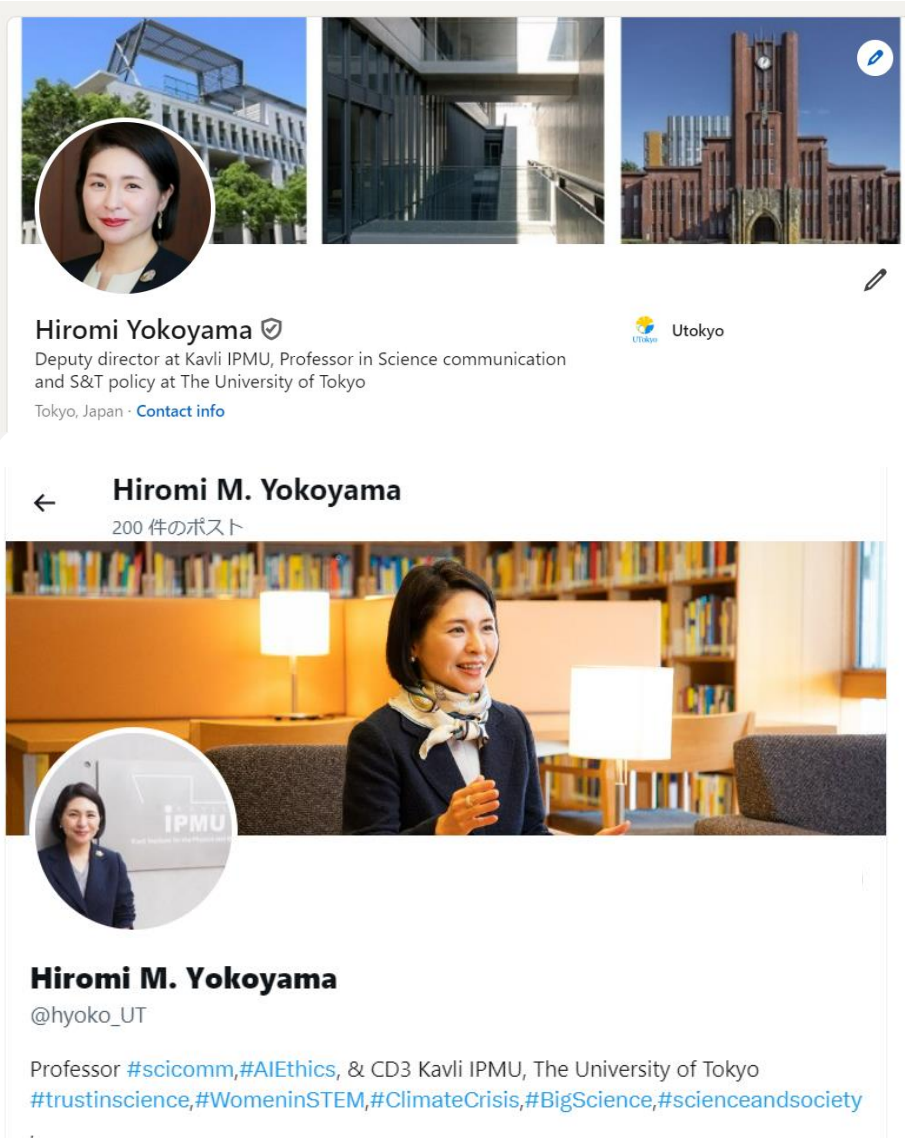
Trust in Science and Scientists

The concept of Science communication



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Function of Science communication

①Knowledge translation function

②Dialogue / Adjustment Function

③Coordination function for co-creation

Trust in science ex:COVID-19

- Ttust in science

In a German study (Dohle et al., 2020), trust in science had the strongest influence on people's willingness to take appropriate precautions, followed by trust in politics.

- Trust in scientists

It is important for experts to convey credible messages during a crisis, but this is not working well in the UK and France (Warren and Lofstedt, 2021). In Japan, trust in scientists was maintained, but there was fierce debate over the balance with the economy. Supporters of the ruling party had a higher level of trust in scientists.(Yokoyama and Ikkatai,2022)

- trust in government

A survey of 178 countries found that trust in government was higher among healthy older people and lower among people with less education (Gozgor, 2021)

“Deficit model“ to “Science comm.”

“Deficit model”

People lack knowledge and are ignorant

・ Therefore, an enlightening attitude that must be taught

・ Promotion of public understanding of science

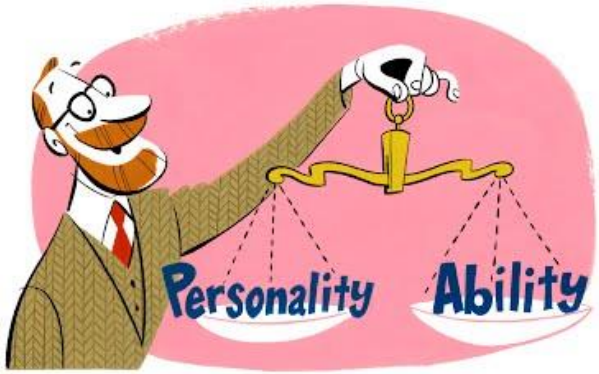
Interactive comm.

“Science Communication”

Sharing information on science and technology in society, discussing with people with different positions, people with different family structures, people with various values, and building consensus

digital media

3 elements of trust



- The components of trust are
  - ″ability″ and ″intention (personality)″ based on ″shared values″.

- Example: Appeals for trust by power companies and the government are ineffective.
  - Residents distrust (2) intentions (distrust of intentions that the government and power companies will not tell the truth)
  - Power companies see it as (1) a problem with their capabilities

Social responsibility of scientists

- Responsible-conduct
  - No misconduct
  - Research quality control

- Responsible-product
  - Genome, AI products, atomic bomb

- Responsible response & communication
  - Accountability
  - Responsibility for communicating clearly

ELSI and RRI

−Core concepts of ST&I policy

ELSI: Ethical, Legal and Social Implications
(Ethical, Legal and Social Implications)

– U.S. Human Genome Project

RRI : Responsible Research and Innovation
Being responsive, maintaining diversity

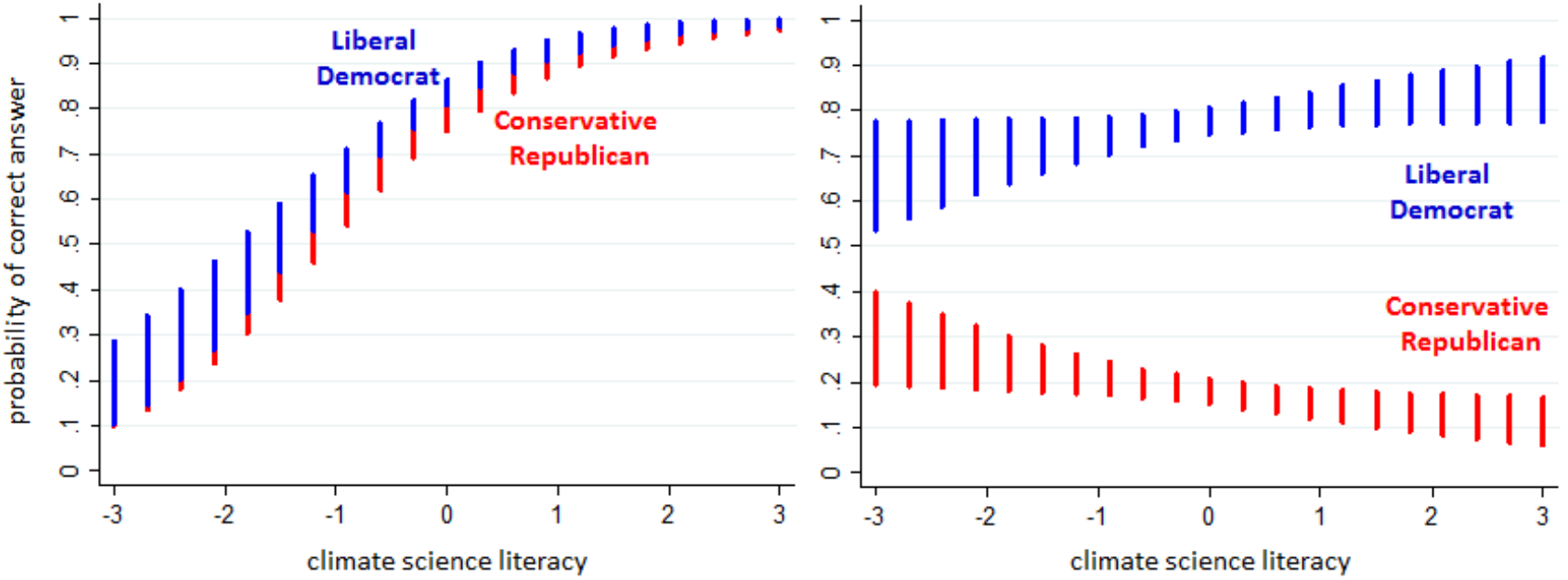
– EU Horizon 2020

US, do not believe in global warming

"Climate science literacy": item response theory

"What gas do most scientists believe causes temperatures in the atmosphere to rise? Is it [hydrogen, helium, carbon dioxide, radon]?"

"[Is the earth] getting warmer (a) mostly because of human activity such as burning fossil fuels or (b) mostly because of natural patterns in the earth's environment?"

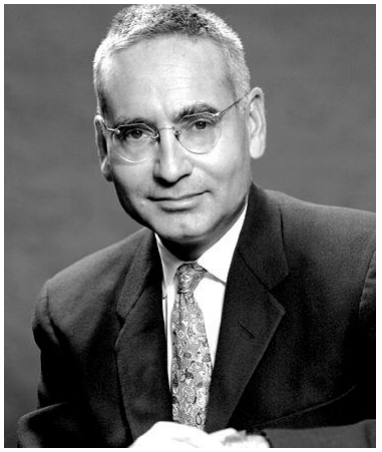


Annenberg Center for Public Policy & Cultural Cognition Project. *N* = 1,769. Predicted probabilities derived via Monte Carlo Simulation based on logistic regression. Nationally representative sample, April/May 2014 (YouGov). Political outlook predictor set at -1 SD & + 1 SD on "Left_right" scale for "liberal democrat" and "conservative Republican," respectively. Colored bars refelct 0.95 confidence intervals.

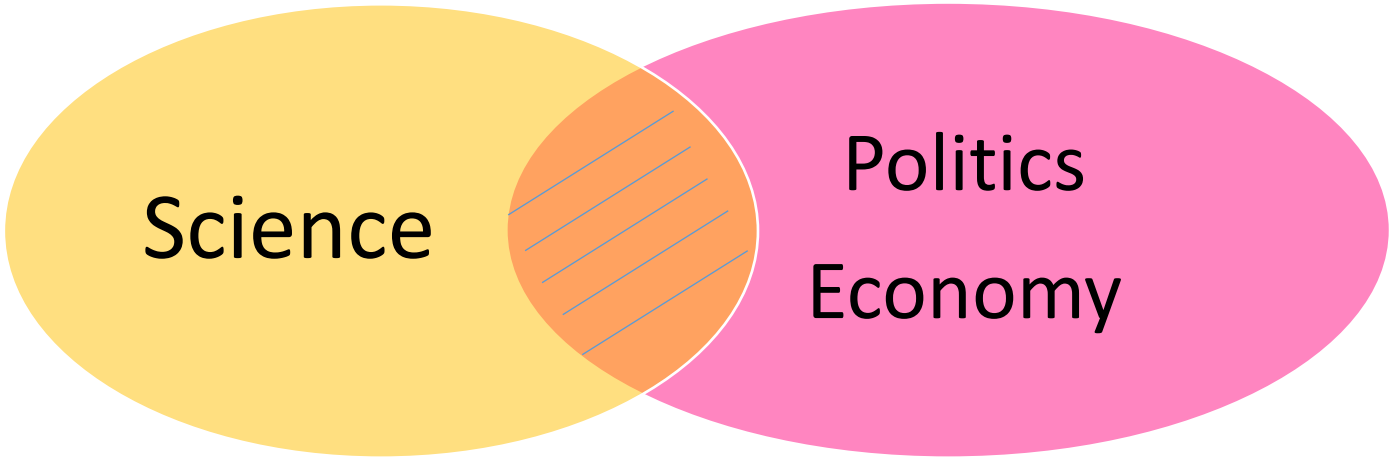
D.Kahan, (2015) Climate-science communication and the measurement problem
Adv. Polit. Psychol., 36 (2015), pp. 1-43

“Trans-Science” proposed by A.W.

In this paper I shall be concerned with a somewhat different aspect of the relation between scientific knowledge and decisions on social questions. Many of the issues which arise in the course of the interaction between science or technology and society—*e.g* ., the deleterious side effects of technology, or the attempts to deal with social problems through the procedures of science—hang on the answers to questions which can be asked of science and yet *which cannot be answered by science*. I propose the term *trans-scientific* for these questions since, though they are, epistemologically speaking, questions of fact and can be stated in the language of science, they are unanswerable by science; they transcend science. In so far as public policy involves trans-scientific rather than scientific issues, the role of the scientist in contributing to the pro-mulgation of such policy must be different from his role when the issues can be unambiguously answered by science. It will be my purpose to examine this role of the scientist. and particularly to explore the problems which arise when scientists can offer only trans-scientific answers to questions of public [210] policy in situations in which laymen, politicians, civic leaders, etc., look to scientists to provide scientific answers.



ALVIN M. WEINBERG
Minerva 10(1972): 209-222



Summary

- Science communication has some functions
- Trust is important
- ELSI – RRI considerations are essential in modern science
- Social Responsibility of Scientists