a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

EDCP 585
Fieldwork in Actor-Network Theory
Lecture Notes

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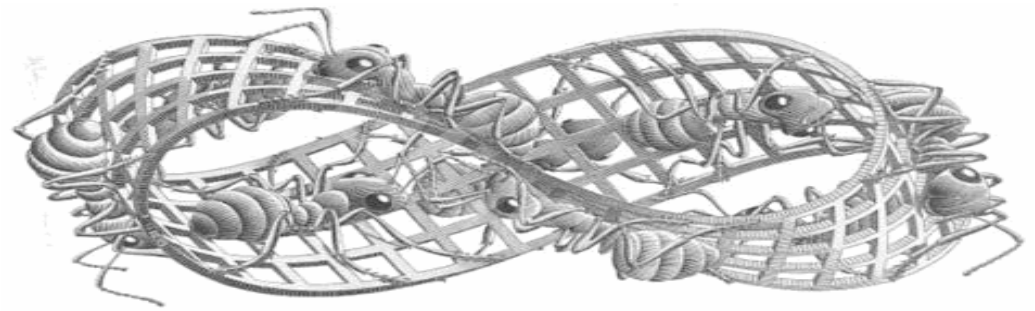


1. Methodologies of / in STS

a. Case Study Method in STS

i. What is a Case?

1. Gupta (1994, p. 111): A case is a set of features, attributes, and relations of a given situation and its associated outcome(s). A case is situation-specific, unlike a rule, which is a unit of generalized knowledge.
2. Shulman (1992, p. 21): a case has a narrative, a story, a set of events that unfolds over time in a particular place.

ii. What is a Case Study

1. Bogdan & Biklan (1998, p. 54): a detailed examination of one setting or a single subject, a single depository of documents, or one particular event.

iii. Case study is nearly synonymous with STS, as the first explicit STS text indicates a resolution in case study method:

1. Merton, *Science, Technology and Society in Seventeenth Century England* (1938, p. 495): This section of our study may be summarized in more general terms as a culture case-study of the non-logical roots of intellectual development.
2. Similarly, in the 1940s and 1950s Harvard Case Histories in Experimental Science established a precedent for STS's analysis and presentation of knowledge.
3. By the 1960s, case studies were the default for histories of science and technology while case study method was the default for the social sciences.

iv. Harvard Case Histories in Experimental Science (1946-)

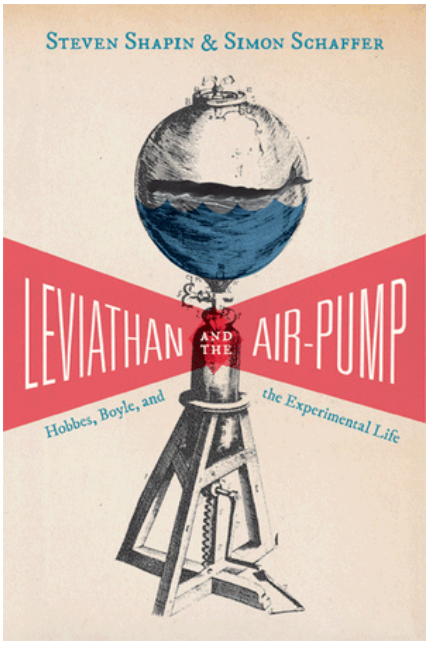
1. Bryant (1948/1957, p. ix): The purpose of the case histories presented in this series is to assist the reader in recapturing the experience of those who once participated in exciting events in scientific history. The study of a case may be to some degree the equivalent of the magical operation suggested in the preceding paragraph, namely, that of transporting an uninformed layman to the scene of a revolutionary advance in science.
2. A study of these cases makes it clear that there is no such thing as the scientific method, that there is no single type of conceptual scheme and no set of rules specifying how the next advance will be made through the jungle of facts that are presented by the practical arts on the one hand and by the experimentation and observation of scientists on the other. (pp. x-xi)

3. Thomas Kuhn
    a. Who fed my name to Conant I'm not sure— there are various people that it could have been. But I had a reputation as the physicist who was president of the Signet Society, there were various things of that sort in my record. I was one of the two people Conant then asked to assist him. First time he gave this course out of that little book called *On Understanding Science*, which had been the Terry Lectures at Yale. I accepted with alacrity; and I've never quite forgotten that first time I met him. Here I was, not finished my physics thesis and being immune to this sort of material— I have by then read the page proofs of *Understanding Science*— being asked to go out and do a case study on history of mechanics for this course? Wow!
    b. *Structure of Scientific Revolutions* (Kuhn, 1962):
4. Controversial Case Studies / Controversy Studies
    a. Dorothy Nelkin (1971, 1979), *Nuclear Power and Its Critics: The Cayuga Lake Controversy*; *Controversy: Politics of Technical Decisions*.
    b. "More than anyone else, she was responsible for the idea that controversies over science and technology provide a kind of natural laboratory for studying the operations of science and technology and their interactions with the surrounding society" (Giere, 1988).
    c. By 1979, she had edited a textbook on the subject, entitled quite simply *Controversy* (Nelkin, 1979); it was required reading in the STS course she taught for many years at Cornell University. Her books were not seminal in the sense that STS scholars are taught to regard the works of Kuhn and Latour as seminal. Largely devoid of social theory and lacking verbal pyrotechnics, Nelkin's work stayed pretty close to the surfaces of things. (Jasanoff, 2012 p. 439)
        i. Nelkin (1971, pp. 245, 246): This paper arises from a case study of the Cayuga Lake nuclear power plant controversy, *Nuclear Power and Its Critics*, which has been published by the Cornell University Press, 1971.
        ii. The discussion presented here reveals the perpetuation of this dilemma in a contemporary environmental controversy. Several questions are raised when scientists, using their technical expertise, engage in political activity. Is science a politically neutral activity with the scientist responsible only for the quality of his work? Or does his vocation, 'circumscribed in a framework of political decisions', throw him, 'whether he wishes it or not, into the political arena'? These questions, which are controversial enough when scientists participate in decisions concerning foreign policy and weapons development, have recently assumed new significance when scientists turned their attention to environmental issues. Such issues are charged with conflicting public values and uncertain technical dimensions, and these are reflected in ambivalent policy. Decisions must often be made despite conflicting technical advice.
        iii. When called on for their technical expertise, some scientists recoil from environmental controversies, taking refuge in the 'neutrality of research' position.

d. *Science in Action*, Latour (1987): The impossible task of opening the black box is made feasible if not easy by moving in time and space until one finds the controversial topic on which scientists and engineers are busy at work. This is the first decision we have to make: our entry into science and technology will be through the back door of science in the making, not through the more grandiose entrance of ready made science. (p. 4)
    i. It is all very well to choose controversies as a way in, but we need to follow also the closure of these controversies. Here we have to get used to a strange acoustic phenomenon. The two faces of Janus talk at once and they say entirely different things that we should not confuse. (p. 7)

    ii. This is the general movement of what we will study over and over again in the course of this book, penetrating science from the outside, following controversies and accompanying scientists up to the end, being slowly led out of science in the making. (p. 15)
    iii. When we approach the places where facts and machines are made, we get into the midst of controversies. The closer we are, the more controversial they become. When we go from 'daily life' to scientific activity, from the man in the street to the men in the laboratory, from politics to expert opinion, we do not go from noise to quiet, from passion to reason, from heat to cold. We go from controversies to fiercer controversies. (p. 31)
    iv. Rule 1 We study science in action and not ready made science or technology; to do so, we either arrive before the facts and machines are blackboxed or we follow the controversies that reopen them. (p. 258) See **Rules of Method**
    v.

e. *Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life* (Shapin & Schaffer, 1985)



f. Collins & Pinch cases in *The Golem* series
   i. *The Golem: What Everyone Should Know about Science* (1993)
   ii. *The Golem at Large: What you Should Know about Technology* (2002)
   iii. *Dr. Golem: How to Think about Medicine* (2005)

g. "Science, Technology, and Controversy" in *Handbook of Science and Technology Studies* (1995) (pp. 389-526)
   i. Martin & Richards (1995)
      1. Positivist Model
      2. Group politics Model
      3. SSK Model
      4. Social structural Model
      5.

5. Critique of case studies
   a. See Lowi (1964) for pre-eminent critique
   b. See Fuller (2000) and Forrester (2007) for STS
      i. Can one build theory from cases— how do we transform the discrete facts of cases into theory or normative ethics? Are cases just simply taxonomic or a form of cataloguing that can only amount to an accumulation of cases (case-study after case-study)? What do all the cases add up to? What are the meta-analytic challenges or resolutions for case studies?
      ii. Fuller (2000, pp. 8, 28): The impasse between Collins and Latour is symbolized by the Janus-faced character of STS's much vaunted case study methodology. On the one hand, in Collins's view, case studies create intellectual entitlements for the STS practitioner that effectively restrict the "community of inquirers" simply to those with similar training and experience. On the other hand, in Latour's view, because case studies are typically evaluated merely in terms of their descriptive adequacy ("Does it tell a good story?"), and not some larger normative context, they can be of

potential use to a wide range of users, most notably those who do not share the STS researcher's personal or professional commitments. But regardless of whether Collins's or Latour's view prevails, the dynamic spirit of critical inquiry loses [i.e., "What is the normative conclusion that should be drawn from" each particular case study?].

b. Actor-Network Theory (ANT)