

**Judging the Socially Responsible Nature of
Research and Innovation:
Options and Obstacles**

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1. Introduction

Responsible Research and Innovation or RRI requires aligning research with the interests, needs and values expressed by or assigned to social agents.



René von Schomberg: distinction between RRI as a procedure of participation and a product meeting certain standards.

Product-oriented RRI: research proceeding on behalf of the people: science for society.

Process-oriented RRI: research conducted in a dialog with the people: science with society.

Bielefeld Nucleus work package: survey among 54 researchers from all over Europe. In addition: 32 executive officers.

The results are only qualitative and exploratory.

Product-oriented RRI: the expected outcome of a research undertaking should be beneficial to society.

Process-oriented RRI: emphasis on public participation.



Two relevant social groups: stakeholders and lay persons. Stakeholders have a specific interest in certain results (e.g., economic companies or patient groups).



Lay persons are assumed to evaluate research without a vested interest.

Survey: what do researchers think of involving people from outside of science in their own research?

2. Survey Results and Obstacles Identified

Many scientists explained they were eager to serve society and appreciated social input for identifying pressing problems that they could set out to solve.



Interaction with lay people and with stakeholders was welcomed both as a source of funding and of ideas about useful pathways of research.

Judging from the interviews, a friendly and welcoming atmosphere toward RRI prevails in the scientific community.



Most positive examples of RRI came from medical research, environmental protection, and demands urgent in a local context.



Scientists tended not only to welcome science for society but also science with society.

Counterexamples to RRI mentioned: military research, financial mathematics, neglect of side-effects.



A concern of several researchers: insufficient inclusion of basic research that is aimed at understanding the world.

Basic research was considered essential for making practice-driven research sustainable.

Additional worries with respect to RRI: fear of ignorance and bias.

Lay people engagement suffers from lack of knowl-edge on scientific topics.



Worry: A gap opens up between desires articulated by the people and more tangible objectives that science could sensibly address.



Stakeholder involvement was viewed as creating a bias that could alienate science from its social responsibility.

In contrast, executive officers had no qualms about stakeholder influence on research.

Lay people seen as recipients of information and education: RRI as an opportunity for distributing results widely and for increasing the sense of relevance of projects.



Concern about an additional level of bureaucracy.

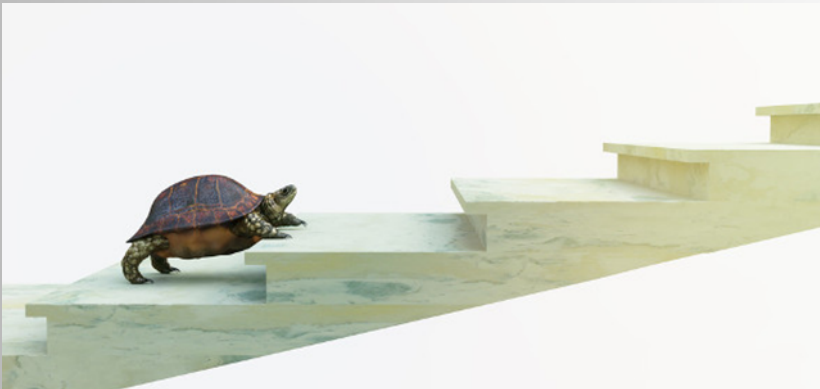


Interacting with lay people is a demanding task that needs preparation and resources.

Prima-facie precondition for passing reliable judgments in matters of RRI: predictability of research findings.



Implementing RRI seems to require anticipating future technologies and their impact on society.



RRI considerations are taken to be limited to anticipating the consequences of small-scale changes to existing technologies and of technologies near the end of their development process.

In sum, four kinds of reservations about RRI.

(i) Basic research is not socially relevant and should not be judged by standards of social relevance.



(ii) Difficulty to anticipate the future development of a research field and to assess its social impact.



RRI intervention could target downstream phases of research, but large expenditure may have been invested in research lines that are later judged to be socially undesirable.

Upstream RRI interventions would be more effective, but future results and their social impact are uncertain.

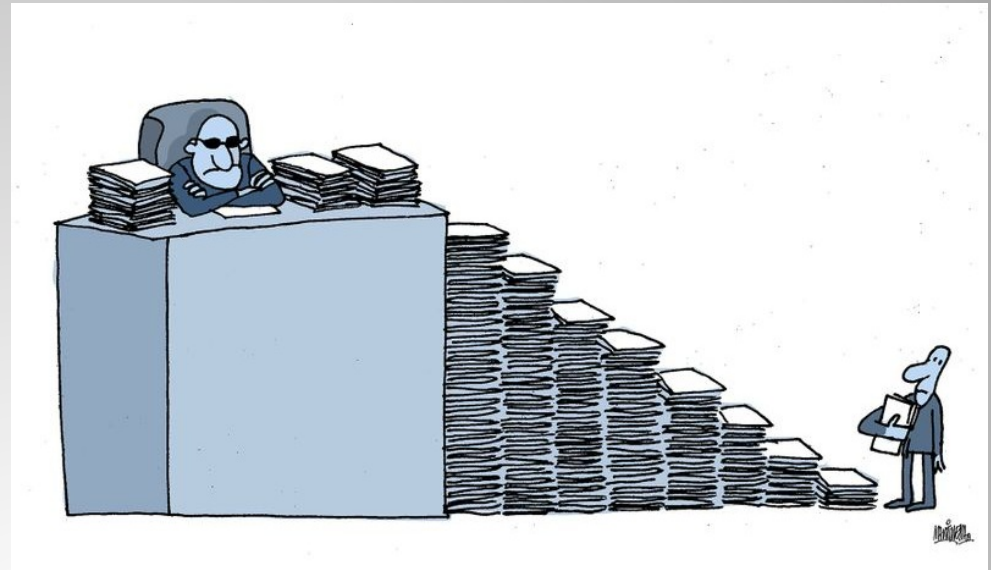


(iii) Loss of autonomy of scientists.

Science is overstrained and biased.

=> Researchers would welcome a research system that bestows a limited influence on the public, but preserves a leeway of discretion for researchers as well.

(iv) Expenditure required for RRI. Institutionalizing RRI would mean imposing an additional bureaucratic superstructure on scientists.



3. Recommendations

Education: Responsible lay involvement requires educating the public.

On the part of the scientists, RRI activities require engagement literacy.



Stakeholder influence on the research agenda needs to be balanced out

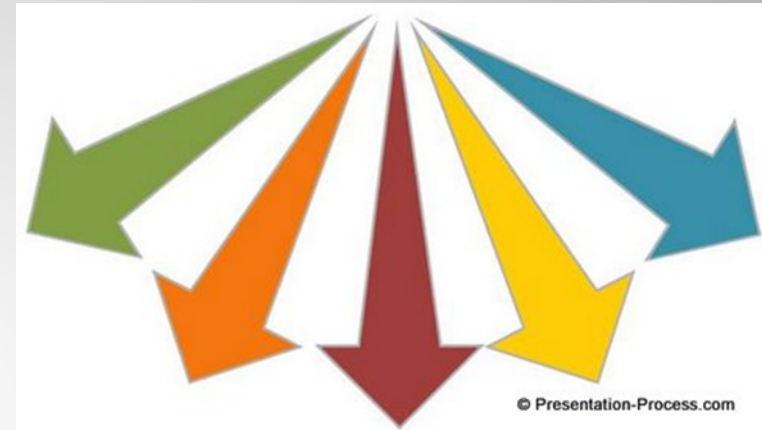
by projects growing out of basic research, or by stakeholders with contrasting commitments.



Dealing with the predicament created by the limited predictability of future research and its social impact:

(a) The uncertainty of the pathways of science should be taken care of by maintaining a wide variety of research endeavors.

This commitment to a wide range of competing options curbs the impact of the vagaries of future research accomplishments.



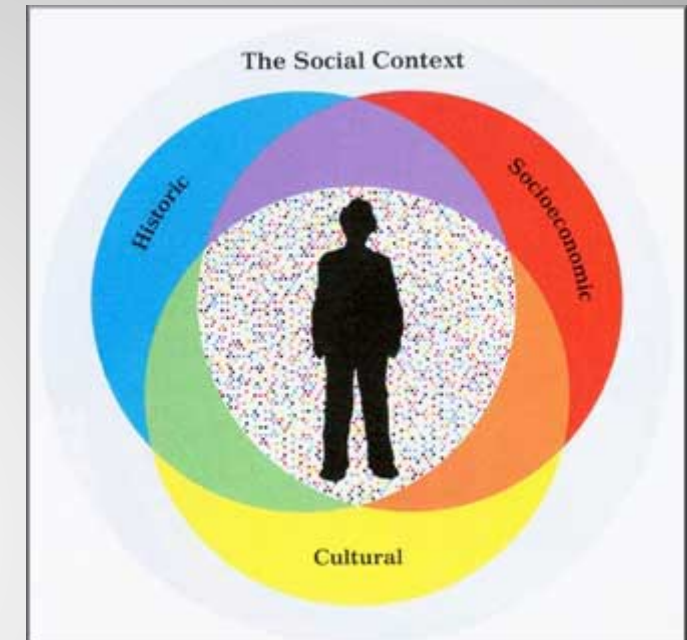
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(b) The more specific inclusion of demands from society should be reserved to research phases closer to completion.

RRI considerations of this sort could match procedures of stakeholder-sponsoring already in place.

(c) Judging social compatibility may be independent of anticipating the future course of research.

Welcome and unwanted characteristics of a technology may be due rather to the social context than the inherent features of the product.



Obstacles for introducing a technology can be anticipated without detailed knowledge of the yet unknown features of this technology.

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But it needs to be done with caution so as not to backfire.

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