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Yearley, Steven (2005) *Making Sense of Science: Understanding the Social Study of Science*. London: Sage Publications: 205 pp. ISBN 0 8039 8692 0

As an insider within the recent field of science studies, Steven Yearley is well-placed to show how any sociology of modern society that aspires to legitimacy has to confront issues of science and technology head-on. In this his latest book, *Making Sense of Science* (MSS), the author takes as his primary duty the explication of science-in-society (MSS, xiv) by uncovering what Latour (1992) has labeled the ‘missing masses’—non-human actors that participate in the functioning of human societies. It is precisely because these beliefs, representations, artifacts and other byproducts of science are so commonplace now that they have become unproblematic or ‘black-boxed’ to use another one of Latour’s neologisms. It is only when trouble or breakdown is experienced such as in disputes over nuclear safety, court judgments in the O. J. Simpson trial or the emergence of new disease outbreaks that these missing masses become thematic. Accordingly, MSS is divided into two main sections: (a) an examination of the sociology of science and its practices within scientific communities, and (b) sociological analysis of scientific communities interacting with society. A moment’s pause will reveal the logic of this way of argument for the outcomes of science enter not just into circuits of consumption, production and exchange within scientific arenas but also slip into/from wider society as well.

Trying to make sense of science is certainly not a peripheral concern in everyday life; as I write this review the headlines of the local daily announce that toxic chemicals have entered the food chain through contaminated salmon in a local fish farm (McCulloch 2005). Although not deemed an acute health hazard due to the supposedly massive quantities of fish that have to be consumed before a lethal dose is reached, the public was neither informed nor were all the fish successfully recalled from distributors.

In fact, about 97% or over 36 tons of tainted salmon were sold worldwide and probably already consumed. It is precisely because of controversies like these that make reading *MSS* invaluable for it foregrounds the inherent tensions concerning scientific expertise, risk, credibility, ethics, and law.

The author would agree with me that if this incident had happened fifty years ago, it is likely that the public would have passively accepted the assurances from the government or the biologists employed by the aquaculture industry. In part, this is the powerful mystique and distinctiveness of science, which many people even now continue to uphold and is discussed in chapter one of *MSS*. This authority was however shattered in the nascent field of science studies with the oncoming of the Strong Programme and the Empirical Programme of Relativism in the 1970s and 1980s. These critical stances or what Yearley calls ‘framing commitments’ about the inner workings of science are complex although the author nicely summarizes these debates in the second chapter without adding too much unnecessary detail. This ability to clarify the main issues at stake using the minimal of references was one very attractive feature that I found in *MSS*.

What follows next are five substantive chapters that articulate the major schools of science studies. Yearley began with looking at interests: People make claims based on interests and that problems arise when interests conflict. While beset with some theoretical loopholes, interest theory is easily appreciated and intuitive hence promising much to furthering the sociology of science. Actor Network Theory and feminism are not forgotten as well. Indeed, both seem obligatory given their far-ranging implications for how one views the world; the former blurred the distinction between human and non-human actors whereas the latter alerted us to how science had often favoured one gender. Less well-known and accepted as research methods in science studies are ethnomethodology and the analysis of discourse in chapter 6, whose followers share a concern with making the familiar strange in different ways. I appreciated the next chapter on reflection, explanation and reflexivity in science studies. Here, Yearley demonstrates his insider status in the field when he competently assesses the strengths and weaknesses of the various schools of science studies. From his perspective, he suggests that there have been a few important accomplishments arising from thinking sociologically about

science: (a) people ultimately decide on what counts as knowledge—the claim of finitism, (b) truth is decided as collectivities, and (c) trust and judgment are vital for knowledge claims.

The third and final part of the book seemed most interesting and practical to me as it dealt with how science studies interacts with everyday issues. This section opened with discussing how the understanding of scientific expertise and institutions among the public was more complex than originally thought. For example, rather than possessing inadequate or incorrect knowledge among non-scientists, the question should be framed in terms of public trust in scientific matters and competition with rival forms of local knowledge. The next two chapters on risks and science in law complement each other. Building on the insights from Ulrich Beck and others, Yearley maintains that public faith is now usually placed on the reliability of apparatuses and institutions of science to minimize the predominantly human-made hazards that confront society. Naturally, this dovetails into issues of law and ethics when things go awry as they so often do when nature ‘bites back.’ This is where MSS suggests that science studies again can offer greater sensitivity into these conundrums that have no precedence in the history of humankind. At the same time, it would be foolish to deny the huge difficulties that science faces as it engages in policy-making. What is needed according to Yearley in chapter 11 is to analyse the co-construction of the natural and social order instead of concentrating on better scientific advice and delivery modes. After discussing and then rejecting the more extreme postmodern attacks on science (e.g., the so-called crisis of representation), chapter 12 revisits various aforementioned themes and concludes the book with a reminder of the value of the sociology of science for everyone.

Overall, the book is informative and covers its two main objectives adequately without being overwhelming to the beginner. I tend to see MSS akin to a tasty, well-prepared appetizer that prepares the way for more substantial courses to follow once the reader is prepared to do so. Although two GJSS reviewers judged MSS as an evaluation of the field that was written for peer audiences, I found it rather textbook-like albeit with an emphasis on how science interacts with societal concerns (i.e. the final section). My reasons for taking this viewpoint is that the organization of MSS is scaffolded for ease of

learning by the generalist reader; introductory material first on the nature of science and science studies followed by a survey of the canonical vantage points and finally illustrating specific issues or case studies about science in the everyday world. Besides, the backcover of MSS cited an academic advertizing that she would “certainly use this book as one of the course texts” while the publisher touted MSS as the “ideal guide to science studies and social theory.”

Would it be sufficient beyond the basic levels? My response is in the negative for the fly in this otherwise fine ointment is that the coverage (i.e. of the theory and practice of science studies) is spread thinly here across 186 pages of text. Advanced students would thus be better served by referring to more specialized resources in the sociology of science (e.g., Hess 1997) or material relating to science studies at work (e.g., Irwin and Wynne, 2004) that MSS single-handedly attempts to manage. This balancing of the twin goals of the author mentioned in the first paragraph is evident when we compare MSS with another introductory text such as Sismondo’s (2004), which covers more ground as a whole but devotes only a single chapter to expertise and the public understanding of science. Coverage of my personal interest in the social shaping of technology was somewhat neglected in MSS. It was not missing in the text per se although a reader less familiar with the literature would find it difficult to find explicit connections here. These criticisms should however never detract from the worth of MSS that provides fundamental insights to help us distinguish between facts, beliefs, and ideology in one of the most exciting aspects of sociology at the moment.

## References

Hess, David J. (1997) *Science Studies: An Advanced Introduction*. New York: New York University Press.

Irwin, Alan and Wynne, Brian (2004). *Misunderstanding Science: The Public Reconstruction of Science and Technology*. New York: Cambridge University Press.

Latour, Bruno (1992) “Where are the Missing Masses? The Sociology of a Few Mundane Artifacts” In *Shaping Technology/Building Society* edited by W. E. Bijker and J. Law, pp. 225–258. Cambridge, MA: MIT Press.

McCulloch, Sandra (2005) “Chemical taints B.C. farm’s fish: Not deemed an acute health risk; environmental group outraged,” *The Times Colonist*, 4 June, A1.

Sismondo, Sergio (2004) *An Introduction to Science and Technology Studies*. Malden, MA: Blackwell.