



Title: *The Cultural Authority of Science: Comparing Across Europe, Asia, Africa and The Americas*

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Edited by: Martin Bauer, Petra Pansegrau and Rajesh Shukla

The book titled *The Cultural Authority of Science Comparing across Europe, Asia, Africa and the Americas*, edited by Martin Bauer, Petra Pansegrau and Rajesh Shukla is a collection of essays, and aims to map the cultural authority of science across the world in the light of the challenges posed by European, Asian, African and American developments and debates and to construct a system of indicators to observe this ‘science culture’ based on artefacts (science news analysis) and espoused beliefs and evaluations (public attitude data).

Two main ideas are examined: the ‘Lighthouse’ model, whereby science is shining into a stormy sea of ignorance and mistrust; and the ‘Bungee Jump’ model, which demonstrates how science occasionally experiences a rough ride against a backdrop of goodwill. The book will be of interest to a global audience concerned with the standing of science in society with a broad appeal to scholars and students of fields such as sociology of science, science communication, science studies, scientometrics, innovation studies and social psychology.

The book’s 22 chapters are divided into four parts: concept and theory (Chapters 1 to 4); mediated authority (Chapters 5 to 10); perceived authority (Chapters 11 to 18) and inferred

assumptions (Chapters 19 to 22). Some of the chapters are introduced below.

Concept and Theory

Chapter 1 sets out the direction of the book as it aims to construct a system of indicators of 'science culture'. Chapter 2 argues that current conceptualizations of the relationship between science and society ascribe an increasing significance to scientific knowledge as it becomes relevant or acquires a more prominent role than other forms of knowledge such as traditional or religious knowledge. It argues that the authority of science, which is expressed in the trust in scientific knowledge, is deeply rooted in our society noting however that several recent developments appear to undermine this authority and to diminish trust in science.

Chapter 3 traces the history of the Indian debate over scientific temper in four phases. During Phase 1, the 19th century Reformists prepared grounds for modern scientific ideas seeping in from the West. In Phase 2, the Science Activists of the Freedom Movement tried to find reasons of irrationality in the past thought-complexes and social-structures. The debate during this phase was summed up by Nehru, in his speeches and the book *Discovery of India* and the term 'Scientific Temper' popularised by him and many others subsumed 'secular values', 'scientific method', 'spirit of enquiry', 'scientific rationality' and relationship of these notions with the daily life of a common citizen. In Phase 3, with Independence (1947), scientific temper became an aspiration inscribed in the new constitution of a free India. In the final Phase, the decades of the 1970s and 1980s witnessed emergence of a group of intellectuals, which constantly attacked the notion of 'scientific temper', '(western) science' and 'secularism'. For these scholars, Nehru became the archenemy as they ignored all evidence of Nehru's deeper understanding of science-society relationship. The period was the Indian version of the science wars.

Chapter 4 uses a new research paradigm, which proposes that the public are more concerned with consequentiality of science than with scientific knowledge and attitude to examine science and

society issues in Korea. This new explication and measurement, the author argues, demonstrate an alternative approach to studying not only the authority of science but also the public understanding of science.

Mediated Authority

Chapter 5 compares the coverage of science news in Britain, Germany and India between 1990 and 2013. The methodology observed a) the medicalisation of science news at the cost of other topics, b) the global synchronisation of the science news cycle across Europe and India, and c) the Nationalisation of the science news with more focus on local sources and local science events.

Chapter 6 notes that the content of science coverage in the mass media has been the focus of researchers for many years but studies differ in methodology, timespan, cultures, and news media. The chapter reviews available studies arguing that intensity of media attention is a key indicator of public attention and approximates this to between 3-10% of the news hole.

The importance of the framing of science news is the focus of Chapter 7. The authors developed a comparative qualitative frame analysis on the basis of two corpora of science news, one German and one British, and concluded that media discourse of science across these two contexts is broadly similar, despite a few subtle differences. Chapter 9 examines the techniques for data mining of science news in Turkey and Chapter 10 the media attention to science in Italy.

Perceived Authority

Chapter 12 explores how public interest in science interacts with traditional beliefs in Taiwan. The authors found that social conditions of the new generation do not favour scientific authority over paranormal beliefs when compared with the older generation and the emergence of paranormal beliefs is not only a problem of societal transformation but also an issue of science communication.

Chapter 13 is a philosophical space with a note to the reader to conceptualise the persistence of superstition in modern society and the human capacity for cognitive polyphasia. Chapter 14,

using experiences from vaccines, poliomyelitis and Ebola, argues that scientific authority competes with religion and traditions in Nigeria and other parts of West Africa while Chapter 15 shows that cultural authority is connected to perceptions on economic or institutional crisis in Brazil.

Chapter 18 explores the combination of interest, understanding, engagement and attitudes as indicators in Argentina showing that cultural authority is enhanced when people are interested and informed about science, have higher levels of education and show a mix of positive and reservation attitudes. The chapter notes however that despite the existence of critical attitudes, there is a high general “goodwill” towards science.

Inferred Assumptions

Chapter 19 explores the idea of a Four-Culture typology of 32 European countries based on the re-analysis of Eurobarometer data of 2005. The authors make a distinction between ‘scientific culture’ and ‘science culture’ arguing that social attitudes to science are indicators of social facts regarding the local ‘authority of science’, best characterised as a typology of countries, nations, regions, states or provinces.

Chapter 21 uses the China public attitude to science survey conducted in 2010 across its 32 provinces to gauge the correlational diversity of bundles of attitude items and discusses the statistical and sociological correlates of this diversity. Chapter 22 is a secondary analysis of the India Science attitude data of ISS-2004 with preliminary findings suggesting that ‘culture of science’ is not related to Human Development Index.

Conclusions

Chapter 23, in conclusion, notes the absence of science culture indicators from most African, Middle Eastern and countries along the ancient ‘Silk Road’. The lack of Africa wide public understanding of science indicators such as the Eurobarometer or National Science Foundation creates a research gap about the continent, which needs to be urgently addressed.

The book also calls for, among other recommendations, more cross-country comparisons of science in the mass media studies and science in society surveys and the curation of emerging materials from private sector participants such as Microsoft, BP, Wellcome Trust or PEW and others coming on stream with global surveys on science-related issues.

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