Proposed Chapter (Tentative Title): The Ethnography of Documents in STS Scholarship

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Importance of Chapter/Section of Handbook

Documents pose numerous methodological challenges for STS, particularly STS ethnography. Present but latent for decades, these challenges have grown in recent years. In making explicit the case for document ethnography in this chapter, we will discuss documents' evolving natures, examine how cognate disciplines and professions deal with documents, specify implications for STS and related education, pose key queries to be integrated into STS methods and document ethnography's research program. The chapter will examine the ways in which documents themselves have been a focus of scholarship (both in STS and related disciplines) and the implications for STS of a more fully self-conscious document ethnography. The nature of the document has evolved in the digital age and poses implications for STS scholarship and practice, where documents are too often "taken for granted". Furthermore, the ethnography of documents has implications for topics that are increasingly of interest to STS researchers, like Big Data and open access. We will draw upon books and articles from STS, information/documentation studies, and related disciplines to explore how researchers theorize the document, use documents as objects of study and methodologically, and pose questions for future STS work.

We feel that this chapter should be included in Advances in STS Theory and Methods, but the foundational nature of the document as an essential artifact of STS study suggests that this chapter could also be positioned in Contributions to Intellection Problems or Key Challenges.

Abstract

The original anthropological ethnography, developed for study of peoples without writing, attended considerably to representational artifacts—from stories to dances to house poles—and their performance. This is because cultures depend heavily on forms of representation, visual and oral but increasingly written. As ethnographic attention has turned to the more complex cultures

of peoples for whom writing had become a privileged cultural practice, written documents' ethnographic centrality has increased. The study of "culture at a distance", primarily through written documents, that arose during World War II is arguably the first explicit form of documentary ethnography.

Paul Rabinow's more recent efforts to develop a Foucault-inspired "archeology" of techno-science knowledge helped bridge ethnography to STS. Techno-science ethnographic sites are now heavily texted, often mediated *by* computing and studied through use *of* digital tools. Ethnographic emphasis on context means such large sections of STS research now heavily depends on documents, whether computer code or Web pages, that require increasingly complex interpretation. Such digital representations mean documents are highly contingent and contextual not just in their content but in format, organization, and relationships with other documents and artifacts.

STS's text-dependence looms even larger if the extent to which "ethnography" functions as a stalking horse for a wider range of diligent but non-formal research methods is acknowledged. Yet while fieldworkers know to bracket informants' conversational comments as personal opinions, they are inclined to treat documents as collective representations whose mere existence is taken as testimony to their representativeness. Much STS manifests questionable assumptions about documents, such as that 1) the meaning of documents is contained within them and 2) this meaning is largely straightforward and self-evident—in a phrase, that documents "mean what they say."

Anyone who has written an organizational minute, let alone more complex documents like professional codes of ethical conduct, can see that such assumptions are problematic. Yet they are taken as working assumptions for many current studies of "Big Data"; for example, that communication reception, via text messaging or SMS, means the existence of a relationship. (The message could have been received by accident.). Ephemeral documents like tweets are often used without considering their nature. These are just two examples of doubtful digital document research practices. Before we use them, we probably need to understand how documents came to be.

Some STS initiatives start to engage with documents more directly. Star's and Bowker's concern with classification and Riles' efforts to develop an ethnography of the document as an artifact constitute useful initial work on which to build. However, as techno-science practices/cultural forms of STS interest, from laboratory research to social media, are increasingly saturated with ever more complex documentary practices, our document ethnography needs to be more complete.

One contributory strand we will examine is the Documentalist tradition within Library Science (LS). Documentalists made a concerted effort to define "documents" and explore them semiotically. Their movement had important impacts on what "information" means in LS, and through LS on the emergent cultural interest in "information technology." Like STSers, Documentalists were highly focused on science, but not its content so much as its form, which led to advances in automatic indexing, cataloging, and encyclopedia classification schemes now in use. Deep engagement with the history of Documentalism and subsequent movements will greatly enhance the STS document ethnography program.

A second theme of interest will be the institutional homes of document studies and the implications of document ethnography for disciplinary formations. To give one example, the iSchool movement, involving both scholars deploying STS's techno-social perspective and LS

administrators, is forcing and fostering an encounter between STS ethnography and documentation studies. Even developments in fields more distant, such as literature departments' interest in "reader response theory," make a mature STS document ethnography more necessary as STS finds its place in the academy. Document ethnography also has implications for broader professional practice. The failure of the "knowledge management" program of the 1990s, for example, can be traced in part to proponents' tendency to confuse an organization's knowledge with the representations of it, a set of documents being merely repositioned as a so-called "knowledge base." Such approaches alienate documents from, rather than embed them in, their profound sociality.

Thirdly, another important reason for this chapter's attention to STS and document ethnography is the popular association of computing with massive social change, built deeply, for example, into much social policy. The widespread belief that digitization is socially transformative has a digital face: Consider, for example, the rise of "search." A number of scholars, have tried to build an empirical basis for understanding this relationship, specifying first the broader implications of specific forms of digitization, whether on maps via GPS, laboratory notes via word processing programs, or making free/open source software. They have also attempted to articulate digitization's general, collective correlates. This work also needs to be taken seriously by STS document ethnography.

In sum, there are numerous reasons for incorporating document ethnography into STS methods. Those the chapter will examine are reinforced by existing books, journals, conferences and conference streams. All these resources suggest that the following queries should become standard in STS research:
What documents are relevant to your research?
If your documents are formal reports, what prior documents are called upon to manufacture those reports? What are the limits and boundaries set by the report? How is "bad news" constructed?
What rules of information selection, order, and viewpoint/voice are privileged in the documents? How are these performed/applied in practice?
What assumptions are embedded in the documents?
How do your documents mark and define social networks?
What are the documents "evidence" of? What methods would help you verify/question/critique the documents?
How do documents participate in a web of interactions with other artifacts?

While the chapter will focus primarily on why and how document ethnography should influence STS research's method armamentarium, it will also address developing document ethnography as an STS research field in its own right. One important research question is what the goal of document ethnography should be: To get to ethnographic "reality" *thru* documents, or to specify directly documents' own ethnographic reality? Another is the similarities and differences between documents and other material culture items. A third is the relationship of documents to information and knowledge. When, for example, is document knowledge itself, when merely a representation thereof, and when does a document function as camouflage for "real" patterns of culture? In other words, how are we to comprehend the dialectic between documents' formality and knowledge's substantial informality and embodiment?

In summary, we will use this chapter to make the case for the ethnography of documents as an essential and often overlooked component of STS scholarship, examine its history and contemporary usages, discuss how it is conducted/practiced, and articulate research questions that arise from both the ethnography of documents and the use of documents in ethnography. We will

conclude by examining the institutional implications of this body of work and discussion other emergent issues in document ethnography, such as "open access" and Big Data.

Biographical Information for Co-lead Authors

The authors bring complementary skills and expertise to this chapter. Shankar has been "following the documents" and exploring the nature of the record in scientific research through ethnography and related methods and more recently has used similar methods to study the historical development of social science data archives. Hakken comes to document ethnography as a matter of increasing concern over his long career teaching information ethnography and studying digital technologies and social change. Our shared interest on digital technology, developed over a decade, was manifest most recently in May 2013 workshops for students and local researchers at the University of Trento, Italy on the ethnography of documents and ethnography and Big Data.

Kalpana Shankar is a lecturer at the School of Information and Library Studies at University College Dublin, Ireland. Her research projects and interests include records and documents in scientific research, transitions of formats and data and implications for scientific learning and practice, and the development and uses of social science data archives. These projects have been funded most recently by the Irish Research Council and the H.W. Wilson Foundation. She was also on the faculty of Indiana University-Bloomington in the School of Informatics and Computing, where she was a co-PI on grants from the National Science Foundation to study aging, technology, and privacy.

David Hakken is Professor and Director of the Social Informatics Program at Indiana University-Bloomington. His interests in digital technology and culture have led to research on numerous topics, including local technology policy and regional dynamics in Sheffield England, comparative study of technology-related change in Nordic work cultures, the social correlates of Open Source Software in Asia, and robotic and other digital assistive technology in New York and Indiana. His technology research has been funded four times by the US NSF and twice by the Fulbright program, and has published several books on computing, including *Computing Myths, Class Realities, Cyborgs@Cyberspace?, and The Knowledge Landscapes of Cyberspace*. He is working currently on a book tentatively entitled,
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