Science, Society and Innovation

Participatory and Deliberative Practices in Techno-Scientific Changes

Edited by

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Critical Perspectives on Social Science

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"Science, Society and Innovation" is a thoughtful contribution to ongoing debates about democracy, participation, and technoscientific change. Rather than assuming that public engagement is inherently beneficial, this volume asks under what conditions participatory and deliberative practices strengthen democratic governance. Combining conceptual clarity with rich international case studies, it offers an important contribution to contemporary debates in STS and science governance.

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List of Acronyms

AfD	Alternative for Germany
AI	Artificial Intelligence
AIT	Austrian Institute of Technology
CA	Citizens' Assemblies
CEO	Chief Executive Officer
COP	Conference of the Parties
CSO	Civil Society Organisation
CTA	Constructive Technology Assessment
DLL	Digital Teaching, Learning Materials, Citizen Science Methods programme
EU	European Union
FFG	Austrian Research Promotion Agency
FGD	Focus Group Discussions
FWF	Austrian Science Fund
GDP	Gross Domestic Product
GenAI	Generative Artificial Intelligence
GMO	Genetically Modified Organisms
HEI	Higher Education Institution
IHS	Institute for Advanced Studies
kWh	kilowatt hour
LBG	Ludwig Boltzmann Society
MSTKI	Ministry of Science, Technology, Knowledge, and Innovation
NCBJ	National Centre for Nuclear Research
NEF	Nuclear Energy Facility
NGO	Non-Governmental Organisation
NIMB	Not in My Backyard
NPP	Nuclear Power Plant
OeAD	Austrian Agency for Education and Internationalisation
OECD	Organisation for Economic Co-operation and Development
OIS	Open Innovation in Science
PEST	Public Engagement with Science and Technology
PGE	Polish Energy Group
PNEP	Polish Nuclear Energy Programme
PPIE	Patient and Public Involvement and Engagement programme
RMT	Residence Management Team
RS	Random Students
RSec	Resident Secretaries

STKI	Science, Technology, Knowledge, and Innovation
STS	Science and Technology Studies
VR	Virtual Reality
VSL	Virtual Skills Lab

Foreword

Carolina Moreno Castro
University of Valencia, Spain

In contemporary democracies, the relationship between science and society constitutes one of the key challenges of Western governance. As science-related issues become increasingly embedded in everyday life, citizens have come to expect greater openness, participation, and democratic oversight of research and innovation processes. In this sense, issues such as climate change, the energy transition, nuclear power, artificial intelligence, biotechnology, and public health are no longer matters exclusively for experts and nowadays they represent areas of shared concern that require governance models capable of integrating scientific rationality with democratic deliberation and participation.

Over the past few decades, scientists, researchers, and practitioners have challenged linear and deficit-oriented models of science communication. Experience has shown that conflicts surrounding technoscientific issues are rarely the result of a lack of public knowledge. Instead, they reflect divergent interests, competing visions of desirable futures, and differing value systems. Consequently, the challenge is not simply to communicate more information, but to create mechanisms that enable citizens to play an active role in shaping processes of technoscientific development.

Science, Society and Innovation: Participatory and Deliberative Practices in Techno-Scientific Changes makes a significant contribution to this contemporary debate. The volume examines key issues in this field and reflects on recent developments in science–society relations. Through a series of case studies from different countries and themes, the editors address a fundamental question: how much space exists for citizen participation in science and technology policymaking? More specifically, they explore which forms of democracy can foster such involvement, which participatory practices are currently being implemented, and which conditions influence their effectiveness and impact.

The volume provides valuable insights into participatory and deliberative practices in contemporary technoscientific governance. In addition, the case studies illustrate both the opportunities and the limitations inherent in a range of existing mechanisms, including citizen assemblies, consensus-oriented procedures, stakeholder engagement initiatives, and participatory knowledge-

production practices and processes. Together, they highlight the complexity of participation. Although participation is an indispensable component of modern democracy, its quality depends heavily on factors such as design, inclusiveness, reflexivity, transparency, and openness to alternative perspectives and forms of scientific knowledge.

What makes the book particularly relevant is its balanced perspective. On the one hand, the editors avoid an uncritical celebration of participation; instead, they carefully examine the conditions under which deliberation and participation can positively shape science–society relations. On the other hand, they underscore the importance of developing such mechanisms, emphasising a crucial lesson: the future of science–society relations will depend on scientific excellence and also our collective ability to create spaces for dialogue, reflection, and mutual learning. Finally, from my academic point of view, I think it is a good editor's choice to end the book on an open chapter, allowing the researchers to reflect on the science-society debate from a broader perspective.

Prof. Carolina Moreno Castro
University of Valencia

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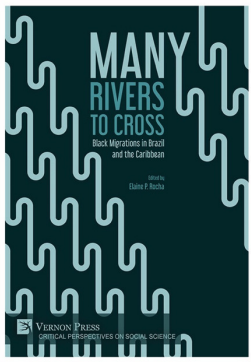
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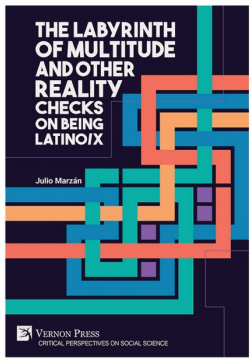
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