

Documents in Action: How to Follow Scientists of Society

Yew-Jin Lee

Review Essay:

Lindsay Prior (2003). Using Documents in Social Research. New Delhi, India: SAGE Publications, xi + 195 pages (English), Paper (0-7619-5747-2) US \$29.95, Cloth (0-7619-5746-4) US \$79.95

Key words:

documentary
research, cultural-
historical activity
theory, InfoMemo

Abstract: *Using Documents in Social Research* is an introductory text promoting and introducing documentary research from a sociological perspective. Two principles guide the readers of this book; documents as receptacles of content and as full-fledged agents participating in human activity. Its main strategy suggested for documentary research—following documents in use—is exemplified with numerous examples drawn from scientific or medical disciplines. The usefulness of this book is explored by using a defunct scientific publication known as the InfoMemo that once played a historical role in salmonid enhancement in British Columbia. It is also suggested that cultural-historical activity theory can provide a coherent and synthetic theoretical framework for documentary research with added advantages. All things considered, the book will be valuable for beginning social researchers working with documentary materials.

Table of Contents

- [1. Introduction](#)
- [2. Overview of Using Documents in Social Research](#)
- [3. The InfoMemo as Document](#)
 - [3.1 Production](#)
 - [3.2 Use or function](#)
 - [3.3 Analysis of content](#)
- [4. The Contribution of Cultural-historical Activity Theory](#)
- [5. Conclusions](#)

[Acknowledgments](#)

[References](#)

[Author](#)

[Citation](#)

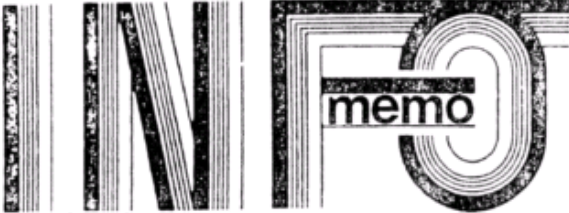
1. Introduction

"Philosophy used to approach knowledge in an *epistemological* way. It was interested in the preconditions for acquiring true knowledge. However, in the philosophical mode I engage here, knowledge is not understood as a matter of reference, but as one of manipulation. The driving question no longer is 'how to find the truth?' but 'how are objects handled in practice?' With this shift, the philosophy of knowledge acquires an *ethnographic* interest in knowledge practices." (MOL 2002, p.5)

While societies normally mourn the passing of notable citizens with much ceremony, the disappearance from circulation of mundane reports from bureaucracies are usually inconsequential events. I want to eulogize in this review essay one such series of obscure documents in British Columbia that was known as "InfoMemos." Drawing from a four-year ethnographic study of a salmon hatchery¹ (see BOYER, ROTH, & LEE 2003; LEE, ROTH, & BOYER, 2003; ROTH 2003), we have discovered that InfoMemos were once critical in disseminating novel fish husbandry practices between diverse groups of researchers, biologists and hatchery workers from the Department of Fisheries and Oceans Canada (DFO). These brief reports (usually consisting of a single page of text and/or diagrams) had performed admirably in their stated aim to offer a "rapid, informal means of communicating new or useful information at a preliminary or pre-publication stage" (ALDERDICE, WOOD, & NARVER, 1984, p.vii). Partly because of the ease of information flow by non-human agents like the InfoMemo, it has been acknowledged that organizational learning grew quickly in the early years of DFO's Salmonid Enhancement Program (SEP). [1]

The genesis of the InfoMemo began when it was recognized that some forms of knowledge about fish husbandry would never pass the gatekeepers of "proper" scientific journals. Therefore, rather than risk the chance of tentative or potentially useful knowledge claims from the program being sidestepped, the vehicle of the InfoMemo was created by what I believe were enlightened DFO scientists. The plan was intentionally simple: whenever (partial) results from self-conducted experiments in salmon biology were available and thought useful, they were sent to the editors (three DFO scientists) who then collated and redistributed them. InfoMemo topics from the years 1979 to 1984 spanned a wide spectrum from water quality problems, feed quality, growth rates, incubation techniques, fish diseases among many others. Sadly, the story of the InfoMemo did not end well. Some of our informants bitterly regret that due to supposed budgetary constraints, these occasional gems of information that could tip the scales between a cohort of healthy fish and a pond full of fish belly-up ceased circulation over a decade ago. One typical InfoMemo—the very first of over one hundred that were eventually written up by professional biologists and "Joe Blow" (a North American term meaning an ordinary person) fish culturists alike—is reproduced below.

1 Hatcheries are the main technology in DFO's Salmonid Enhancement Program (SEP) since 1977. The overall goal in SEP is to artificially revive the five species of Pacific salmon that have been languishing for a long time. Without exaggeration, hatcheries can be described literally as "fish factories."



For internal,
informal, rapid exchange
of information
between data producers & users.

DATE May 14, 1979	SUBJECT - Juvenile Production, Hatcheries
MEMO NO. 1	Item - Size and time of release, coho juveniles
CONTACTS D. Alderdice, Pacific Biological Station Nanaimo, B.C. 758-5202 A. Wood, Fisheries & Marine Service Vancouver, B.C. 666-3855 D. Narver, Fish & Wildlife Branch Victoria, B.C. 387-6047	Results of the Rosewall Creek (Vancouver Island) experimental releases of juvenile coho are complete and being analyzed. Juveniles were released at three different sizes (<u>small, medium, large</u>) at four different times (<u>in April, May, June, July</u>). Maximum returns of <u>40-41%</u> (catch + escapement) occurred for <u>early June</u> release of fish averaging <u>19.5 g</u> ; for that release, <u>maximum biomass</u> of returning adults also was obtained. Based on the Rosewall data, total returns near <u>49% are predicted for 21 June releases of 24-25-g</u> smolts; of the 49% expected return, 5% are predicted to be jacks.
DISTRIBUTION D. Narver - 15 A. Lill - 5 D. Deans - 9 T. Bird - 5 R. Palmer - 12 K. Sandercock - 11 A. Wood - 20 P. Ryan - 1 C. Harrison - 1 W. Mackereth - 1 J. Van Tine - 1 W. McLean - 1 D. Harvey - 1 K. Petersen - 1 H. Genoe - 1 E. Stone - 1 I. McLean - 1 P. Slobodzian - 1 D. McNeil - 1 Pacific Biological Station - 20	Compared with conditions of release maximizing adult returns are those maximizing benefit-costs. Based on the Rosewall data, maximum benefit-cost ratios near 15:1 are predicted for release of 13-15-g smolts about 14-15 June. In summary, the data show maximum predicted adult returns are associated with later (21 June) release of larger (23-24 g) fish, with benefit-cost ratios somewhat less than maximum. On the other hand, maximum predicted benefit-cost ratios are associated with earlier (14-15 June) release of smaller (13-15 g) fish, with adult returns somewhat less than maximum. These limits and interpolated alternatives are being calculated for economic scrutiny.
EMPHASIS: (1) Identification of priority problems or potentials, or (2) Announcement of new data or insights into solutions to current problems prior to final analysis or formal reporting. <i>Information items are preliminary and not final. Recipients are invited to participate. Send your items (please be brief, 5 to 15 lines) to one of the above contacts.</i>	Possible site-specific variations in these relations need further examination, which begins this fall. In addition, annual variations may occur at each site. In both cases, time and size at juvenile release may relate to distribution and abundance of appropriate food organisms in neighbouring waters. Hence a marine monitoring program may be basic to an understanding of how time and size at release is related to maximum adult returns for all hatchery-produced salmonids. For further details contact: T. Bilton (Nanaimo) D. Alderdice (Nanaimo) (surface analysis)

Figure 1: The first DFO InfoMemo published on 14 May 1979 [2]

I sympathize with readers who are already impatient; *FQS* is after all a forum for qualitative research rather than a place to discuss the "Size and time of release of coho juveniles"! Yet, my intention for resurrecting the long defunct InfoMemo is to use it to explicate the concepts and arguments put forth by Lindsay PRIOR's helpful book, "Using Documents in Social Research" (abbreviated UDSR henceforth). With apologies to Bruno LATOUR for morphing the title of his excellent 1987 work almost beyond recognition, I readily concur with PRIOR in this review that it is a most rewarding exercise for social scientists to follow documents in action. By doing so, we can discover not only more about the documents themselves but also about the society that generated, circulated, and

consumed them. Documents being simultaneously receptacles (reports, commands, instructions etc.) and agents (in the sense of an actor as in Actor Network Theory) are therefore what PRIOR calls the "intellectual backbone" (p.3) of UDSR. In the following two sections, I provide a general overview of the book, and also co-opt the InfoMemo as an essay for the major themes expressed in UDSR. Nonetheless, I will subsequently show that many of the major theses concerning documentary research in UDSR have been already pre-empted and coherently synthesized in an increasingly popular framework known as cultural-historical activity theory. This is one version of the "elusive "methodological stance" (p.x) that the author had attempted to pursue in UDSR that I wish to introduce here. With some qualifications, I conclude this review essay with a favorable assessment of the book. [3]

2. Overview of Using Documents in Social Research

The explicit aim of UDSR is to (a) enlarge the technical repertoire for researchers who work with documentary materials, (b) develop enlightened practices for using documents in research, and (c) provide a theoretical framework in achieving the two previous aims. It confines itself to written, print-based documents that the author believes holds lessons that are transferable to other types of documents writ large including sculpture, paintings, and architecture. The nine chapters of UDSR revolve around the interrelated trinity of *production*, *use/function*, and *content analysis* of documents. Instead of viewing documents as static objects, the general introduction in the first chapter provides evidence for an alternative viewpoint of documents in terms of "fields, frames and networks of action" (p.2). Chapter 2 focuses on issues of document production with examples drawn from mortality, mental illness and suicide statistics. The expert researcher we are told is one who is not content to let documents or facts remain untouched in their "blackbox" (LATOIR, 1987) but attempts to peel away, like an onion, the layered sources of their production. The next three chapters address understanding documents in action. Participating in GEERTZian-like webs of significance, documents also have the ability to perform translation—making a phenomenon like disease visible and hence accountable. Analyzing controversies and treating identity as relational properties are two other fruitful research topics that one can embark on when scrutinizing documents in use. These three chapters form the nucleus of UDSR. Chapters 6 to 8 examine issues of content from rhetorical and philosophical perspectives; they also address classical concerns about validity and reliability. Without overwhelming the novice, the author introduces and tackles difficult problems such as the meaning of meaning in an easy-to-understand manner (peppered with wry humor); the use of humor is one of the strengths of UDSR. Keeping the opening quote by Annemarie MOL (2002) in mind, PRIOR also advises that we do well to abandon the search for meanings in texts and instead redirect attention to what is being *referenced* in documents. Even more revealing than concentrating on what is being referenced, is the process of accounting that is revealed in documents. An entire chapter is given to elaborations on these concepts by showing how people did things with words in the disciplines of science and anthropology. In the final summary chapter, the

author slips in a further point, that of exchange in underscoring again the analysis of documents in performance. [4]

This book familiarizes its intended audience of undergraduate/postgraduate students and researchers with little experience in social science methods to appreciate that documents are not just matters of content analysis. Instead, similar findings from research interviews suggest that documents are as much resource as topic (LEE & ROTH, 2003). Hence, empirical studies of documents *in use* can increase our understanding of "identity, the nature of mind, constructions of self, other and the world and the conceptualization of social action and interaction" (POTTER & WETHERELL, 1995, p.81). As a field of research in its own right, PRIOR explains that documents can subtly order knowledge, social groupings, hierarchies and political power. Indeed, researchers in linguistics, discursive psychology and ethnomethodology will recognize many familiar themes here. [5]

3. The InfoMemo as Document

Having set the tone for a sociological approach in researching documents, what does UDSR have to say about the InfoMemos? Do we understand the InfoMemos better after reading UDSR? We realize for example, that InfoMemos should not be taken as a scientific report standing on its own; for example, it does not merely inform one about how time and size of release of juveniles affect adult salmon returns. It does more than that, for it introduces readers into the world of fish culture. For knowledgeable users, the InfoMemo enacts readers' identities as practitioners of fish husbandry in the same way that only the latter would find the InfoMemos meaningful to their lifeworld. In sociological parlance, we say that both reader and social world are recursively constituted. Indeed, InfoMemos are part of a larger network with human and non-human agents that traverses numerous hatcheries, scientific laboratories, and government offices across the 950,000 square kilometers of land in British Columbia. Through the medium of the InfoMemo, hatchery practices in the Sunshine Coast near Vancouver might have offered some fish rearing tips for another facility deep in the ice-bound interior and vice versa. Perhaps fluid in this regard is a better word than network, for the former can fold space (BOYER, ROTH, & LEE, 2003). In what follows, I shall demonstrate the extent to which the categories of *production*, *use or function*, and *content analysis* as described in UDSR can illuminate the InfoMemo as an agent that played a significant (and largely hidden) role in the history of salmon conservation in British Columbia. It is to be remembered that these categories are separated for analytical clarity though they operate and belong in an integrated whole. [6]

3.1 Production

The InfoMemo fits into a larger group of situated or social practices called the "scientific article." When texts aspire to be seen and read as scientific, certain rules and discourse practices have to be enacted that the InfoMemos demonstrated including jargon, nominalization, third-person narrative forms, etc.

The InfoMemo was thus a resource in "schemes of action" (PRIOR, p.13), and was intelligible within a certain community of practice, in this case a fish rearing one. This consisted of hatchery workers, fisheries researchers and biologists who all worked for DFO in the Salmonid Enhancement Program. Though with unique job descriptions, every member from each group was potentially able to contribute to (and consume) an InfoMemo that served to solidify the collective identity of a corps that was dedicated to scientific salmon enhancement. So despite having the experimenter(s) in each InfoMemo clearly indicated, it was suggested in UDSR that we are better off considering authorship as a product of a collective, as "author function" (p.11) rather than as the work of individuals. For example, editors and reviewers of journals often can, and do, alter any submitted article significantly. Now, authorship becomes diffuse and de-centered, a joint product of a particular community of practice. As will be described later, this privileging of scientific forms of knowledge in documents such as the InfoMemo denied a voice to other (embodied) ways of knowing in fish husbandry. [7]

3.2 Use or function

Following a document in use is an empirical task. Rather than beginning with issues of content or meaning encapsulated in documents, researchers gain much by examining the interactions of documents with other actors—both human and non-human. Acknowledging his debt to Actor Network Theory, PRIOR advises us to concentrate on the "social activities through which texts are appropriated rather than psychological properties of the reader" (p.24). This principle had been earlier echoed by LATOUR (1987) who stated that cognitive factors should only be sought after exhausting all other possible social explanations when dealing with how inscriptions (documents) are used. A central tenet in Actor Network Theory states that knowledge and power are almost impossible to achieve without making chains and cascades of inscriptions as allies. Grades and test scores, as any school-going child will attest to, are the ultimate inscriptions that decide a person's path through society. Their very familiarity and embeddedness in modernity however, disguises how they privilege some and at the same time alienate countless others (ROTH & MCGINN, 1998). [8]

The InfoMemo *qua* scientific article belonged to a distinguished genre with rigid conventions (BAZERMAN, 1988). From the InfoMemos that we examined, none recruited any citational allies which made their standing as a "proper" scientific publication somewhat suspect. Nonetheless, InfoMemos seemed to perform the role of an internal scientific journal that probably helped legitimize the multi-million dollar Salmonid Enhancement Program as knowledge producing, progressive, and worthwhile. Questions to which we are still unearthing answers include, "Who used the InfoMemos? Who had access? Who was denied? How did InfoMemos affect or constitute practices in different places over time? What forms of knowledge were privileged? Who benefited politically from them?" [9]

An argument in UDSR stated that a significant part of everyday identity work involved documentation ranging from fully-fleshed out modes like (auto-) biographies to routine forms such as curriculum vitae, passports, and census

forms among others. In the language of UDSR, it is said that people order or structure documents as much as the latter create or stabilize "subjects, subjectivity and identities (p.91). What we did uncover was a poignant case of organizational dis-identification when a fish culturist named Jack (a pseudonym) was once denied a chance to publish the results of his scientific experiments. After collecting data for five years on a mysterious disease that killed huge numbers of juvenile fish literally overnight, the results and experimental design were given to a ghostwriter by the biologist assisting Jack. On asking the reason for this, Jack replied that while he knew a lot about fish rearing, he knew next to nothing about writing papers for a scientific audience. What then happened is not entirely clear but his work never saw the light of day, not even in an InfoMemo. According to Jack, this was the final turning point for him. Previously, this widely acknowledged expert fish culturist closely identified with the hatchery but it slowly became just a place to earn a living, a place devoid of meaning. [10]

3.3 Analysis of content

Quantitative analysis of content by means of word counts will continue to play an important role in documentary research. Often, words which appear more frequently are deemed to be of greater importance and hence are more meaningful. A more rigorous sociological inquiry is however impossible unless one looks at the "schemes of referencing ... rather than systems of meaning" (p.24). One such instance concerns the exact time of release of hatchery fry to the ocean found in SEP related documents. Most salmonid species have to complete their adult life cycle in the marine environment after spending varying amounts of time in fresh water where they were originally hatched. Released too early the fish are unprepared to survive without human intervention; released too late they tend to be infected with diseases as their immune system is severely compromised prior to their sea migration. Either way, fish culturists know that they have a narrow window of opportunity that has been determined for them from numerous scientific experiments like those in InfoMemo number 1. Even now, this time frame is not completely understood as there are many confounding variables though all hatchery managers have been supplied with optimal release dates from DFO scientists. The excerpt below from an interview that was conducted with a DFO biologist allows readers an inside glimpse of the decision-making process that these managers have to undertake:

"... its very typical of what happens. There's a lot of difference in opinion, previous research from the late 70s, 80s said fish released on this day, at this size, return at a greater rate than fish released a week earlier. So, regardless of whether they're dying, they, some of the managers stick to those dates whereas others say, 'OK the fish are behaving like they want to go—take the screens out! Let them go by themselves!' And, there's really variability between the managers on what they'll allow to happen? And they really have that level of control and it really depends on the facility." (Excerpt from an interview with a DFO Biologist, June 2003) [11]

From what is understood about the Salmonid Enhancement Program, release dates are sometimes contested and problematic rather than accepted as givens

proclaimed by scientific documents. Said another way, what a salmon release date "means" depends on who the audiences of that document are and not how many times it appears in texts. In one particular year, the fish culturists from our study site were extremely upset when management refused to allow the fish to be released earlier to the sea although fish were dying in the hatchery by the thousands (BOYER, ROTH, & LEE, 2003). On the one hand, management was basing its decision on what it felt was strong, scientific evidence and on the other hand, the fish culturists insisted that the fish leave immediately. The latter relied mainly on embodied understandings built up over many years of what *their* fish *communicated* to them as these workers so frequently described it. Similar to conclusions reached from studies that examined transsexualism (HIRSCHAUER, 1998) and atherosclerosis (MOL, 2002), we found that different practices and documentation enacted multiple realities about optimal release dates. In this case, management eventually won for the network of inscriptions including our InfoMemos reified the idea of a scientifically supported release date. These texts constituted greater political power and capital (WINSOR, 2003) compared to the embodied, idiosyncratic and, more importantly, undocumented experiences of fish rearing of fish culturists. [12]

4. The Contribution of Cultural-historical Activity Theory

Much of what UDSR has proposed for understanding documents in action, as useful as it is, has actually been anticipated by cultural-historical activity theory (CHAT). After a brief introduction to CHAT in this section, I will explain that there are advantages in adopting a perspective informed by CHAT in documentary research over that supplied by UDSR. [13]

Cultural-historical activity theory is a holistic means of analyzing social action and cognition that has affinities with a loosely connected group of ideas known as practice theories (GHERARDI & NICOLINI, 2001). Human activity in CHAT is understood as motivated towards some object; when objects are not present there is no activity to speak of. In the activity system of doing experiments in salmon biology for instance, the goal is to produce some salient data so that a publication like an InfoMemo emerges as an outcome. In addition, the relationship between object and subject during transformation is a diachronic, dialectical one that mandates the performance of historical analyses in the activity system concerned (LEONT'EV, 1978). This relationship of subject/object is not direct but is mediated by available tools (either material, e.g. computers, test tubes, documents, or virtual, e.g. formulas, concepts). By means of the heuristic of an activity triangle in Figure 2 below, we can see how the other four entities in the activity system further mediate the relationship between the primary axis of subject/object. Rules, for example, might denote the literary conventions or norms demanded for a paper intended for the scientific community while division of labor describes the different roles that people can assume (e.g. as editors or reviewers) in the activity system. As each element in the activity system undergoes change during activity, so do the relations between them and in the entire network as well. Ultimately, analyzing documents from a CHAT perspective

avoids seeing them as isolated, un-mediated, man-made things that are devoid of agency.

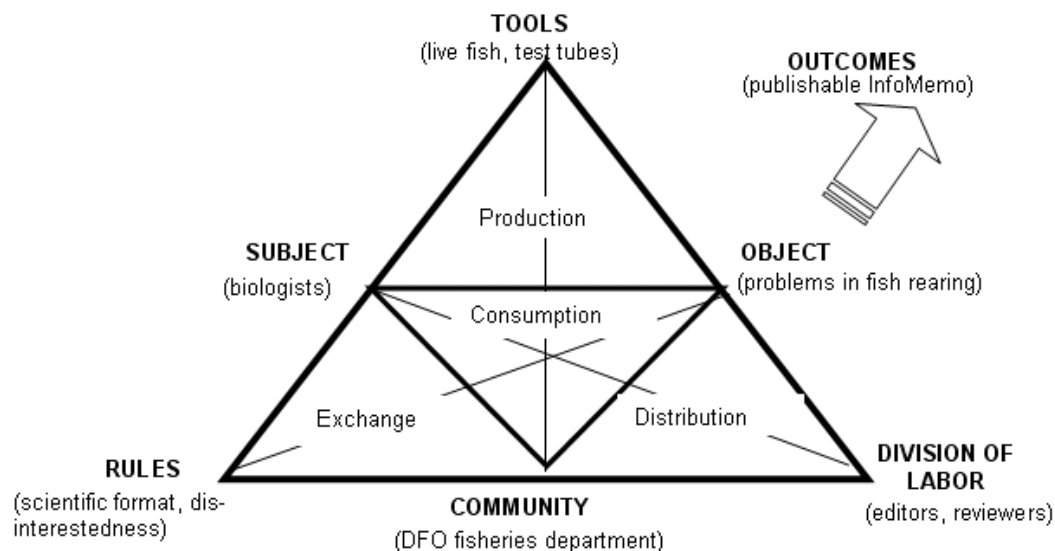


Figure 2: A depiction of an activity system using a hypothetical example drawn from InfoMemo production. [14]

Deviating slightly from UDSR, the central process of consumption is understood in CHAT to be interrelated with three other aspects of human action—production, exchange and distribution (ENGESTRÖM, 1987). Indeed, consumption is an amalgam of material and socio-cultural components according to MARXian thought that is the wellspring of CHAT.

"The conclusion we reach is not that production, distribution, exchange and consumption are identical, but that they all form the members of a totality, distinctions within a unity ... Mutual interaction takes place between the different moments. This is the case with every organic whole." (MARX, 1973, cited in ENGESTRÖM, 1987, p.59) [15]

Adopting a CHAT perspective towards documentary research has some additional advantages over what has been suggested by UDSR. For instance, a concern in sociology is how to understand action (and knowing) at both the individual and collective levels that has been labeled the structure/agency debate. CHAT is especially helpful in resolving this longstanding problem as it takes activity as the molar unit of analysis (LEONT'EV, 1978). It follows then that documents are concrete realizations of activity (i.e., always social processes) formed from the dialectic of structure and agency that simultaneously constrains and enables, conforms and transforms.

"... there is often a tension between the concrete nature of the written word, its enduring nature, and the continuous potential for re-reading meanings in new contexts, undermining the authority of the word. Text and context are in a continual

state of tension, each defining and redefining the other, saying and doing things differently through time." (HODDER, 2000, p.704) [16]

Let me elaborate. Jack the expert fish culturist had the results of his longitudinal study of fish disease in his hand but his inability to express himself in the correct forms curtailed his agency to participate completely in the endeavor of doing scientific research. While there was no sharp division of labor in DFO whereby only those with training in science could publish InfoMemos, the demand for a scientific presentation format in the InfoMemo presented an obstacle for people like Jack. One either had to conform to the submission criteria, or else not participate at all. It would have been interesting if Jack had persisted in reporting his findings in the everyday language that he was comfortable with. This actually would have satisfied the original desire for information exchange and might have transformed the possibilities for action within the organization. In other words, it might have encouraged other fish culturists like him to contribute even more so that everyone benefited. From what we have observed, these kinds of challenges to the status quo were never actualized and the InfoMemo remained as a kind of departmental scientific publication that denied some people access while privileging those with the appropriate resources. With these kinds of cultural-historical analyses demanded by CHAT, researchers are therefore able to discern the dialectical interweaving between the material and the social world and how they can transform each other. [17]

Rather than viewing identity as something discretely belonging to individuals, it is understood in CHAT as an emergent, processual property of activity (ROTH, et al. in press). Whether one is preparing or consuming documents, both the identities of texts and persons are co-constituted for they have now become part of an inseparable duality. While not exactly embracing the publish-or-perish mentality found in academia, getting a paper in the InfoMemo circuit apparently was something of a laudable achievement especially for the high-school educated fish culturists like Jack. The more Jack participated in doing science, the greater his identity as an all-rounded, competent fish culturist was strengthened in the DFO community. And when a major endeavor like the five year long experiment failed to be disseminated, it precipitated a gradual dis-identification with the hatchery for this same person. From these events, we see that identity is both the outcome and the medium of the activity of InfoMemo production. [18]

Finally, each element in the heuristic CHAT triangle is mediated by all the other elements—agency/materiality can be seen throughout this cyborg-like system. Artificial dichotomies between mind-body, individual-society, and external-internal disappear in this distributed form of knowing-in-activity in CHAT. For these reasons, activity theory seems ideally suited for viewing documents as concurrently material and agentic in a holistic form of analysis. [19]

5. Conclusions

In the crowded arena of introductory books in qualitative methods, how does UDSR compare? The various strategies that it promotes are certainly not new; others have also devoted space to analyzing documents from sociological approaches though not necessarily using the same terminologies. We observe that both the chapters on understanding official statistics and another on analyzing documents in the first edition of a popular text by MAY (1993) forestalls the broad outlines painted in UDSR.² Most beginners would also have been drawn to the important book by SCOTT (1990) that highlighted the idea of documents as socio-cultural objects. Here again, the twin concepts of documents as "resource" and "topic" are analogous to what has been advocated in UDSR. In a section on pursuing members' meanings, researchers have also been advised to treat documents as contingent artifacts whose "meanings [are] constructed in a specific context for a particular reason" (EMERSON, FRETZ, & SHAW, 1995, p.116). One corollary of this according to these authors is that attention should now be devoted to the empirical study of document use among informants. By now, this should a very hoary message indeed! [20]

This however, might be an unfair judgment upon UDSR for most of the empirical research in this domain remains locked in the primary literature from disparate disciplines such literary criticism, anthropology, science studies, cognitive psychology, and hermeneutics among others. Because these works were aimed at academic audiences, UDSR has attempted to present the distilled insights from these disciplines to a wider audience, which is a task that has been largely achieved in my opinion. As mentioned previously, adopting a CHAT perspective would have added greater theoretical insight to performing documentary research though I am unaware of any other work that has done so. And because UDSR does not prescribe doing research in any formulaic manner it does not mean that it teaches us very little. On the contrary, it presents a broad "itinerary of possibilities" (p.x) for our consideration. Just like a well-conceived guidebook, the maps and illustrations in UDSR are helpful and strongly tempt the newcomer to venture to new places hitherto unconsidered. The introduction and explanation of technical jargon (boundary objects, documentary realities, action-at-a-distance etc.) that experienced researchers take for granted were generally handled well in this text. In this regard, some people might find that UDSR provides far too many (lengthy) examples that eventually make for tiresome reading. Still, I endorse this book as a valuable introductory text for it is both a convincing as well as an entertaining read. [21]

2 Some prefer to separate documents from records (see HODDER, 2000) though this distinction is not upheld in UDSR with good reason (pp.27-28).

Acknowledgments

I wish to express my thanks to all the members of the activity theory discussion group for these many months of mental sparring that stretched my understanding. And in his forbearance in teaching and guiding a less than bright grad student, I am always deeply indebted to Wolff-Michael ROTH. If there are any misrepresentations of CHAT in this review, the errors are entirely mine.

References

- Alderdice, Don F.; Wood, Allen & Narver, Dave W. (Eds.) (1984). *Salmonid Enhancement Program—Preliminary Notes on New Information in Salmonid Hatchery Propagation*. Nanaimo, British Columbia, Canada: Department of Fisheries and Oceans.
- Bazerman, Charles (1988). *Shaping written knowledge : The genre and activity of the experimental article in science*. Madison, WI: University of Wisconsin Press.
- Boyer, Leanna; [Roth, Wolff-Michael](#) & Lee, Yew-Jin (2003, October). *Knowledge flow in salmonid enhancement: A study in social:material topologies*. Paper presented at Society for Social Studies of Science (4S) Annual Meeting, Atlanta, Georgia.
- Emerson, Robert M.; Fretz, Rachel I. & Shaw, Linda L. (1995). *Writing ethnographic fieldnotes*. Chicago: University of Chicago Press.
- Engeström, Yrjö (1987). *Learning by expanding: An activity-theoretical approach to developmental research*. Helsinki: Orienta-Konsultit.
- Gherardi, Silvia & Nicolini, Davide (2001). The sociological foundations of organizational learning. In Meinoff Dierkes, Ariane B. Antal, John Child, & Ikujiro Nonaka (Eds.), *Handbook of Organizational Learning and Knowledge* (pp.35-60). New York: Oxford University Press.
- Hirschauer, Stefan (1998). Performing sexes and genders in medical practices. In Marc Berg, & Annemarie Mol (Eds.), *Differences in medicine: Unraveling practices, techniques, and bodies* (pp.13-27). Durham, NC: Duke University Press.
- Hodder, Ian (2000). The interpretation of documents and material culture. In [Norman K. Denzin](#) & Yvonna S. Lincoln (Eds.), *Handbook of Qualitative Research* (pp.703-715). Thousand Oaks, CA: Sage.
- Latour, Bruno (1987). *Science in action: How to follow scientists and engineers through society*. Milton Keynes: Open University Press.
- Lee, Yew-Jin & Roth, Wolff-Michael (2003, November). Making a scientist: Discursive "Doing" of identity and self-presentation during research interviews [37 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* [On-line Journal], 5(1), Art. 12. Available at: <http://www.qualitative-research.net/fqs-texte/1-04/1-04leeroth-e.htm> [Date of access: 9 December 2003].
- Lee, Yew-Jin; Roth, Wolff-Michael & Boyer, Leanna (2003). They've gotta learn something unless they're just out to lunch: Learning & identity in a salmon hatchery. In Wolff-Michael Roth (Ed.), *Connections'03, 8 May* (pp.153-174). Victoria, British Columbia: University of Victoria.
- Leont'ev, Alexei N. (1978). *Activity, consciousness, and personality*. Englewood Cliffs, NJ: Prentice Hall.
- May, Tim (1993). *Social research: Issues, methods and process*. Buckingham: Open University Press.
- Mol, Annemarie (2002). *The body multiple: Ontology in medical practice*. Durham, NC: Duke University Press.
- Potter, Jonathan & Wetherell, Margaret (1995). Discourse analysis. In Jonathan A. Smith, Rom Harré, & Luk Van Langenhove (Eds.), *Rethinking methods in psychology* (pp.80-92). London: Sage.
- Roth, Wolff-Michael (2003, July). "If somebody's with something every day they've gotta learn something—Or they're just out to lunch": The dialectics of ethnography as a way of being. Review Essay: Harry F. Wolcott (1999). *Ethnography: A Way of Seeing* [48 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research* [On-line Journal], 4(3), Art. 14. Available at:

<http://www.qualitative-research.net/fqs-texte/3-03/3-03review-roth-e.htm> [Date of Access: December 9, 2003].

Roth, Wolff-Michael & McGinn, Michelle (1998). unDELETE science education: /lives/work/voices. *Journal of Research in Science Teaching*, 35(4), 399-421.

Roth, Wolff-Michael; Tobin, Kenneth; Elmesky, Rowhea; Carambo, Cristobal; McKnight, Ya-Meer & Beers, Jennifer (in press). Re/making identities in the praxis of urban schooling: A cultural historical perspective. *Mind, Culture, & Activity*.

Scott, John (1990). *A matter of record: Documentary sources in social research*. Cambridge: Polity Press.

Winsor, Dorothy A. (2003). *Writing power: Communication in an engineering center*. New York: SUNY Press.

Author

Yew-Jin LEE is a Ph.D. student in science education from the University of Victoria. Currently, he is using activity theory, sociology, anthropology and hermeneutic philosophy to understand the development of expertise in the workplace. Other interests include science studies, social memories and ethnographic methodologies.

Contact:

Yew-Jin Lee

Faculty of Education
University of Victoria
PO Box 3010, STN CSC,
Victoria, BC, V8W 3N4
Canada

E-mail: yjl@uvic.ca

Citation

Lee, Yew-Jin (2003). Documents in Action: How to Follow Scientists of Society. Review Essay: Lindsay Prior (2003). Using Documents in Social Research [21 paragraphs]. *Forum Qualitative Sozialforschung / Forum: Qualitative Social Research*, 5(1), Art. 15, <http://nbn-resolving.de/urn:nbn:de:0114-fqs0401151>.