



# New developments in responsible innovation

*RRI, openness and anticipation*

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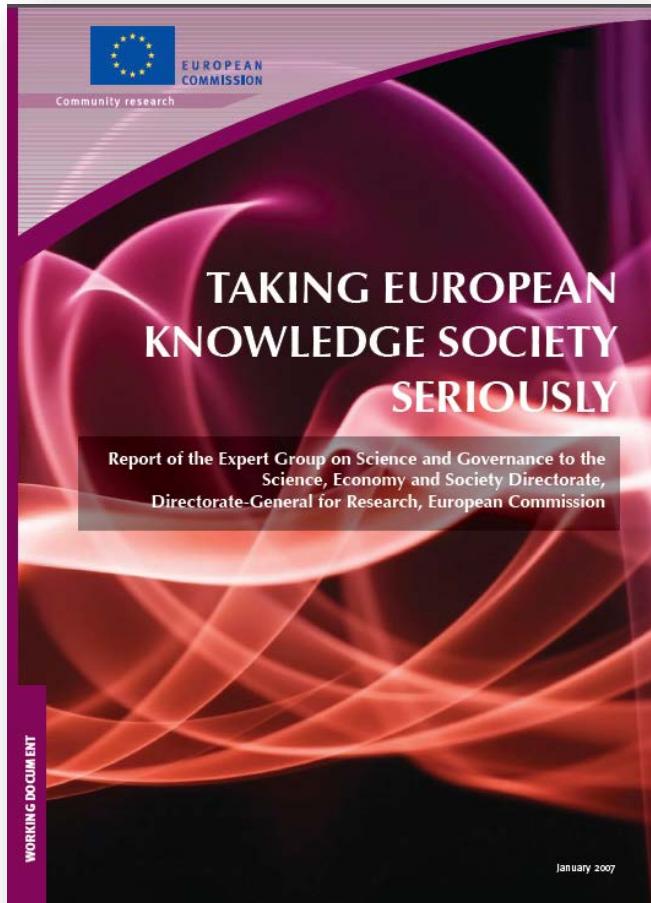
University of the Basque Country UPV/EHU

# The radicalization of responsibility (EU)

KNOWLEDGE AREAS	ISSUES	TYPES OF ACTORS	DEGREE OF INFLUENCE
<i>From life sciences to every research area</i>	<i>From bioethics to governance</i>	<i>From experts to publics</i>	<i>From autonomy to socio-technical integration</i>
<p>«consideration of the ethical, social, legal and wider cultural aspects of the research to be undertaken and its potential applications ... will where relevant <b>form a part</b> of the [FP6 research] <b>activities...</b>»</p> <p>(Council of the EU 2002, p. 7).</p>	<p>«[The aim is] to develop <b>stronger and more harmonious relations between science and society</b>. (...) It will cover <b>education</b>, scientific and technological <b>culture</b>, the <b>participation</b> of citizens and civil society in the formulation and implementation of <b>science policies</b> in Europe, and the use of scientific knowledge complying with common ethical rules in the <b>formulation of responsible policies</b>» (Busquin* 2002, p. 3).</p>	<p>«[m]ore must be done ... to find ways of <b>actively engaging</b> with civil society, stakeholder groups and the public at large in <b>the preparation and execution of research</b>» (Stančić* 2007, p. 1).</p> <p>* EC Deputy Director General for Scientific Advances.</p>	<p>«[concerning FP7, the EC hinted at] <b>a research process</b> aiming as much at the <b>harmonious societal integration</b> of new scientific and technological knowledge as to achieving the specific objective of the research itself» (EC 2007, p. 6).</p>

\* EC Commissioner for Research.

# The radicalization of responsibility (EU)



«European policy making on science and technology often inadvertently suppresses full-fledged expression of normative questions, political values and democratic aspirations (...) through *the assumption that expert discovery can reveal objective truths, which then determine proper policy, and that democratic input is valid only after factual truths have been revealed*. This institutional focus on post-innovation, ‘downstream’ or output questions as the only ones of interest to publics *marginalizes legitimate democratic concerns about the inputs (such as imagined social purposes, needs, benefits and priorities) that drive innovation research in the first place.*»

(Felt, Wynne et al. 2007, p. 11)

# RRI (Horizon 2020)

“It [SwafS] allows all societal actors (researchers, citizens, policy makers, business, third sector organisations etc.) to work together during the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of European society. This approach to research and innovation is termed Responsible Research and Innovation (RRI)” (EC 2013, p. 4).

## Open science (and Innovation) (Horizon Europe)

“(… ) research and innovation are seen by some as distant and elitist without clear benefits for citizens, instilling attitudes that hamper the creation and uptake of innovative solutions, and scepticism about evidence-based public policies. This requires both better linkages between scientists, citizens and policy-makers, and more robust approaches to pooling scientific evidence itself” (EC 2018, p. 74).

“The general public should be able to make significant contributions and be recognised as valid European science knowledge producers” (EC, “Open Science: Citizen Science”).

[https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science\\_en](https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science_en)

### More inclusive research and innovation processes

- transcending the dominant institutional tendency to impose regulatory frameworks on technological innovations whose social justification is unproblematised
- opening up the actual dimension of innovation processes and their goals—including ways and conditions to achieve them—to public scrutiny



It becomes imperative however to analyse and question the meaning and transformative scope (in epistemic, political and economic terms) of this type of initiatives in view of the risk of their instrumentalisation by an innovation system whose ultimate, or main, objective appears to be the industrial exploitation of knowledge.

- "Consolidated Research Group" (since 1996) (Basque Government); top A-rating
- Principal Investigator: Professor Andoni Ibarra
- Main research areas: Philosophy of science and technology, Logic, Social studies of science, technology and innovation, History of science
- <https://www.ehu.eus/es/web/miguelsanchezmazaskatedra/praxis/about>

**PRAXIS Research Group**

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**PRAXIS Research Group**

**Science for Society**

**About Us**

PRAXIS was officially established as a research group in 1996. Ever since then PRAXIS has been regarded a "Consolidated Research Group" (Grupo de Investigación Consolidado) by the Basque Government, reaching a top A-rating in the latest assessment, for the period 2013-2018.

PRAXIS group members are mostly researchers and PhD students from the University of the Basque Country UPV/EHU. We work on a variety of issues related to philosophical, historical and social studies of science, technology and innovation, although our primary focus is in philosophy of science.

Our research group regularly hosts visiting researchers and PhD students who wish to pursue research related to the group's main research interests and activities. Research projects developed within the group cover a diversity of topics, ranging from Philosophy of science and technology to Epistemology, Logic, Science, technology and innovation studies, or History of science.

- Philosophical, theoretical, elucidatory vocation, but combined with empirical/practical work (including the development of evaluation mechanisms for "inclusive" research)
- Some recent works and publications:

Barrenechea, J. & Ibarra, A. (2020). "Criterios, principios e indicadores de conectividad para la inclusividad responsable en ciencia y tecnología". *Caleidoscopio – Revista Semestral de Ciencias Sociales y Humanidades*, 24(43).

Eizagirre, A., Rodríguez, H., Ibarra, A. (2017). "Politicizing Responsible Innovation: Responsibility as Inclusive Governance", *International Journal of Innovation Studies*, 1(1): 20-36.

Ibarra, A. & Imaz, O. (2020). "La innovación de la innovación responsable: deliberación y anticipación", in Rosana Sanahuja and Alicia Andrés (Eds.), *Transparencia e integridad en la institución universitaria* (pp. 99-120), Castelló, Ed. Publicacions de la Universitat Jaume I, colec. Humanitats, nº 61.

Imaz, O. & Eizagirre, A. (2020). "Responsible Innovation for Sustainable Development Goals in Business: An Agenda for Cooperative Firms". *Sustainability*, 12(17): 6948.

Rodríguez, H. (2018). "Nanotechnology and Risk Governance in the European Union: the Constitution of Safety in Highly Promoted and Contested Innovation Areas". *NanoEthics*, 12(1): 5-26.

Rodríguez, H., Eizagirre, A., Ibarra, A. (2019). "Dynamics of responsible innovation constitution in European Union research policy: tensions, possibilities and constraints", in R. von Schomberg and J. Hankins (Eds.) *International Handbook on Responsible Innovation: A Global Resource* (pp. 167-180), Cheltenham and Northampton, MA, Edward Elgar.

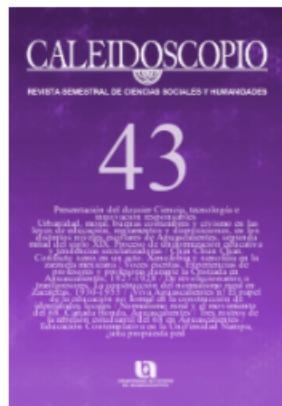
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Idioma

English

Español (España)

Información

Para lectores/as

# Anticipation and responsible innovation

- Anticipations as *de facto* worldmaking practices
  - ‘The future’ as a socio-epistemic & cognitive resource through which the present is lived and created
  - ‘Future models’ as abstract / symbolic objects that colonizes the present
    - as sociological and anthropological facts (e.g. promises, hopes, expectations, visions, imaginaries...)
- Futures as interventionist “tool” for shaping the present – anticipatory disruptive (or open) practices.
  - “Working intentionally with futures is, similarly, not about making prognoses of different possible future states but rather seeking to activate particular anticipatory practices here and now.” (Konrad et al. 2016, p. 481)
  - A socio-epistemic mechanism aimed at the **collective problematisation of future states** in order to generate a series of capability-building heuristics that enable a more reflexive intervention in the present

# Anticipation and responsible innovation

- The issue of socio-epistemically more inclusive governance of socio-technical futures seems to have become a characteristic attribute of normative frameworks such as Responsible Innovation (Stilgoe et al. 2013), RRI (EC, 2013), Anticipatory Governance (Guston, 2008) or Technology Assessment (Grunwald 2019).
- However, the heuristics potential of anticipation must be analysed and critically elucidate in the *practice*.

Arraiza Zabalegui, M. (2019). "La importancia del cuidado/cuidar para la anticipación tecnocientífica: de responsiveness a response-ability", in H. Rodríguez, S. Urueña, A. Eizagirre and O. Imaz (Eds.), *Anticipación e innovación responsable: la construcción de futuros alternativos para la ciencia y la tecnología* (pp. 97-127), Madrid and Barcelona, Biblioteca Nueva.

Rodríguez, H., Urueña, S. (2019). "La seguridad en tiempos de innovación responsable: hacia una propuesta de "riesgo anticipatorio"", in H. Rodríguez, S. Urueña, A. Eizagirre and O. Imaz (Eds.) *Anticipación e innovación responsable: la construcción de futuros alternativos para la ciencia y la tecnología* (pp. 61-96), Madrid and Barcelona, Biblioteca Nueva.

Rodríguez, H., Urueña, S. (2020). "RRI y ambivalencia en el sistema de innovación de la UE: la heurística de la anticipación y sus límites", *Caleidoscopio – Revista Semestral de Ciencias Sociales y Humanidades*, 24(43).

Rodríguez, H., Urueña, S., Ibarra, A. "Anticipatory responsible innovation: futures construction in the face of the techno-economic imperative". (Submitted to *Novation: Critical Studies of Innovation*; under review).

Urueña, S. (2019). "Understanding "plausibility": a relational approach to the anticipatory heuristics of future scenarios". *Futures*, 111: 15-25.

Urueña, S. (2021). "Responsibility through Anticipations. The "Future Talk" and the Quest for Plausibility in the Governance of Emerging Technologies", *NanoEthics* (accepted).

Urueña, S., Rodríguez, H., Ibarra, A. (2021). Foresight and responsible innovation: Openness and closure in anticipatory heuristics. *Futures* (accepted).

## ANTICIPACIÓN E INNOVACIÓN RESPONSABLE

La construcción de futuros  
alternativos para la ciencia  
y la tecnología

HANNET RODRÍGUEZ  
SERGIO URUEÑA  
ANDONI EIZAGIRRE  
OIER IMAZ  
(Eds.)

Monografías

2019

## More recent research projects

- *Representación y Anticipación: Modelización intervintiva RRI en las ciencias y técnicas emergentes* (FFI-2015-69792-R) [2016-2019] (PI: A. Ibarra); Ministerio de Economía y Competividad & Fondo Europeo de Desarrollo Regional

<https://reyanproject.wixsite.com/website>

- *Tecnologías emergentes responsables: la construcción de futuros socio-técnicos mediante gobernanza anticipatoria abierta* [2021-2024] (PIs: A. Ibarra & H. Rodríguez); Ministerio de Economía & Competividad y Fondo Europeo de Desarrollo Regional **Under evaluation**

- Members: PRAXIS + internationally renowned researchers (Richard Owen, Mario Pansera, Andreas Lösch) + Applied Nanoparticles S.L. (spin-off company; Institut Català de Nanociència i Nanotecnologia (ICN2), UAB & ICREA).
- Multi- and Inter-disciplinary project.
- A proposal oriented towards the development of an explicitly open (disruptive) concept of anticipatory governance through the operationalisation of this concept in the field of nanoparticles production.

## “PRAXIS” Doctoral Theses (sample; topical selection)

*In progress*

- P. M. Herrera, *Gestión responsable de big data en el Ente de Turismo de la Ciudad de Buenos Aires. Injusticia epistémica e indicadores de mecanismos relacionales de procesamiento de datos para una gobernanza anticipatoria situacional.*
  - S. L. Malagón, *Evaluación responsable de las ecotecnologías.*
  - M. Pelacho, *Ciencia ciudadana para la constitución de lo común: hacia una ciudadanía y una ciencia abiertas y corresponsables.*
  - S. Urueña, *Anticipatory governance of nanotechnology: plausibility as an enabling and limiting political-epistemic criterion for the co-creation of socio-technical futures.* En curso: 10/06/2021. International.
- 
- M. Arraiza, *The co-constitution of technobodies' sex-gendered materiality: multiple trans\* becomings.* 7/24/2020. International.
  - H. Rubio, *Comunicación anticipatoria de la ciencia en la CAPV. Una arquitectura relacional orientada a la toma de decisiones.* 8/18/2019.
  - O. Imaz, *Deliberative Democracy and Complex Diversity. From Discourse Ethics to the Theory of Argumentation.* 9/28/2017. International (cotutela).
  - J. García-Fronti, *Establishing a sustainable nanogovernance in Argentina. Nanotechnology with and for society.* 2/4/2016. International.
  - J. Barrenechea, *Evaluación de la actividad científica: conectividad relevante y calidad relacional. Una propuesta teórico-metodológica.* 7/8/2015. International.



# Thank you for your attention

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