Centre for the Study of the Sciences & the Humanities (SVT), University of Bergen (UiB), Norway

EFSA Conference 2018

Where science meets society: Putting risk assessment in context

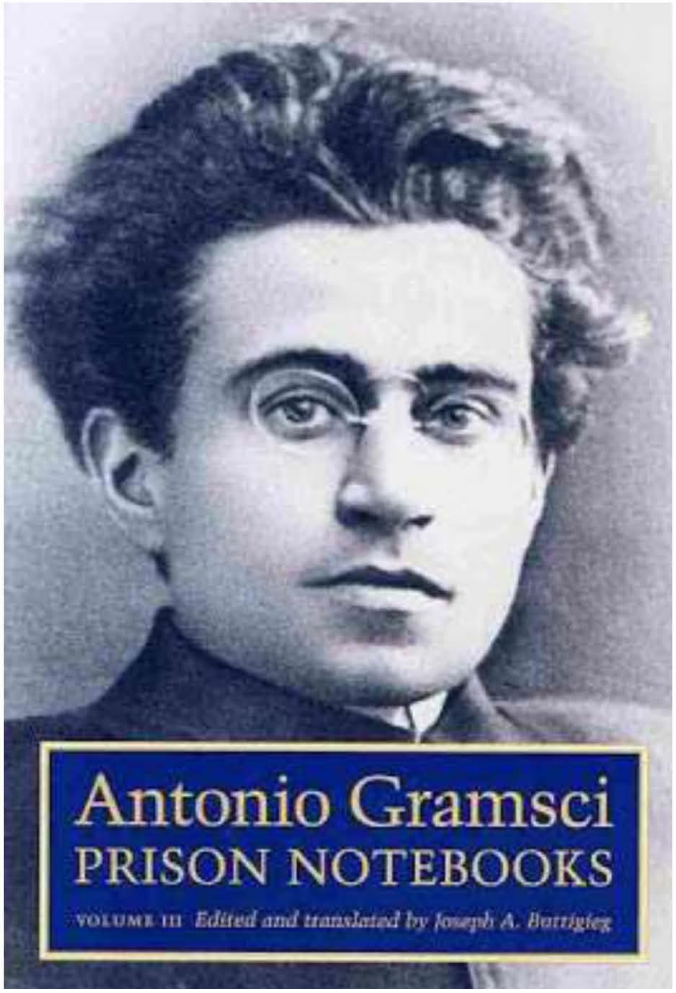
PLENARY SESSION, 18 September 2018

Science meeting society?

The old, the new, & the uncertain in-between

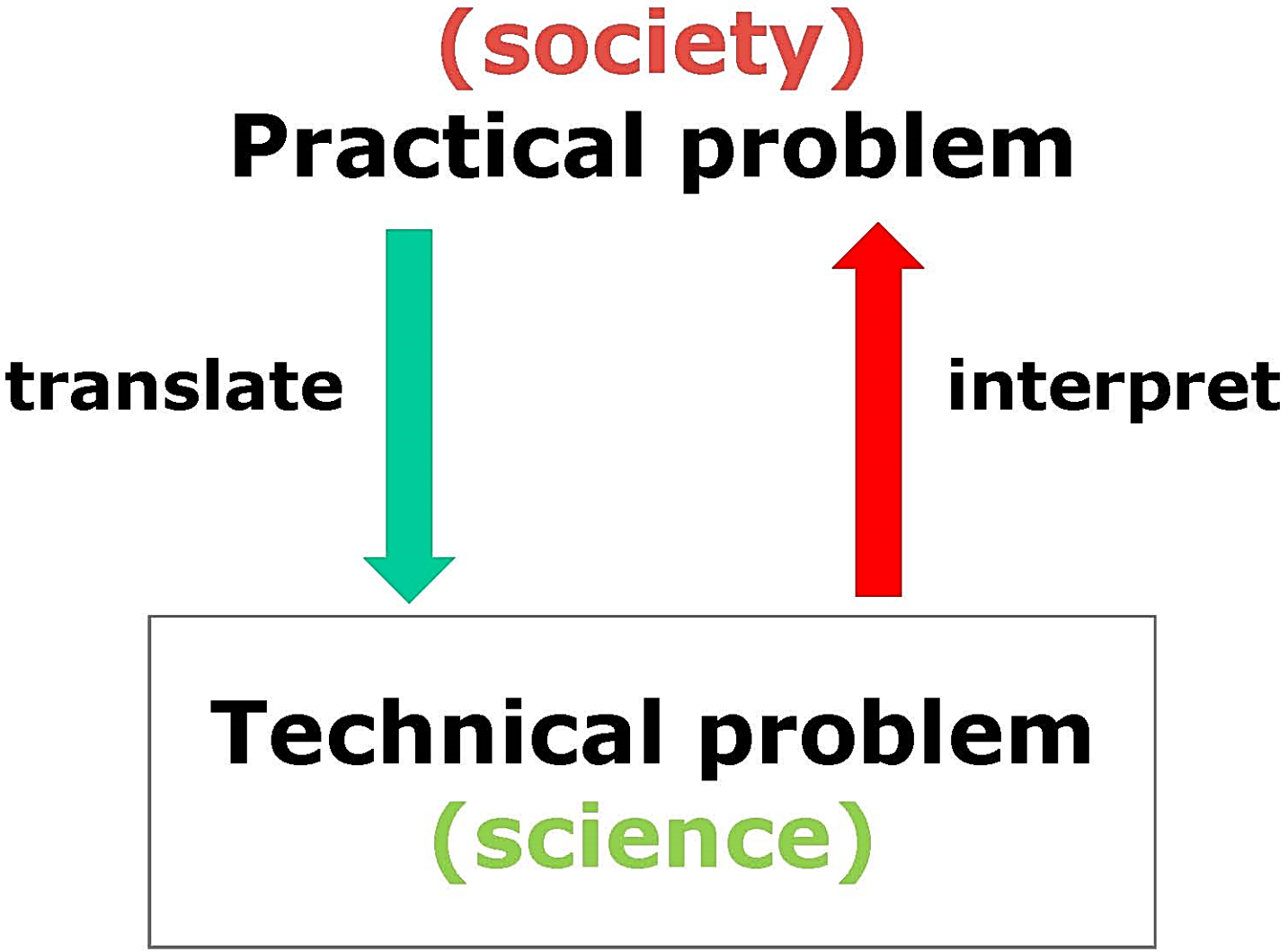
SILVIO FUNTOWICZ

@SFuntowicz



"The crisis consists precisely in the fact that the old is dying and the new cannot be born; in this interregnum a great variety of morbid phenomena take place"

Slide by Jeroen van der Sluijs



Ravetz, J., 1971, Scientific Knowledge and its Social Problems, Oxford University Press.

Where science meets society: Putting risk assessment in context

PLENARY SESSION

Tuesday 18 September 2018 / 13:30 - 18:00

"The interplay between science, risk assessment and policy has become increasingly complex because **we live in a world in which values are becoming more influential than facts in shaping public opinion. Science is increasingly mistrusted; discussions about risks are often polarised and politicised**; scientific arguments serve as proxies for differences in values..."

https://conference.efsa.europa.eu/event/sessions/efsa-2018/where-science-meets-society-putting-risk-assessment-in-context

CC/NUMBER 34

Weinberg A M. Science and trans-science. *Minerva* 10:209-22, 1972.
[Oak Ridge National Laboratory, TN]

Origins of Science and Trans-Science

Alvin M. Weinberg
Medical Sciences Division
Oak Ridge Associated Universities
Oak Ridge, TN 37831-0117

I co
time Oak Ridge National Laboratory was becoming involved in the debate over nuclear power—in particular the debate over the hazard of low levels of radiation.

such … Brooks suggested that an analysis of such situations was beyond the power of mathematics, and therefore, was trans-scientific.[2]

The term "trans-science" is used quite widely now. Perhaps most notable was W. Ruckelhaus's admission in 1985 that many of the EPA's regulations hang on the answers to questions that can be asked of science but cannot be answered by science—i.e., are trans-scientific.[3]

After the paper was published, Harvey Brooks added another dimension to "trans-science"—the evolution in time of systems governed by large classes of nonlinear equations.

mits of science. *Proceedings of the Symposium on Phenotypic ssment*, December 7-10, 1986. Brookhaven National Laboratory.

Minerva 10:484-6, 1972.
. *Technol.* I:19-38, 1985.
4. Wagner W G. Trans-science and torts. *Yale Law J.* 9:428-49, 1986.

nature
International weekly journal of science

CORRESPONDENCE 05 September 2018

Evaluate power and bias in synthesizing evidence for policy

Andy Stirling & Clive Mitchell

Sometimes, **complexities in scientific evidence allow several contrasting but equally valid interpretations**. In such cases, there is a risk that privileged stakeholders associated with one way of thinking might unduly influence the particular values and interests prioritized in that synthesis.

Nature **561**, 33 (2018) doi: 10.1038/d41586-018-06128-3

nature
International weekly journal of science

CORRESPONDENCE 05 September 2018

Evaluate power and bias in synthesizing evidence for policy

Andy Stirling & Clive Mitchell

Scientific aspirations, integrity and practices are crucial for challenging this authority. But if scientific disciplines and organizations deny or become complacent about their own forms of bias, then claims that purport to be definitive and objective could distort decision-making.

Nature **561**, 33 (2018) doi: 10.1038/d41586-018-06128-3

nature
International weekly journal of science

WORLD VIEW 24 January 2018

Don’t attack science agencies for political gain

Eroding trust in regulatory agencies will not improve democratic accountability, warns **Bernhard Url**

“That the agencies reached different conclusions is not surprising: each considered different bodies of scientific evidence and methodologies.”

Nature **553**, 381 (2018) doi: 10.1038/d41586-018-01071-9

CORRESPONDENCE 05 September 2018

European politicians must put greater trust in plant scientists

Josep M. Casacuberta & Pere Puigdomènech

nature
International weekly journal of science

As members of the EFSA's panel on GM organisms since its inception, **we have witnessed a mounting distrust of scientific assessments**. That has manifested with the approval of rules that demand a rigid analysis of GM plants.

Nature **561**, 33 (2018) doi: 10.1038/d41586-018-06129-2

CORRESPONDENCE 05 September 2018

European politicians must put greater trust in plant scientists

Josep M. Casacuberta & Pere Puigdomènech

We need to reverse this trend, for example by acknowledging that approval of genome-edited plants calls for much less data than classic GM organisms, and by **commanding greater respect for the work of scientific panels. This would promote scientifically sound risk analysis while complying with existing directives**.

Nature **561**, 33 (2018) doi: 10.1038/d41586-018-06129-2

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The principles and methods behind EFSA's Guidance on Uncertainty Analysis in Scientific Assessment

https://doi.org/10.2903/j.efsa.2018.5122

24 January 2018

https://efsa.onlinelibrary.wiley.com/doi/10.2903/j.efsa.2018.5122

NUSAP method, using a set of ordinal scales to characterise different dimensions of each source of uncertainty, and its influence on the assessment conclusion, and plotting these together to indicate which sources of uncertainty contribute most to the uncertainty of the assessment conclusion.

Slide from Sir Peter Gluckman

The challenge of science at the policy-societal nexus

- Too much science, much of which is in disciplinary silos
- Often incomplete and ambiguous at the time policy choices are needed
- The changed and post-normal nature of much science
- The challenge of values within and beyond science
- The different perceptions of risk
- Different perceptions of expertise
- The reciprocal perceptions of scientists and policy makers

Principles and Structures of Science Advice, **Sir Peter Gluckman** ONZ FRS, Chair, International Network of Government Science Advice , President Elect, International Science Council, Kigali August 2018
https://www.ingsa.org/wp-content/uploads/2018/08/KIgali-INGSA-2018.pdf