

When the going gets tough, the tough get going: towards a new – more critical – engagement with responsible research and innovation in an age of Trump, Brexit, and wider populism

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ABSTRACT

In this article, we explore how responsible research and innovation (RRI) interacts with the current political context. We examine the (1) possible consequences for RRI and related agendas if values associated with ‘populist’ movements become more pervasive, (2) the role that a lack of RRI has potentially played in the development of this political context, and (3) how RRI as a concept, practice, and research agenda should respond. We argue that whilst RRI is threatened, it is now more important than ever. We propose that RRI needs to go beyond being a method for facilitating societal input into research and innovation and for highlighting desired impacts. RRI needs to evolve to provide an effective conduit for criticisms and the input of critical thinking and reflexivity into science and innovation, including in terms of economic policy and politics.

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1. Introduction

Responsible research and innovation (RRI) seeks a range of laudable and positive objectives, such as ensuring that research and innovation provide benefits to society as well as contribute towards widely shared societal goals. Whilst RRI has become a vibrant and burgeoning area of research and practice over recent years, times can change. When the going gets tough, due to attacks on ‘remote elitist scientists and innovators’ by populist politicians, or due to cuts in research funding, there may be calls to focus on ‘hard’ outputs and the core of Science, Technology, and Engineering, instead of ‘softer’ approaches associated with RRI. There is always a risk that RRI is seen as complimentary, rather than essential – something for the good times – and something that could be put to one side whilst focus is placed on the ‘important things’.

Such a context is now plausible in several scientifically significant countries. 2016 saw a series of unexpected successes for (right-wing) ‘populist’ movements. This included the United Kingdom’s vote to leave the European Union (Brexit) and culminated with the

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election of Donald Trump to the presidency of the United States. Further right-leaning populist successes were visible in countries ranging from Hungary and Poland to Turkey. 2017 could yet bring further occurrences in Europe, via France and Germany. Whilst the character of (right-wing) populism differs from context to context, they share a core ideology linked to concepts such as nativism, authoritarianism, and opposition to elitism, pluralism, and liberal democracy (Mudde 2016).

These movements and the factors that have contributed to their success pose a challenge to RRI, the related policy agenda, and associated values, including the underlying epistemologies of RRI and wider social science and humanities (SSH) disciplines. As a response, we propose that RRI should reflect on its own role in the emergence of populism, and re-define its contribution to the link between science and society. This includes ensuring that reflexivity within RRI and SSH disciplines is able to question and challenge the very role these disciplines play – this should include RRI researchers taking a more critical perspective of their own role and contribution. This will result in a more critical approach to, and role for RRI. The reassertion and redefinition of RRI is made more important as the factors that have created the current populist context can be seen to highlight a demand for changes in terms of current socio-technological development trajectories (Blok and Lemmens 2015).

2. RRI and the threat from populism

RRI is widely defined as:

[A] transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view to the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products (in order to allow a proper embedding of scientific and technological advances in our society). (von Schomberg 2011).

On the face of it, RRI has aims and objectives that are hard to argue against. It is seeking to empower a range of different actors to better understand emerging innovations, and respond to the social, ethical, and policy challenges raised.

However, a rise in populism presents several dangers to RRI.

(1) RRI has emerged from western liberal values, such as freedom, equality, and participation (see Stilgoe, Owen, and Macnaghten 2013; von Schomberg 2013; Wong 2016). Current populism clashes with and challenges many of these values. Wong (2016) highlights that these values limit the applicability of RRI, especially where those values do not exist. The original point was made in relation to non-democratic systems but is now pertinent in terms of the political movements that are either in power or in the ascendancy. As a different set of values are emphasised by political leaders, the applicability of RRI could be reduced, or at least lead to reduced space for open and pluralist debate, required for and advocated by RRI.

These impacts could ultimately affect the development of technologies and innovations – with emphasis taken away from responsibility, and placed elsewhere, such as on short-term economic outcomes at the cost of society and/or the environment. Indeed, if dialogue and inclusion are limited, wider societal values will not be included within such development processes.

(2) During both the Brexit campaign and US presidential election, elites (including, but not limited to scientists) were the target of much negative attention. An attack on elitism

and science by association could lead to defunding and a move away from assessing or considering socio-ethical issues – this is especially relevant for those disciplines that feed into political and social discourse, such as SSH. RRI requires capacity, and the defunding of contributing disciplines would limit the integration of RRI frameworks in future science and technology development.

Whilst defunding is an obvious concern, an association between the consideration of socio-ethical factors and elites could be equally as damaging. This would reduce the space for deliberation and debate between societal actors and those conducting research and innovation, impacting the ability of research and innovation to be inclusive, a key tenet of RRI. History teaches us that where science is seen as elitist, it has suffered during times of upheaval and change, such as during the French revolution and the cultural revolution in China (Toker 2016). Although these historical examples do not align completely with current developments, they serve to illustrate the danger in being perceived as elitist in times of change – that science and innovation ends up representing what populism targets and feeds off. Indeed, these pressures could lead to a reluctance by RRI and SSH disciplines to be critical of or challenge dominant epistemologies, such as the current neoliberal or techno-economic paradigm.

Some scholars already highlight an epistemological void at the heart of SSH, which leaves dominant epistemologies unchallenged and as such provides tacit support. Recent scholarship highlights how RRI, ELSA, ELSI, and related approaches can be used inappropriately to provide legitimacy to scientific programmes (López and Lunau 2012). European RRI programmes can be criticised for being designed to support economic growth and being overly aligned to neoliberal and techno-economic epistemologies (Blok and Lemmens 2015). Cited examples include the need for industry co-funding in the Dutch RRI Research Program (NWO MVI). Whilst such measures ensure RRI is put into practice and has impact within practical contexts, it can also mean that research without a clear and tangible benefit to commercial interests is unlikely to be funded.

(3) Science and innovation are a global endeavour and rely on a globally established set of rules, norms, and practices. While questions remain as to the ability of innovation processes in commercial settings to be open and transparent, due to the role of information asymmetries required for competitive advantage for instance (see Blok, Hoffmans, and Wubben 2015), the ideal of RRI is still embedded within an open society where public organisations and companies take responsibility. The populist movements, at least in the US, emphasise a refocusing on the nation, with a more inward-looking stance, and one that also rails against dissent and criticism of the executive – this contrasts with the notions of inclusion and deliberation which are central to RRI. Such sentiments could start to be applied to, and impact, the sharing of knowledge (especially if it is deemed nationally important) as well as the movement of scientists. In turn, a breakdown of a global scientific community could impact consensus (and so progress) of ‘grand challenges’, such as climate change and environmental degradation.

3. Could a lack of RRI explain the emergence of populism?

A multiplicity of reasons is advanced to explain the political success of populism. One common theme highlights a disenfranchised middle and lower class feeling left behind and excluded. Technological advancements have lifted millions out of poverty and

improved living standards in developing countries. But they have led to changes in western economies and societies that have coincided with stagnation (Milanovic 2012; Mishel, Gould, and Bivens 2015). Many of these changes and the (potentially) negative impacts they have created can be linked to a lack of responsible innovation and the possible failure of SSH epistemologies to challenge dominant paradigms. These have led to feelings of disenfranchisement and a desire for change (Owen 2016).

A lack of RRI can be seen to be partly responsible for the emergence of populism, as the negative impacts of technological advancement were not adequately identified, nor prepared for. Examples include: the impact of disappearing jobs, via mechanisation, robotification, and artificial intelligence; the irresponsible financial innovation that preceded the 2007–2008 financial crisis; the unforeseen impacts of the development of the internet, including social media; or the innovation of western neoliberal policies that pursue the ever-increasing liberalisation of markets.

Whilst technologies and economic systems have evolved and developed, drawing on the work of scientists and innovators, often only the positive arguments of such changes have been advanced. Too few eyes were left to be critical and identify and prepare for potential negative side effects. RRI researchers (the authors included) should recognise their role in failing to anticipate the problems, and the possibility that we have contributed by engaging with RRI practices, which have uncritically legitimised the status quo.

RRI, ELSA, ELSI, and similar approaches are undertaken with the stated aim of aligning science and society. But they can be conducted in such a way as to limit the achievement of such outcomes. López and Lunau (2012) for example highlight how the use of legal reasoning in ELSI processes led to compressed foresight and a divergence from ELSI requirements. These issues link to wider criticisms that public engagement exercises too often focused on the *how* rather than the *why*. By focusing on the method and process of stakeholder dialogue and collaboration, outcomes can be overshadowed, which may lead to suspicions that these ‘exercises do not sufficiently challenge, and so serve to reinforce, incumbent power structures’ (Stilgoe, Lock, and Wilsdon 2014, 6). This shows that when RRI is not enacted in an appropriate way, it can compress foresight, ignore possible futures, and narrow the space for debate or even research and inquiry (López and Lunau 2012).

The result has been a lack of anticipation of possible negative impacts and reflections on the real intentions of innovations – for instance, a lack of debate beyond the consensus that built around neoliberalism during the late 1990s and early 2000s. This consensus created unforeseen outcomes and impacts, such as the stagnation of middle and lower class wages, or indeed the 2007–2008 financial crisis. The dominance of the neoliberal or techno-economic paradigm, and the way it informs a limited epistemology, could have also impacted innovation outcomes. This manifests itself in overly technical fixes and too little exploration of the role of different types of innovation. This has resulted in calls for RRI to broaden and to consider the non-technical and non-market, such as user-centred innovation and commons-based peer-2-peer innovation approaches (Blok and Lemmens 2015).

A lack of reflexivity also plays a part in these problems, and in particular second-order reflexivity. This is demonstrated through a lack of questioning of whether it is right and correct for instance to make money out of money, or whether current ‘growth at all costs’ models of development are appropriate and desirable. The failure of RRI and

SSH communities to be more critical of the economic system that was installed has meant that the de facto policy towards innovation has been a relentless liberalisation. The aim has been to ensure a 'free space' for innovation to flourish, but has also allowed corresponding values (privatisation, fiscal austerity, and deregulation) to inform science and innovation processes and outcomes.

SSH scholars, as well as the practitioners of RRI, must take responsibility for the way that RRI agendas have been applied in an uncritical way. This can be seen as a symptom of unexamined and unchallenged (ELSified) epistemologies and a lack of reflexivity of not just science in general, but also about the role of the RRI discipline in this context. Whilst scientists (including SSH scholars) are a diverse group, they cannot be placed outside of such discourses.

4. The need for a resurgent RRI

Current trends represent a challenge, but also an opportunity for a new engagement with a more critical notion of RRI. We contend that current trends highlight an increased need for RRI and that a clear gap exists that can be filled by an invigorated, but also more critical and assertive RRI. RRI needs to provide an effect conduit for criticisms and critical thinking in science and innovation. Such a critical attitude should be utilised towards the better embedding of science and innovation in society – to ensure that economic and development models are more inclusive and responsive.

There is a demand and an opportunity for change, which is illustrated by the success of populist movements. This is an opportunity to recalibrate science, research, and innovation towards more authentic engagement, reflexivity, and responsibility. In turn, this should ensure that RRI scholars are able to serve the public interest. Recalibration will also involve questioning both the political economic paradigms within which RRI is performed, as well the underlying political epistemologies of RRI and wider SSH approaches to ensure their continued significance (Thoreau and Delvenne 2012).

A collective stewardship of science and innovation is needed to create better, more sustainable futures, and ones which are yet more inclusive and able to mitigate against further populism. In this sense, there is a need to maintain and boost RRI to ensure that society and science and innovation become connected (without overburdening science and innovation with political aspiration in itself). Recent political trends and examples of irresponsible innovation (such as the 2008 financial crises) should serve as a wake-up call to end pseudo-RRI activities. A future RRI agenda must aim to tackle these issues. For instance, RRI can play a key role via its ability to accurately inform societal actors of the risks and benefits of different innovations and approaches – thereby increasing societal embeddedness and mitigating populism. RRI needs to play a role in ensuring that dominant voices, such as the neoliberal policy agenda, do not restrict debate nor the space for alternative approaches. For this to be achieved, a critical issue will be to ensure that reflexivity is encouraged and rewarded. To protect against blind-spots and the influence of relative power structures, nested innovation ecosystems will be required that facilitate genuine questioning, critical reflection, accountability and responsibility (Özdemir and Kolker 2016).

The softer sciences (including researchers in RRI) have a core purpose to serve by facilitating the critical assessment of science and innovation, by preventing the hegemony of

neoliberal or techno-economic justifications for research and innovation investment and ensuring the interconnectedness and interdependency of developments in science, innovation, and society. This is the opportunity the RRI discipline should embrace in order to forge a better future for itself and society.

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