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# Introduction

## The spirit and point of this anthology

This anthology aims to explore the current Norwegian context of implementation of Responsible Research and Innovation (RRI) and Corporate Social Responsibility (CSR), as well as the challenges and fragilities associated with it. It is grounded in the experience of a networking and learning centre called AFINO (acronym for 'Ansvarlig Forskning og Innovasjon i NOrge', or Responsible Research and Innovation in Norway), to which most of the authors of this book are affiliated. The AFINO Centre was established in 2019 for a 5-year time period and is funded by the Research Council of Norway (RCN) through the programme SAMANSVAR on Responsible Innovation and Corporate Social Responsibility. Before we go into AFINO's mandate, and into the unique context of RRI in Norway, we would like to explain our motivations for writing this book.

Literature on Responsible Research and Innovation (RRI) and Corporate Social Responsibility (CSR) is surely not scarce. The fact of bringing these two topics together is far less common, but it is not the only defining feature of this book. This collection is characterized by some unique features. To begin with, it is the product of a group of authors who have worked together in AFINO over the past 5 years. So, the authors have had the chance of collaborating and sharing their experiences and challenges met in their efforts to understand and implement RRI and CSR in a variety of contexts. AFINO was not primarily a centre that aimed at producing scholarship on RRI and CSR, but rather at promoting their practice, coming up with new methods and nurturing relevant skills, such as transdisciplinarity (see Chapters 2 and 5), and, last but not least, nurturing a deeper dialogue and learning process between RRI and CSR researchers and the main research policy institution: the Research Council of Norway (RCN) (see Chapter 3). This particular role of AFINO positioned the authors close to the implementation level but, at the same time, made them very alert to the policy implications.

Another characteristic element of this anthology is that the authors are all grounded in the unique Norwegian context. Together with the Netherlands and the UK, Norway is one of the three nations in Europe where RRI was embraced by major research funders (see Chapter 3), while in terms of CSR, Norway has a strong public ownership of companies that creates an expectation for transparency and social responsibility (see chapter 1). Furthermore, there is a tradition of collaboration and trust between businesses and the public. In short, both RRI and CSR have been accepted early and supported in the country. This of course could make Norway look like an *uninteresting* case, because it is so atypical and so uniquely privileged. Yet, when we decided to write this book, our mood was far from optimistic. The prospects of CSR and RRI seemed gloomy even in Norway.

CSR seemed to be the victim of the rise of sustainability and of the success of the Sustainable Development Goals (SDGs). RRI seemed for a while – erroneously, see Chapter 3 and the next section – to have disappeared from the Research Council of Norway's agenda, and the Council itself was in full turmoil. Furthermore, we felt that many of our initial expectations had not been fully met through our work in AFINO. In particular, we would have liked to engage more thoroughly in an ongoing learning process and dialogue with the RCN, on the challenges of implementing RRI in practice, and despite several fruitful discussions together, the shared learning between AFINO and the RCN is, in hindsight, somewhat scarce and fragile.

These feelings and thoughts convinced us that there was a book to write. We wanted to explore where these challenges, doubts, or indeed fragilities around RRI and CSR come from. We thought that looking at them from the privileged perspective of Norway could reveal the core challenges, those that, even in very favourable circumstances, are bound to emerge. Because our position is close to the practice and implementation but also mindful of policy issues, it was natural to focus on what happens at the level of concept translation into practice, and in particular at the gaps between aspirations and actual results, or between intentions and outcomes, as well as the resulting fragilities in the implementation of RRI and CSR. This focus on fragilities is the most characteristic feature of this collection.

Most of the experiences and the reflections collected in this anthology revolve around this central theme, but they do it at different levels. Some stay close to the first-hand experience and explore the issues, solutions, and struggles at the practical level. Some start from issues that emerged in practice or in case studies to move the reflection from the practice to the operational level: to the implementation mechanisms and the contexts and institutions in which and through which they operate–from research projects to the law. In some cases, the reflection reaches the level of policy and politics. What is often at the centre of the reflection is the dialectic between the forces that promote RRI and CSR and the resistances and contingencies that twist the achievement of the objectives. So, the book does not develop theories or propose new interpretations of concepts, nor does it provide solutions and practical guidance, although we conclude with some policy-oriented recommendations. The common thread along the chapter is the attempt to understand the dynamics of translation and implementation, to bring into the light the critical junctures where things may derail or at least need attention, resourcefulness, or just some good luck. To talk of good luck is not just a pun to lighten the discourse, but it is also a reminder of the role of contingency in engaging with complex systems and a reminder of the limits of rationality, both in planning and in explaining events in retrospect.

Whether the authors are trying to illustrate a fragility or challenge, to understand its origins, or to illustrate how they have been tackled or how things developed in unexpected ways that raise new fragilities and questions, we believe that all chapters contribute to bringing to light the richness of the domains of research, innovation, policy, and business. This book offers the reader a journey through RRI and CSR in

Norway, where they will encounter many tensions and challenges, different styles and theoretical backgrounds, thematic affinities as well as analytical dissonances, many doubts, ambivalence, and open questions. We trust that readers will emerge from the journey with a better sense of what makes RRI and CSR important concepts, despite their flaws and imperfections, and where their fragility comes from. It is a journey that we believe will be valuable for all those interested in RRI and CSR but also for those more generally interested in the relations between science, policy, business, and society. The governance of R&I is not a hard science but more akin to an art or a craft. Arts and crafts need the ability to rethink and to change ideas, methods, and approaches. We therefore invite the readers to see more shades, to ask new questions, and to see the learnings around fragilities as sources of resilience.

## The unique Norwegian context of RRI and of AFINO

As written above, this book looks at the current Norwegian context of implementation of Responsible Research and Innovation (RRI) and Corporate Social Responsibility (CSR) and is grounded in the experience of the AFINO Centre, funded by the Research Council of Norway (RCN). It is important to understand first why AFINO was funded by the RCN, as it illustrates the unique focus on and ambition for RRI in Norway. The Norwegian context stands in high contrast with the European context, where, as some of our colleagues wrote in their recent book on the implementation of RRI in an EU context: "RRI is dead (at least as an EU policy concept), and it is not yet clear what will come after" (Völker et al., 2024; p.x). But note that there was a time (in 2022–2023) when many (including ourselves) thought that the same was true for Norway. This worry has now been dispelled.

As of today, RRI is very much alive and supported by the Research Council of Norway (RCN), with its recently updated web pages on RRI, which encourage RRI to be implemented in the RCN-funded projects, and with the outstanding call for Research Centres for Artificial Intelligence, where the RCN will channel 850 million NOK and is expecting attention for RRI principles in the applications. The RCN's commitment to responsible research in a broad sense can be traced back to 2008 (Gulbrandsen and Rynning, 2016), with the launch of the ELSA programme on Ethical, Legal, and Social Aspects of new and emerging technologies (2008–2015). This programme was key in developing the concept of Responsible Research and Innovation (RRI) and contributed to shaping the RCN's main strategy document that asked for RRI to be incorporated into the projects funded by the RCN. After the ELSA programme, the SAMANSVAR programme on Responsible Innovation and Corporate Social Responsibility was developed in 2014, with a focus on research about – and research as – socially responsible innovation (Gulbrandsen and Rynning, 2016). Over that period, the RCN established its framework for RRI (RCN, 2019), based on the four dimensions outlined by Stilgoe and colleagues (2013): anticipation, inclusion, reflection, and responsiveness.

The commitment of the RCN to RRI, as they explain it themselves, comes from an awareness that science, innovation, and technologies transform social, economic, and political structures in profound ways (RCN, 2023). From this entanglement, socio-technical imaginaries and futures are created, which give a direction to research, innovation, and policy (Jasanoff and Kim, 2015). This has led the RCN to engage with so-called third-generation R&I policies (Arnold et al., 2019) and to define itself as a social actor that should be involved in discussions about the transformative power of research and innovation, and where these processes are taking us, and reflect on the potential social, environmental, economic, and ethical aspects, as well as impacts and benefits of new research and innovation, in particular, who might be benefiting from it and for whom might it be detrimental (RCN, 2023). To clarify the difference, the first generation of R&I policy "involves funding research and essentially delegating the choice of theme and quality control to the scientific community in the expectation that societal benefits will eventually appear", the second generation of R&I policy "focuses on funding research and innovation in order to get specific societal benefits, especially economic growth" (Arnold et al., 2019; p.3), and the third generation of R&I policy focuses on addressing grand societal challenges in responsible and sustainable ways. This demands that the broad spectrum of R&I actors is involved in R&I processes, including researchers and innovators, industry and private sectors, civil society, and, as argued by the RCN, funding and research policy institutions. This is a demanding way of organizing and governing R&I processes, which leads to important challenges. The main challenge is the 'transformational challenge': namely, how to concretely achieve the desired structural transformations towards more sustainable, fair, and robust economies and innovation systems through R&I processes that are able to address complex and uncertain grand societal challenges. In concrete terms, this transformational challenge translates into difficulties inherent to establishing a shared vision regarding the goal and direction of the transformative R&I process, the lack of coordination across different policy levels (from regional to national and European), or again a lack of adaptive policy portfolios and spaces for experimentation and learning about how to address complex and uncertain grand societal challenges[1] (Arnold et al., 2019).

Learning about how to engage in third-generation R&I policies is fundamental, and a central objective of the RCN in supporting RRI has been to establish such networking and learning arenas that build on the varied experiences of R&I actors and create new partnerships. It is precisely for that purpose that the AFINO centre has been funded[2]. AFINO was funded as a way to experiment and test the ground for con-

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[1] For an extensive mapping and discussion of the different challenges and failures inherent to third generation R&I policies, ranging from directionality failures, demand articulation failures, and policy coordination failures, see the Technopolis Report by Arnold et al., 2019; pp.11–12.

[2] Similarly, three years before AFINO, in 2016, the RCN funded the Centre for Digital Life Norway (DLN), which has been a pilot for testing transdisciplinary cooperation and RRI in the context of biotechnology research and innovation.

cretely engaging in the third generation of R&I policy and nurture partnerships and methods to navigate the associated challenges of such R&I governance. The objective of AFINO was therefore to build new networks between research, innovation, private sectors, and research policy institutions and develop expertise on how to ensure that R&I processes address grand societal challenges in responsible and sustainable ways, giving attention to societal values, needs and impacts, and ethical dimensions of scientific developments and technological innovations. Across the different chapters, it will become visible that AFINO has looked at the implementation of RRI and CSR in different domains, ranging from developing skills and knowledge through, for instance, training for post-graduates (see Chapter 5) to more concrete domains of application, such as involving patients and users in medical innovation projects (see Chapter 8), or looking at the impact on CSR of some relevant Norwegian laws (see Chapters 9 and 10), to only name a few.

## The content of the book

Every chapter in this book opens with an abstract of its content where readers can find a summary of their main arguments. Here we provide an overview to specifically present how each chapter contributes to the main theme of this anthology – the fragility of RRI and CSR. The chapters are organized into three sections. The first section, titled 'The emergence of Responsibility', provides context by situating RRI and CSR in Norway within long-term trends in the relations between society, science, innovation, policy, and business. Siri Granum Carson, who is the AFINO Centre director, opens the book with **Chapter 1**, titled "The institutionalisation of social responsibility in Norwegian business and research – moral progress, moral decay, or both?" This chapter interprets the rise of CSR and RRI as responses from the business and research sectors to their legitimacy and role being challenged by society at large. The growing public awareness of the role of business and research in tackling – and generating – environmental and social problems put pressure on them and brought attention to their processes and purposes. This perception of being under public scrutiny opens up to different (com-)possible developments of CSR and RRI. They can contribute to more reflective and transparent practices, making science and business more attentive to social and environmental concerns, but they can also become cosmetic practices that affect the public presentation of business and science and fail to enact the deep transformations that the challenges of our times require. So, here we are presented with a classic fragility: if a change is more apparent than real it may easily turn into a problem rather than a solution. But, on the other hand, it is hard to tell whether small changes are the beginning of an incremental transformation and they need tending and care rather than harsh and impatient criticism.

In **Chapter 2**, titled "From value-freedom to responsible research and innovation? – Post-normal and transdisciplinary pathways", Matthias Kaiser relies on his

readings of history and philosophy of science to go through the emergence of the social responsibility of science – which he extends to the ethics of science – in its many expressions. He portrays the social responsibility of science as an attempt to overcome the dogma of value-free science and address tensions between knowledge and power in research and innovation processes. The author illustrates the development of social responsibility with examples from the Norwegian context (referring, for instance, to the $CO_2$ capture project in Mongstad). Commenting on RRI as one form of social responsibility of science, Kaiser highlights tensions between scientific knowledge and its relation to existing power structures in society. He argues that these tensions create fragilities when engaging with responsible research, and that there is a need to more closely examine those fragilities, as a starting point to discuss a new take on the ethics of science, moving from a theoretical and rather abstract enterprise to a more practical type of ethics, focusing on the processes of research and innovation (characterized by tensions, doubts, failures, and dilemmas) rather than an overwhelming concern for outcomes.

**Chapter 3**, titled "Norwegian engagement with RRI and the propagation of RRI by the Research Council of Norway", is a transition from contextualization to a more empirical analysis. Christian Wittrock and his colleagues show through a bibliometric analysis that Norway occupies an internationally outstanding position in the production of academic literature on RRI. The analysis then moves to the organization that dominates research funding in Norway – the Research Council of Norway (RCN) – and illustrates in detail the initiatives and programmes through which it promoted RRI. The study also considers the evaluation of the programmes promoting RRI, their relative scale in relation to total funding, and the view of advocates of RRI within the research council that meanwhile experienced a serious political crisis. This critical part of the analysis provides insights into the fragility of RRI. In this respect, the key contribution of the chapter is its ability to expose the limits of indicators of success, which, taken in isolation, can give very different impressions about how successful the uptake of RRI in Norway has been. The broad range of the analysis still raises a host of important questions for further studies, which the authors meticulously illustrate. This difficulty in achieving a comprehensive and well-grounded evaluation of the success of RRI clearly poses questions about how a policy can be furthered and sustained rationally, when feedback is incomplete and far from unequivocal. This is probably a more disturbing fragility than the more apparent one represented by the exposure of the research funder to unpredictable political attacks.

The second section of the book, titled 'Contexts of fragile responsibility', discusses some specific challenges encountered by RRI and CSR. The authors' analysis is located at the operational, policy, and political levels and presents issues that are not exclusive to the Norwegian context but have wide relevance. The section opens with **Chapter 4**, titled "The elusive transformation of research and innovation. The overlooked complexities of value alignment and joint responsibility". This chapter brings the analysis of two challenges for RRI at the philosophical level. Giovanni De Grandis pos-

its a contrast between what he sees as an ambitious transformative agenda of RRI and uptake and institutionalization that are still marginal, homeopathic in his own words. This gulf between ambitions and achievements is explained in part by the inadequacy of the means devoted to achieving the ambitious aims of RRI, which were largely left to the limited resources of junior researchers. But the bulk of the chapter is an ambitious philosophical analysis of the difficulties of achieving value alignment and collective future-oriented responsibility, two ideas that De Grandis sees as fundamental pillars of RRI. To put it very simply, in both cases the changes needed to align value and create a sense of joint responsibility for future outcomes hit against the existing socio-economic reality of R&I and how this latter shapes, at a deep level, the values of situated individuals and the obligations and constraints of organizations. The changes needed for transformative RRI are often incompatible with the running logic of existing institutions, and this explains why the chapter suggests scaling out RRI to "relocate" RRI projects outside existing infrastructures.

In **Chapter 5**, titled "Navigating tensions around RRI in higher education", Anne Blanchard and Erik Bjørnerud contribute with their own experience in designing and teaching a series of PhD courses on the topic of RRI, as part of the AFINO research school. They share the tensions met by the post-graduate participants that create ambivalences and fragilities when early career researchers decide to engage in RRI but lack support for it. Those tensions, expressed by the PhD course participants over the years, centred on navigating short-term temporalities, the expectation for quick results, narrow merit-based criteria, and the gap between intentions and outcomes in RRI projects. They mostly stem from conflicting demands from research and policy environments and lead early career researchers to internalize narrow criteria for what counts as a 'successful' RRI project and what could be accomplished in the duration of a PhD or post-doctoral project. What the authors argue is that a key to navigating these tensions, gaps, and fragilities is to nurture a caring and supportive RRI community, based on slow spaces for building relationships and reflections, for being attentive to the sometimes-conflicting demands stemming from research, policy, and society and for reconnecting with the essence of RRI, as an iterative learning process with deeply transformative aims. The authors conclude with early reflections on how exploring these tensions is helpful in shaping new hybrid and anti-fragile partnerships across RRI policy and research environments specifically, in order to discuss and address more profoundly the tensions and gaps in RRI projects.

The second section ends by turning to CSR and to a more global outlook. In **Chapter 6**, titled "Companies squeezed between autocratic and democratic regimes", Atle Midttun looks at how Corporate Responsibility (CR) is now operating in the context of a global political economy that has become increasingly marked by a new, bipolar rivalry between democratic and autocratic states – this polarization is at the root of the fragility he explores in his chapter. As the world moves towards a bipolar contestation between democratic and autocratic regimes, aggravated by the war in Ukraine,

the author argues that it is time to adapt CR to these new bipolar realities. In particular, Midttun claims that this shift affects the very concept of CR, which calls for a major revision. In order to discuss this, the chapter relies on three case studies of companies that have been exposed to controversies stemming from the democratic-autocratic divide, including the Nordic case study of the apparel company H&M, squeezed between human rights based pressures from Western stakeholders and Chinese authorities pressures over social conditions in the Uyghur region. In this context of polarisation and tension, creating a fragile context for the implementation of CR, the author argues for a cautious and nuanced interaction between governments and businesses, with CR being based on openness and cooperation.

The third section of the book, titled 'Practices: fragile or robust?', looks at some of the practices and mechanisms through which RRI and CSR are actually pursued and implemented. The first two chapters look at the ideal and practice of stakeholder – or citizen – involvement in RRI, but do it at different levels: the first looks at different understandings and rationales for involvement, while the second delves into the concrete challenges of practicing stakeholder involvement in a context of innovation in digital health.

In **Chapter 7**, titled "Including societal actors in R&D – Different expectations, different responsibilities", Harald Throne-Holst looks at the different roles of societal actors, citizens, and stakeholders in the processes of research and innovation. Building on a history of inclusion and participation and how these came to be demanded at the (Norwegian) policy level, the chapter discusses the opportunities, drivers, and barriers to inclusion in the unique Norwegian context, which has a long-held culture of supporting inclusion and social equality. The author specifically discusses the fragility of inclusion in research and innovation processes, seeing inclusion as a set of methods for participatory initiatives, and discussing their – sometimes tacit or hidden – purposes. Furthermore, the mechanisms to evaluate them are subject to conflicting views on how 'best' to enact these methods in the attempt to navigate different roles, relations, power, values, knowledge claims, and ways of knowing. Chapter 7 finally outlines four points that should receive particular attention when engaging in inclusion and participatory processes: (i) managing expectations, (ii) clarifying the purpose, (iii) designing the process carefully and collaboratively, and (iv) taking stock of where accountability is situated.

In **Chapter 8**, titled "Do You Value Responsible Innovation?", Elin Oftedal, Tatiana Iakovleva, and Matthias Kaiser take a closer look at user participation in the context of the development of digital health – or e-health – technologies for the care of elderly people in Norway. Drawing on qualitative research methods, such as interviews, 'user cafés', and participatory workshops, the authors try to map the complex value landscapes of stakeholders involved in research and innovation around e-health technologies, including end-users – specifically elderly people relying on healthcare technologies, industry representatives, and local policy-makers. Their analysis reveals the complexities and fragilities of stakeholder engagement around e-health, characterized by strong power imbalances

and often conflicting aims between well-being and profit. The authors highlight the importance of understanding the value landscape in shaping communication and collaboration within the innovation processes. They propose that responsible innovation (RI) should incorporate a thorough understanding of the cognitive, affective, and conative dimensions of the different stakeholder values. By integrating these insights into innovation processes, the authors argue for the possibility to support more inclusive, equitable, and aligned innovations within e-health.

Chapters 9 and 10 bring us back to CSR and are both focused on the actual impact of pieces of Norwegian legislation. As with the previous pair of chapters, here, too, we start with a contribution that looks at the systemic or operational level, and we then move to the shop floor level of implementation in particular companies. In **Chapter 9**, titled "Have law and social science trivialised the Concept and practise of whistleblowing in Norway 2007–2023?", Kristian Alm and Heidi Karlsen explore the consequences of the 2007 Norwegian legislation that protects whistleblowing and of the social scientific research on whistleblowing. They claim that the social value of whistleblowing lies essentially in its function of exposing malpractices within organizations that are detrimental to the public interest and hence in its enabling corrective action. However, their analysis reveals that, in Norway, both legislation and social scientific research have worked with and consolidated a broader understanding of whistleblowing that includes expression of internal and personal issues. This evolution – trivialization, in the author's own words – of whistleblowing has generated fragility at different levels. First, it has limited the specificity of social scientific knowledge. In the face of a recorded increase in retaliation against whistleblowers, we are currently unable to see its relative impact on its public interest use as against its personal interest use. But this fragility leads to another one, namely the lack of knowledge for informing action to support the public interest function of whistleblowing. So, what they point out is a paradox: two key instruments of social action (the law and social science) have actually brought about a conceptual vagueness that hampers social action.

In **Chapter 10**, titled "Acting on the Norwegian Transparency act: interpretation and implementation", Caroline Ditlev-Simonsen looks at a much younger piece of Norwegian legislation, the 2022 Transparency Act that compels medium and large businesses to publish information about how they deal with the risk of human rights and fair working conditions violations in their supply chain. Her focus is on the contingencies that affect the reception and compliance strategy within individual firms. Her study shows significant differences – steeped in the firm culture, resources, and personnel – in responding to the demands of the law and complying with it, thus indicating that hard law – as compared to soft forms of regulation – may not be an effective instrument to promote more homogeneous and consistent practices of CSR. Here the problem is not the lack of positive impact of the law – firms seem to have made improvements in overseeing their value chain – but the variability in their responses. So, here again, the contingent circumstances make the law a more fragile instrument than it is often assumed for bringing about conformity and standardized behaviour.

Throughout the book, the contributors have explored very different issues, ranging from social demands for transparency and participation to the resistance of vested interests, from funding strategies to individual values, from coordination problems to systemic constraints, from tensions within researchers' purposes to global rivalries, from stakeholder involvement to the impact of legislation. They have used an equally varied array of methods and approaches. This diversity reflects the complicated life-cycle of governance and policy concepts like RRI and CSR, as well as the more specific concepts through which they are translated and implemented. They move across different levels and reach many and diverse contexts, and at every move, fragilities, risks, contingencies, unknowns, and resistance occur. It is difficult not only to manage the journey but also to capture accurately and to evaluate its actual impacts. So, neither intentions nor knowledge pass across levels – ideation, policy, translation – without distortions and blurring. This happens in Norway too. The important point is that the variety and variability of the circumstances in which policy concepts are developed, translated, and adapted do not lend themselves to produce law-like regularities. This, of course, happens in many domains of human life, but when phenomena are observed, recorded, and reflected upon, a repertoire of organized experience and learning can be built and contribute to navigating new situations and contexts of fragilities. This is exactly what this book attempts to do.

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