Philippe Sormani. Respecifying Lab Ethnography: An Ethnomethodological Study of Experimental Physics. Surrey, England: Ashgate Publishing Limited. 2014. 278 pages.

What could another lab ethnography of physics research teach STS scholars? In his new book, Philippe Sormani takes on a branch of experimental physics known to practitioners as "STM" of "CSC" to showcase what he believes it can teach us. For the uninitiated (like your reviewer), STM refers to Scanning Tunnel Microscopy and CSC refers to Complex Superconducting Materials. One lesson Sormani offers has to do with a critique of an earlier generation of lab studies (i.e. Collins, 1985; Latour & Woolgar, 1979; Pickering, 1984; Pinch, 1986; Traweek 1988). Sormani (2014: xiii) argues that his book "delivers [...] a critique of analogical shortcuts in the 'laboratory studies' tradition". The analogies here are comprised of analytical concepts central to STS, including but not limited to "construction" and "inscription". Sormani treats the use of these concepts as a "shortcut" in order to underscore his argument that earlier lab ethnographies have analyzed lab work with second order concepts rather than the first order concepts (Schutz, 1973) that lab members themselves use to organize lab life. In the case of STM of CSC, physicists use the first-order terms "measurement", "tip-sample approach", and "local spectroscopy". In a fascinating discussion, Sormani also describes in great detail how he learned these member relevancies. He does this by adopting Wieder's (1974) policy of doing ethnography and treating what members do with the ethnography and ethnographer as opportunities to learn about the setting and its members. This opens the door to additional and related problems, Sormani argues, when analysts assume from the outset that a fact is "constructed" rather than beginning with the practical challenge and research question "how do lab members recognize facts?". For decades, ethnomethodologists and ethnomethodologically-informed sociologists have urged scholars to examine members' common sense knowledge of social structures. Building on these efforts to reinvigorate sociology, Sormani has encountered a paradox. Sormani argues that he contributes to STS discourse by analyzing members' common sense knowledge instead of importing the concepts popular in STS. But in order to do this, he has to use and analyze concepts that are probably unfamiliar and/or unimportant to the anthropologists and sociologists who maintain an interest in lab studies. Thus, emphasizing member relevancies poses the risk of estranging the scholars whose work it challenges and who are in a position to describe and circulate its contributions to STS discourse. As a sociologist informed by some ethnomethodological ideas, I am very sympathetic to this trapped position stuck between a rock and a hard place. While the focus on member relevancies can pose this challenge, Sormani's writing posed few challenges for this reviewer. When he does develop second order concepts, his choices seemed reasonable to me. For example, he describes his book as offering a "practice-based video analysis", a video analysis that

incorporates the practices of the analyst into the analysis.

Sormani's second argument is related to, but also distinct from the first one. Sormani provides a critique of video analysis in ethnomethodological inquiry. Surveying ethnomethodological studies generally (and not just ethnomethodologically-informed STS research), Sormani argues that the ways they deploy video analysis tend to ignore or discount the analysts practical experiences with the activity documented in the video or the work of producing video documentation of the activity. To address this, Sormani includes descriptions of his practical experiences struggling through the work of microscopic experimentation alongside screenshots from videos he has made.

The old relationship between talk and action rears its head here. While Sormani stakes out his contribution in terms of displaying the member relevancies as talk, he doesn't make the analytic mistake of reducing member relevancies to talk. Instead, lab work is both symbolic and material, tacit and manifest. Lab work is symbolic because it is recognized and done, in part, through lab members' and ethnographers' talk. It is material in the sense that it is only done through a set of material practices, practices of the body and practices that operate on material things. It is also tacit because as Sormani and Lynch (1984) found, lab members rely on background knowledge to make sense of talk, and this background knowledge is typically unspoken and difficult for users to describe. Lab work is also manifest because although lab members do not talk about their background knowledge, they do swap short stretches of talk as they go about doing lab work. Although the relationship between talk and action is an old concern of sociology, Sormani's approach offers a new vantage point on this old problem. For STS, there are some neglected resources. Inspired by Lynch's (1985) discussion of "incipient talk", or talk that is interrupted with longer silences and that does not require repair sequences like other spates of talk because members are engaged in silent activities, Sormani describes some speech norms on the shop floor. For example, lab members do not expect others to ask them questions as they are working. Members common sense knowledge of language, then, could be a useful means for STS scholars to examine technoscience settings where scientists and engineers do not appear to be "compulsive talkers" (Amann & Knorr-Cetina, 1989).

While Sormani's book features a number of strengths, it also leaves an important unanswered question. The question concerns what lab members do with writings. While lab members may refer to a number of different kinds of writings such as scholarly writings, textbooks, popular writings, and their own writings, Sormani only refers to lab members' dissertations, a textbook he uses to learn lab work, and very briefly, a published article recounting a discovery. The dissertations are referred to in a discussion of discovery and the ethnographer, and the published article is described within a discussion of discovery. But there are few other references to writings, and so we are left wondering why? Sormani does not offer an account for this. As a reader and reviewer I expected complex, multivariable equations like the "model equation" which outlines the ideal workings of the lab's research to be encountered and explained with recourse to a scholarly article and/or textbook.

Setting this unanswered question aside, there is a lot to like about this book. Unlike the challenging writing choices of earlier ethnomethodologists, Sormani has produced a well-written book. It is thoughtful, carefully reasoned, and very well organized in terms of sections and ongoing

"conclusions" detailing what he makes of what he has found. Based on Sormani's arguments, STS scholars interested in lab studies, ethnography, ethnomethodology, visual methods, and the relations between talk, science, and technology should read this book.

References

Amann K. & Knorr-Cetina K (1989) Thinking Through Talk: An Ethnographic Study of a Molecular Biology Laboratory. *Knowledge and Society* 8: 3–26.

Collins HM (1985) *Changing Order: Replication and Induction in Scientific Practice*. London, England: Sage.

Latour, B & Woolgar S (1979) *Laboratory Life: The Construction of Scientific Facts*. London, England: Sage.

Lynch M (1985) *Art and Artifact in Laboratory Science: A Study of Shop Talk and Shop Work in a Research Laboratory*. London, England: Routledge.

Pickering A (1984) *Constructing Quarks: A Sociological History of Particle Physics*. Chicago, IL: University of Chicago Press.

Pinch T (1986) *Confronting Nature: The Sociology of Solar-Neutrino Detection*. Dordrecht: Kluwer.

Schutz A (1973) *Collected Papers I: The Problem of Social Reality*. The Hague: Martinus Nijhoff.

Sormani, Philippe (2014) *Respecifying Lab Ethnography: An Ethnomethodological Study of Experimental Physics*. Surrey, England: Ashgate Publishing Limited.

Traweek S (1988) *Beamtimes and Lifetimes: The World of High Energy Physicists*. Cambridge, MA: Harvard University Press.

Wieder DL (1974) *Language and Social Reality: The Case of Telling the Convict Code*. The Hague: Mouton.

Matthew J. Cousineau
Department of Sociology, Anthropology, & Social Work
7022 Haley Center
Auburn University
Auburn, AL. 36830
MJC0035@auburn.edu