Nicholas Surber & Shauna Stack

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Looking beyond the 'horizon' of RRI: moving from discomforts to commitments as early career researchers

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It goes without saying that the uptake of Responsible Research and Innovation (RRI) as a cross-cutting theme in the European Commission's (EC) previous framework program, Horizon 2020, was a boon to our research community.[1] This community, which we consider ourselves to be a part of, working in and around the topics of responsible innovation (RI) and responsible research and innovation (RRI), was injected with nearly a decade's worth of funding, resources and legitimation. But we are now at the start of a new decade, with a new framework program: Horizon Europe. As we write this piece, we find ourselves anticipating what might be the 'end of RRI' (Fisher 2018). Despite the lamentable lack of a clear replacement for the *Science with and for Society* (SwafS) unit – the locus of RRI within the European Commission (EC) – we believe that the future of RI/RRI is far from decided and that discussions about what that future should look like are – at least as far as we are concerned – discussions about us, and our futures.

As early career researchers (ECRs) within this community, we believe that the current moment provides an opportunity for taking a good long look in the mirror.[2] In what follows, taking the initial intentions and promises of RI/RRI as our cue, we attempt an exercise in what the Greeks called *parrhesia*, or to speak with frankness (Foucault 1983). This candid form of speaking may appear provocative, especially coming from relative newcomers to the field. However, we see it as our duty to ensure that an ECR perspective is taken into consideration alongside other reflexive efforts from more established voices (cf. de Saille 2021; Owen et al. 2021a; Stahl et al. 2021).

From the outset, RI/RRI promised to be at the helm of a new revolutionary paradigm of research and innovation (R&I) in which society was expected to play a central role. That is what we – responsible innovation scholars and practitioners – came for. Yet, many – ourselves included – have since questioned whether RI/RRI is as conceptually

revolutionary as once purported, or whether it was only ever 'old wine in new bottles' (Zwart, Landeweerd, and van Rooij 2014).

We proceed by describing five areas of 'discomfort' that we have encountered whilst working in and around the RI/RRI community. Discussing discomfort is never easy. However, thinking with and through our discomforts has opened up space to reflect on our own experiences, instead of filing them away as something to be dismissed or ignored (Chadwick 2021). Having mapped our discomforts, we then share a series of commitments that we have made with and to each other. These commitments are not to be confused with problem-solutions. Instead, they represent small steps that we plan to take going forwards, in the spirit of going beyond critique. We hope that this call to action will resonate with readers of JRI in the absence of consensus on the future of RI/RRI, particularly from an early career perspective.

Five discomforts

The hype

In 2014, when this journal's first issue was published, the editors wrote how terms like RI and RRI only emerged 'at the dawn of the new millennium' (Guston et al. 2014.) Whilst it is fair to say that the formation of the current community was catalyzed in the early 2000s, the histories of predecessors like ELSI/ELSA and technology assessment stretch back decades (Delvenne 2017). However, RI/RRI's longer history has rarely been used as a tool for critical reflection (Shanley 2021). The apparent need to sell RI/RRI as something new, unique, or different from what came before points to a recurring concern: despite aspiring to transform the system, we as RI/RRI researchers are obliged to do normal science and play the funding game, meaning that we are often participants in the generation of our own hype-cycles (Fisher 2018). Whilst we are quick to identify the hype which accompanies new and emerging technologies, from human genome editing, to nanotechnologies to AI (Seifert and Fautz 2021), are we less critical of the hype which we ourselves construct in order to get a seat at the table?

The public(s)

Despite extensive research, countless projects, and numerous publications, the extent to which RI/RRI has collaborated meaningfully with affected publics remains questionable. Yes, it is true that one Eurobarometer survey showed many citizens to be in support of some of RRI's central tenets, such as anticipating the unintended consequences of science and technology and engaging with the public towards broad and inclusive decision making (Eden 2014). Yet engagement with, and awareness of, what we actually do is demonstrably low. An example of which is the ill-fated petition to keep SwafS operational in Horizon Europe which garnered a mere 1369 signatories (Eden 2014). Conversely, for a movement largely built on the need to make research and innovation more relevant to society, there is an unfortunate tendency to see the public as disinterested and uninspired by our research agenda. Does this not, somewhat ironically, mirror the outdated and heavily criticized deficit model of science communication (Frahm, Doezema, and Pfotenhauer 2022)?

The bubble

It is not uncommon to hear the RI/RRI community referred to as a 'bubble'. As ECRs, we find its walls to be ever-hardening, with increasingly impenetrable entry barriers that are implicitly guarded by internal debates and technical jargon. Typical (usually Eurocentric) notions of responsibility (Wakunuma et al. 2021) have been trumpeted to the exclusion of others, reinforcing what belongs inside and outside of the bubble. The community continues to polish its particular concepts and programs e.g. the AIRR framework (Anticipation, Inclusivity, Reflexivity, Responsiveness; Stilgoe, Owen, and Macnaghten 2013) or the six keys (Ethics, Science Education, Gender Equality, Open Access, Governance and Public Engagement, European Commission 2012). Such internal debates jeopardize potential collaborations with communities that do not share our conceptual vocabulary. Moreover, when bubbles burst, it helps to have allies. Where do we, as a community, stand in relation to other disciplinary traditions, groups, and organized movements who hold comparable ideals? What can be said for collaboration with allies within – to name but a few – open science, citizen science and the responsible technology movement?

The politics

In JRI's first issue in 2014, Michiel Van Oudheusden asked 'where are the politics in responsible innovation?' (Van Oudheusden 2014). RI/RRI was supposed to galvanize 'deliberative engagements' and operationalize the 'hybrid forum' of science and society in the broad project of aligning society with research and innovation (Callon, Lascoumes, and Barthe 2011.) However, the RI/RRI framework has largely traveled between the ivory tower and the square Frère-Orban in Brussels and back again. Rather than increasing attention to the localized needs and values of European citizens, RI/RRI often appears as a diplomatic tool in the greater European project (Flink 2020.) Arguably then, RI/RRI has proved most fruitful at the EC not as a genuine paradigm shift but as a 'societal fix' for the legitimation of the research and innovation system (Frahm, Doezema, and Pfotenhauer 2022). The question then arises: is our community engaging with the right kind of politics? Are we satisfied with RI/RRI as an institutional policy tool which promises to incrementally challenge the system? Or, if we desire more fundamental change, can and should this be pursued differently?

The message

Evolution or revolution aside, the RI/RRI ethos was to try and change the rules of the game. This was the preacher's message. Yet this preaching predominantly took place under the auspices of normal science and normal policy advice. As RI/RRI scholars and practitioners, much of our time is spent putting together yet another grant application, for yet another project, for yet another call. Many of Horizon 2020s 232 SwafS projects (of which 39 were specifically focused on the concept of RRI)[3] resulted in the publication of another best practice story, or another novel tool for introducing and implementing RI/RRI (cp. Cohen and Loeber 2021). However ground-breaking and forward looking these outputs might be, how far do they really go in helping to mainstream RI/RRI and in providing pathways towards institutional change? For example,

does the community really believe that retweeting demands for RRI funding and main-streaming from '160 unique Twitter accounts' (Gerber et al. 2020) will potentially spill over to the millions of people outside of our bubble? Now is the time to think seriously about whether our practices are aligned with our rhetoric and to ask ourselves to what extent we are really walking the talk.

Having identified our discomforts, we now turn to our commitments with which we hope to inspire others to join us in thinking about the future of RI/RRI.

Five commitments

To challenge our assumptions

We believe the community should use the 'end of RRI' as an opportunity to (re)policitize prevailing assumptions about responsibility and R&I. These assumptions in R&I include (but are not limited to): the growth imperative; the link between modernism, technological solutions and progress (Delvenne 2017); and that responsibility can only be realized by cooperation within a political (funding) system that is based on top-down, incrementalist policy-making. In response to the growth imperative, the degrowth movement and ideas about responsible stagnation offer inspiration. The latter asserts that both responsibility and innovation should be understood to be on a spectrum: including not only responsibility and irresponsibility, but also innovation and stagnation (De Saille et al. 2020). Against technological solutionism, recent efforts from the right to repair movement or the maintainers network suggest that instead of looking for new, innovative approaches, RI/RRI scholars and practitioners ought to look more carefully at what we already have and think critically about the hype, expectations and values guiding choices within the R&I system (Vinsel and Russell 2020). Finally, to (re)politicize the political (funding) system itself, our community can support new participatory experiments (e.g. social labs (Timmermans et al. 2020)) in which all kinds of change agents are brought together to experiment with alternative forms of practicing and evaluating R&I, beyond the status quo.

To think about the mechanics of change

We believe our community should focus more on how we can contribute to actual processes of social change and develop more insights into ways in which the existing European R&I funding system and its institutions can be changed from within. First, we need to focus on the broader institutional setting within which R&I organizations operate by analyzing how narratives, practices, rules and incentives (Lowndes and Roberts 2013) come together to privilege certain R&I behavior (like publishing and writing project proposals) over what might be considered more ethical and engaging behavior (like community work or activism). Beyond top-down incremental change or bottom-up revolution, scholars working on institutional entrepreneurship (Maguire, Hardy, and Lawrence 2004, 657; cp. Garud, Hardy, and Maguire 2007; Battilana, Leca, and Boxenbaum 2009; Owen et al. 2021a; cp. Owen, von Schomberg, and Macnaghten 2021b) demonstrate that broader institutional change can also be organized from within. More than just changing the rules and incentives however, it is then about experimenting with new practices, promoting counter- narratives or even providing capacity building for

other agents of change working in existing institutions. One example might be the Care Cooperative; a community in sustainability studies which managed to connect individuals from different organizations, mobilize resources, and build capacity for better leadership within their field in an attempt to transform their working environments (Care et al. 2021). As ECRs, we will draw inspiration from such initiatives to think about how we might become institutional entrepreneurs ourselves.

To expand our horizons

We have observed that our community tries to think about ways in which to achieve different kinds of impact. For example, by thinking about what impact really means to us and with whom we should collaborate in order to achieve it. In this vein, we commit to opening up to other forms of collaboration, beyond the usual academic settings and project partners (Stahl et al. 2021). We see and admire others in the community who are doing this, but recognize that for many, ourselves included, it is often difficult to find the time, information or support required in order to engage outside of our existing, well-established networks. Nonetheless, we have started to connect with organizations like All Tech is Human, A Better Tech and YouGotThis; groups that promote broad discussions concerning responsibility and ethics in the tech industry, sharing resources and providing a platform for RI/RRI related discussions.[4] Similarly, podcasts like The Received Wisdom and Radical Science are useful in thinking about how we can expand our own horizons beyond the RI/RRI bubble.[5] We are currently collecting and collating these sorts of resources and thinking about creative ways to share them with the RI/RRI community in an open and easily accessible way.[6]

To foster cooperation and care

We recognize the need to foster cooperation, and to do so with care. We believe that the time for boundary politics and guarding profitable funding territory – or of insisting on needless incommensurability – has ended, whether this or that disciplinary community likes it or not. As such, our community should use this moment to seek common ground with other approaches to ethics, societal engagement and gender equity within and beyond disciplinary traditions. This may mean intensifying bonds and joining forces with communities working on Public Engagement (Braun and Könninger 2018), Mission-Oriented Innovation Policy (Mazzucato 2018), Transformative Innovation Policy (Schot and Steinmueller 2018), Open Science (Kristijan et al. 2021) and Citizen Science (Smallman 2019). However, we are mindful of avoiding the increasing potential for 'vexing care' (Nicholls, Henry, and Dennis 2021), as an instrumental way to prevent systematic decay (Von Busch and Palmås forthcoming). Instead, we seek to reach out care-fully. This might be akin to the approach of 'feminist salons' (Nicholls, Henry, and Dennis 2021) which attempt to reorient academics away from cut-throat competition (Loveday 2018) towards more cooperative and caring research practices.

To keep calm and carry on

Within our community, we should remind ourselves that RI/RRI is not all as new as it purports to be. It is instead part of a long lineage of efforts to 'responsibilize' science and

technology. Over the past decade, under the aegis of RI/RRI, these efforts have been fueled by admirably idealistic visions such as designing R&I organizations and systems that include diverse publics and respond to ethical and societal issues. However admirable these visions may have been, recent work shows that RI/RRI is far from achieving institutionalization (Christensen et al. 2020; Novitzky et al. 2020). This raises the question as to whether further efforts to mainstream RI/RRI across Horizon Europe, now with less budget, may be something of a lost cause (cf. Gerber et al. 2020). In the meantime, our world is confronted by numerous inescapable societal and environmental challenges, many of which are considered to be the indirect consequences of scientific and technological developments (Beck 1992.) As ECRs, we believe the time has come to push for a renewed sense of pragmatism (Dewey 1954; Cohen and Gianni forthcoming; Von Busch and Palmås forthcoming). Instead of calling for a revolution or resorting to piecemeal incrementalism, we call on JRI readers to try and change existing R&I organizations and policy institutions from within. Instead of pursuing another idealist vision, or promoting revised box-ticking exercises, we should keep thinking about how to harness the collective agency of diverse stakeholders, so as to design inclusive, creative solutions from the bottom-up.

As ECRs, whether our own futures will be as academics or not, we are committed to careers within which we will try to build bridges: to finding and filling absent nodes in the networks in-between the likes of researchers, technicians, policy-makers, and citizens. We will continue practicing anticipation, inclusivity, reflexivity, and responsiveness, no matter whose standards apply. Regardless whether or not RI/RRI is relegated to the graveyard of Horizon 2020, the times demand that we must find ways to carry on – especially for those of us who have only just begun.

Notes

1. Throughout this piece we refer to a 'community' of RI/RRI scholars and practitioners. We recognize that in practice, any such community is a boundary object (Gieryn 1983) with no pre-defined, natural, or ex-ante definition. What constitutes the RI/RRI community is undoubtedly made up of an assortment of different (early and late) researchers, with different backgrounds, and different interests, and whilst further discussion of the extent to which an identifiable community may, or may not, be said to exist certainly warrants further attention, we here use the phrase simply to serve as a shorthand to enable discussion with(in) and beyond the readership of JRI.
2. The term early stage, or early career researcher (ECR) is used to refer to students and researchers who are engaged in, or have recently completed, their graduate or post-graduate education. The period within which the term ECR still applies is typically determined based on the length of time since the individual completed their PhD (on average four years, but can differ depending on national context). (https://scientific-publishing.webshop.elsevier.com/manuscript-preparation/challenges-early-career-researchers/).
3. These calculations were provided by a (former) SwafS national contact person (Personal communication, 2021). The statistics were calculated from the H2020 projects list available to download from CORDIS: https://data.europa.eu/data/datasets/cordish2020projects?locale=en; the number of RRI flagged Topics is from the Funding & Tenders Portal of the European Commission.
4. https://atih.responsibletechguide.com/ https://www.abettertech.net/ https://yougotthis.io/.
5. https://shobitap.org/the-received-wisdom https://radicalsciencepodcast.com/.
6. We have created an open access document in order to share resources that we believe might be of interest to the broader RI/RRI community. Please feel free to use, share, and

add as you see fit: https://docs.google.com/document/d/14FQ5rSfU6eqe4bdWzvS4_00A-R9jdDKXOstwKIWVHJI/edit#.

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

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