Case study on a scientific oral history project using information practice analysis

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Abstract

Introduction. This investigation explored 21st century stewardship of a late 20th century scientific oral history project through the lens of information practice. Oral history project stewardship and reuse are understudied.

Literature review. Oral histories foreground human agency in the world. Often studied singly, many reflect an oral history project's historiographic context. Stewardship documentation by multiple stakeholders accrues over time. The author developed an information practice analysis tool for systematic exploration of oral history stewardship documentation.

Method. A case study approach and qualitative content analysis techniques guided investigation of documentation for an oral history project held at Science History Institute in Philadelphia. Textual data was collected for a purposive sample.

Analysis and results. Multiple stakeholders' documentation schema for the purposive sample were analysed in Excel and Word. Results coded five information work models for stakeholder information practices.

Discussion. The information work models portrayed stakeholder information practices as mechanisms for stability in the stewardship of contextual assets, and mechanisms for transformation through staff knowledge, as situational assets.

Conclusion. Information practice analysis of oral history stewardship in this case study systematised stakeholders' and user perspectives on access. Implications for theory development lie in leveraging the stability and transformative agency of stewardship and reuse.

Introduction

Access to oral histories serves collective memory and the social good. Oral history projects have been particularly significant sources of research-based interviews that explore the human, sociocultural side of breakthroughs in the sciences and humanities (Doel, 2003; Samuels, 1986, 1992). Notably, domain-specific oral history projects represent intensive dedication of staff, resources and infrastructure to underwrite research-based oral histories, with long-term public and scholarly access as the goal (Kuhn et al., 1967; Treleven, 2000).

However, disparate approaches to oral history stewardship have hindered access in the past (Bruemmer, 1991; Fogerty, 1983; Swain, 2003). Autonomous oral history programs, for example, tended to provide internal access to works while neglecting mainstream discovery systems for primary and secondary sources (Bruemmer, 1991; Goff, 1986). In the oral history profession, best practices advise practitioners to follow the holding institution's policies for access and preservation (Boyd, 2012; Brooks and Snyder, 2019; Gluck, 2022). More recently, digital stewardship for oral histories is developing online access systems for catalogued works held in libraries and archives (Boyd, 2013; Boyd et al., 2015).

Systematic study of oral history project stewardship has been lacking in information behaviour research. Stewardship, viewed as multiple modes of access to an oral history project within a single institution, framed this study's dual objectives. They were, first, to investigate stakeholders' viewpoints on the stewardship of a scientific oral history project, and second, to investigate the researcher's viewpoint on modes of access to the project. Three research questions followed:

RQ1) In what ways is an oral history project an information practice?

RQ2) In what ways is an oral history an information practice within the project?

RQ3) How does the researcher's information practice interface with that of

the oral history project and its oral histories?

In the sections that follow, a literature review provides background on the oral history genre and scientific oral history projects. It introduces Centre for Oral History at Science History Institute in Philadelphia, the source of the case study's purposive sample. Next, a methods section outlines the case study's research design and use of theoretical and empirical tools. The author developed an information practice analysis tool grounded in library and information science research to code empirical data gathered by qualitative content analysis techniques. Third, data analysis is based on information work models. Four models feature the viewpoints of stakeholders who produce documentation that provides access to the oral history project, and a fifth model features the researcher's viewpoint on accessing the project. Fourth, results fulfil the research questions by interpreting how layers of stakeholders' information work coalesce in documentation, an information practice specific to each of the four stakeholder contexts. By contrast, the user-researcher's viewpoint is prismatic, a process of accessing the oral history project through the documentation of four stakeholder contexts. Discussion explores how stakeholder information work models portray the oral history project through documentation, and how the researcher constructs a holistic framework for the project in the case study's context. Stability and transformation in stewardship, linked to user-researcher practices, hinge on agency and visible and invisible work. A conclusion relates objectives to the literature and suggests directions for future research.

Literature review

Literature consulted for the case study in 2022 and 2023 included peer-reviewed articles retrieved from ProQuest library and the information science databases LISTA and LISA. An additional search technique was footnote chasing. Websites including Society of American Archivists and Oral History Association were sources of guidelines on

documenting oral history according to best practices in the respective professions.

Background on oral history and scientific oral history projects

Oral history is a global and time honoured phenomenon (Thompson, 2017; Thomson, 1998). Its prominence rose with international dialog to frame principle 19 of the United Nations Declaration of Human Rights on freedom of information as a human right in the aftermath of World War II (Oestreicher, 2020). In the US, passage of the Freedom of Information Act in the 1960s coincided with interest in oral history and the social fabric. Humanistic values linked to information access precipitated a paradigm shift among information professions where preservation had guided institutional mission. User orientation at libraries, archives, and museums was one consequence, and collection of oral histories viewed as a strategy for archivists to broaden the historical record's foundational relevance (Fogerty, 1983; Ham, 1975; Ham, 1981; Oestreicher, 2020). Growing professionalism in oral history praxis as an academic discipline has been attributed to Columbia University's early program in the US in the late 1940s (Thompson, 2017; Thomson, 1998; Treleven, 2000).

Oral historian Ronald E. Doel (2003) observed, '*The growth of oral history closely mirrors the increasing interest of historians in the ideology of science and questions of social meaning*' (p. 350). Igniting such interest, the influential American historian of science and physicist Thomas Kuhn launched in the 1960s an oral history project about the remarkable new field of quantum physics (Doel, 2003; Kuhn et al., 1967). Interviewing early 20th-century physicists to complement international archival resources, the project's research-based oral histories portrayed quantum physics as a human endeavour—as much a socio-cultural phenomenon as a scientific network of central and peripheral figures.

For archives, entire oral history programs devoted to infrastructure for interview collection and extensive processing of sound files transcripts are prohibitively resource intensive (Fogerty, 1983). Academic centres in the US have aligned oral history programs with university libraries to underwrite long-term institutional commitment, while US federal agencies such as the Smithsonian Institute's National Air and Space Museum included oral history as part of the Space Telescope History Project inaugurated in the 1940s (Doel, 2003; Treleven, 2000).

Adding to the academic and governmental examples referenced above, the non-profit organisation Science History Institute (SHI) features an oral history program. SHI's founding mission in 1982 to promote the history of chemistry expanded through mergers with entities in the life sciences and engineering (Science History Institute, n.d.a). Located in Philadelphia, SHI and Centre for Oral History (COH) provide programming and access to interdisciplinary scientific information in the public interest. Notably, COH collects oral histories according to Oral History Association Guidelines and trains oral historians as well (Science History Institute, n.d.b).

Stewardship of oral history works and oral history projects.

Oral history is regarded as an intellectual genre. Oral history holdings add value to public and private memory institutions. Works of oral history are related to yet distinct from archives and bibliographic recorded information. As primary sources, oral histories and collections of oral histories are the domain of archives, while transcripts of audio recorded interviews leverage the intelligibility of textual bibliographic formatting conventions (Matters, 1995; Treleven, 2000).

At libraries, bibliographic cataloguing practices designed for secondary works may afford wide access to an oral histories but obscure metadata specific to this intellectual genre (Bruemmer, 1991). In archival settings, one longstanding current of thought in archival theory urges archivists to curate user-oriented sources—and to collect oral histories (Freeman, 1984; Ham, 1975; Ham, 1981; Samuels, 1986). A second development exhorting archivists to critically decolonise sources curated in mainstream contexts is more recent (Bak, 2021; Ghaddar and Caswell, 2019; Light and Hyry,

2002). Each approach features the archivist's vantage point on primary sources but leaves the integrity of the oral history genre in a black box.

The oral historian's preparatory research of the interviewee's expertise intentionally contextualises the field or disciplinary culture viewed over the interviewee's life span, producing a work of oral history jointly authored by the *narrator* and the oral historian (Frisch, 2003; Grele and Terkel, 1991). Professional best practices ensure that research purpose underlying an oral history interview lends credibility where memory may fade, or bias interfere (Gluck, 2022). Best practices advise oral historians to adhere to the documentary practices of the holding institution (Brooks and Snyder, 2019; Gluck, 2022). In Kuhn's approach, stakeholders shape historiographic context for an oral history project through criteria for the selection of narrators and oral historians (Kuhn et al., 1967). While oral histories reward study individually, the corpus of an oral history project fulfils the historiographic purpose envisioned by stakeholders (Doel, 2003). Oral histories with project origins may lack provenance unless the repository acquires the project in its entirety (Matters, 1995). Oral history programs, meanwhile, may provide user access through subject guides that become outdated (Bruemmer, 1991). Even as scholarly trends explore oral histories and sonic research, digital stewardship poses challenges to a work's long-term access in the online environment (Boyd, 2012; Smyth et al., 2023).

In short, access to oral history projects and their works is contingent on stewardship practices at the holding institution. Disparate stewardship practices leave gaps for users to bridge.

Case study objectives

The case study aimed to extend theory development through empirical exploration of information practice concepts in oral history project stewardship, including a meta-study of the author's information practice. To explore the study's three research questions, the author constructed an information practice analysis tool grounded in library and information science information behaviour research and education theory.

Information practice analysis

The concept *information practice* emerged in library and information science information behaviour research in recent decades. Proponents reasoned that, '*information behaviour is best understood by considering information and knowledge constructed as a sociocultural context*' (Fulton and Henefer, 2018, p. 2162). Indebted to Theodore Schatzki's practice theory, *practice* refers to human activities whereby embodied and affective expressions, both gestural and vocal, coalesce as meaningful shared knowledge bonding social groups (Fulton and Henefer, 2018; Schatzki et al., 2005). The library and information science context relates *information practice* to wide-ranging, everyday uses of information at work settings and information-intensive sites of learning (Fulton and Henefer, 2018; Huvila, 2013; Lloyd, 2010; Savolainen, 2007). For example, information practice characterises the varied work environments of Nordic designers, vault inspectors, firefighters, and librarians (Lloyd, 2007; Savolainen, 2007; Veinot, 2007). In sum, *information practice* concepts are open-ended and work oriented. Embodied information and problem-solving in social settings are key ideas.

More narrowly, *information work* concepts, developed in sociological studies of work in healthcare contexts, brought the vantage points of information users into the foreground (Corbin and Strauss, 1988; Strauss et al., 1985). For example, chronically ill patients perform work to manage health information and care, extending to lines of work performed by families and their networks (Dalmer and Huvila, 2019; Hogan and Palmer, 2006). Patients' and families' information work is invisible relative to healthcare practitioners' visible work. Extrapolating visible and invisible work concepts to work settings more generally, agents' viewpoints may shift definitions of *work* to leverage the power dynamics of work task visibility (Star, 1991; Star and Strauss, 1999; Veinot, 2007). Work definitions reflect competing strategies, from surveillance and exploitation to bending the rules to protect allies (Star and Strauss, 1999). Recognising

layers of visible and invisible work highlights undervalued information tasks and the holistic identity of workers (Dalmer and Huvila, 2019). The agent's vantage point in the work environment is key to *information work* concepts.

Given the ubiquity of information use in human activities, both *information practice* and *information work* concepts foreground the notion that it can be studied in work contexts, work tasks, and work roles (Byström and Hansen, 2005; Byström and Lloyd, 2012; Huvila, 2008, 2013). Work contexts implement work purpose and imbue work tasks with specificity. For instance, staff's performance of work tasks implements static job descriptions by bringing workers' training and biography to the uses and management of information (Byström and Lloyd, 2012). Moreover, information in a work setting has contextual and situational attributes. Contextual attributes refer to stable and long-term assets, such as the entity knowledge base, while situational attributes pertain to staff knowledge and work tasks (Byström and Hansen, 2005). Through staff work tasks, situational attributes maintain and update contextual assets, or seed new knowledge. Work settings as informal learning environments echo *information practice* notions of groups sharing embodied knowledge in problem-solving and *information work* insights on individual vantage points for defining visible and invisible work.

Libraries and museums as sites of information work have explored *information practice* and *information work* concepts in relation to information literacy and the social construction of knowledge at memory institutions (Huvila, 2009, 2013; Lloyd, 2010). Information-intensive settings are conducive to the study of information work by information professionals (Huvila, 2013; Lloyd, 2010). Sites afford work spaces to critically reconsider professional and intellectual identities, and to forge a decolonialising praxis in mind of *'both a different way of archiving and a different world to be archived'* (Ghaddar and Caswell, 2019, p. 73; Lloyd, 2010). Identity formation in *information practice* and *information work* concepts transpires through information work.

By contrast, *communities of practice* concepts from the education research community highlight identity formation through whole life learning (Brown et al., 1989; Lave & Wenger, 1991; Wenger, 1998). One may be aware or unaware of 'membership' in one or more *communities of practice*; common interests, situational learning, and resistance to authority catalyse *communities of practice*, and they may disperse without trace. The latitude of *communities of practice* concepts deliberately softens boundaries that would constrain the humanness of learning. Through fluid relationships that precipitate *communities of practice* memberships over a lifetime, identities become layered.

In sum, information practice analysis is grounded in library and information science and education research. It has latitude appropriate for framing the stewardship of information from more than one perspective. It is congruent with the networked social knowledge oral history projects envision. Conversely, work contexts can be studied, and information-intensive settings are sociocultural sites where information professionals may enact '*new ways of ordering the world and its people*' through the stewardship of information (Ghaddar and Caswell, 2019, p. 72; Huvila, 2013; Lloyd, 2010). Though *information practice*, *information work*, and *communities of practice* research has explored wide-ranging sociocultural contexts, no studies have ventured into oral history project stewardship as the basis of user access.

Methods

Methods selection

The study's three research questions on exploring oral history through an information practice lens were appropriate for qualitative methods and a case study approach in the interpretivist paradigm (Lincoln and Guba, 1985; Pickard, 2017). An empirical inquiry, the case study investigated a contemporary human phenomena in the bounded geographic context of Philadelphia (Schwandt and Gates, 2018; Yin, 2009). Focus on an oral history project determined use of qualitative content analysis

techniques (Krippendorff, 2010; Wildemuth, 2009b). Research design was emergent.

Research design

Purposive sample selection

The investigator identified Centre for Oral History (COH) at The Science History Institute (SHI) as a major collection of oral history projects bounded by the city of Philadelphia.[1] SHI's interdisciplinary holdings, exhibitions, and programs serve the contemporary history and understanding of science in society in the 21st century. The organisation's physical site occupies the former First National Bank building erected in 1865 in the historic district of Philadelphia. Renovations completed in 2008 included distinctive application of ecologically focused Leadership in Energy and Environmental Design (LEED) principles.

COH was an integral part of SHI's origins as the Centre for the History of Chemistry in 1982. Since that time, expansions established Chemical Heritage Foundation and recently merged this entity with organisations in the life sciences, biotechnology, and engineering in 2018 under the leadership of Robert G. W. Anderson (Science History Institute, n.d.a). This interdisciplinary scope befits the intersection of science and society in the 21st century, and SHI is noteworthy for featuring the human side of scientific communities past and present as part of its mission.

Oral history holds a prominent place at SHI through COH. The Centre's mission to audiences of the history of the sciences and engineering is inclusive, and it aims for public and scholarly audiences '*to understand science, medicine, and technology from the perspective of practitioners, as recorded in their own words*' (Science History Institute, n.d., para 2). Staff adhere to Oral History Association guidelines, preserving the research materials, recordings, and transcripts produced. COH holdings exceed 700 works dating from 1979 and feature 14 oral history projects.

Units of analysis

Units of analysis operationalised the research questions and facilitated consistency in coding themes (Krippendorff, 2010; Miles et al., 2020; Wildemuth, 2009a). Five units of analysis included 1) COH oral history program and oral history project, 2) Digital Collections (DC), 3) Othmer Library, 4) oral history transcripts, and 5) the user-researcher's investigation. Consulting multiple sources allowed for in-depth exploration and triangulation of data (Flick, 2018; Wildemuth, 2009a; Yin, 2009).

Data collection

Science History Institute's Museum and Library provides access to Digital Collections in four areas: Archives, Oral History, Library, and Museum. The author accessed Scientific and Technical Information Systems Oral History Project through the Oral History portal. Project selection was based on the project's relevance to information behaviour and information practice as areas of library and information science research and the pertinence of its subject matter for information science theory and history. The project's description reads,

> These oral histories focus on women and men who contributed to the advancement of the classification, manipulation, dissemination, storage, and retrieval of information and who developed new information systems in the twentieth century, especially those who focused on scientific knowledge (Science History Institute, n.d.c).

The user-researcher's access to the oral history project through portals created by COH, DC, Othmer Library, and transcripts was enabled by documentation, a textual data type. Documentation produced by multiple stakeholders constituted a human artifact intended for reuse (Hodder, 2000). The user-researcher, a human instrument of data collection, had the capacity to interpret texts (Krippendorff, 2010; Lincoln and Guba, 1985; Wildemuth, 2009a). Collecting available textual

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[1] The author was Paul Otlet Fellow at SHI's Beckman Center for the History of Chemistry in 2022–2023.

data mitigated user-researcher bias that affects interview data gathered in natural settings (Wildemuth, 2009a). Content analysis techniques permitted flexibility in user-researcher intent while exploring the meanings underlying texts (Pickard, 2017; Wildemuth, 2009a). Mixed methods complemented qualitative description as part of interpretation.

Coding

In keeping with emergent design, coding phases developed themes in the purposive sample based on constant comparison inspired by Constructivist Grounded Theory (Charmaz, 2014; Miles et al., 2020). For example, abstracts of works and metadata available on each webpage were triangulated by downloadable digitised transcripts (or front matter for restricted works) in Adobe pdf format. The webpage for each work also afforded a link to the work's catalogued entry in Othmer Library, where bibliographic metadata were collected. Data were compiled on Excel spreadsheets and Word documents for manual coding and analysis.

First phase coding assigned a unique alpha-numeric filename to each of the 19 oral histories in the purposive sample (the project). A second phase analysed the project's temporal span and gender data for narrators. For example, the 19 works in the project dated from 1987 to 2001. Aside from a 10-year gap between the first interview in 1987 and the second in 1997, 18 interviews took place over five years: six in 1997, nine in 2000, and three in 2001. Gender distribution based on first names and pronouns

was binary. Excluding one interview with two narrators (female and male), narrators included four women and fourteen men (28.57%). Second phase coding also analysed interviewers in the project. A total of six oral historians, 100% men, conducted 17 interviews solo and two interviews in pairs. Third phase coding entailed applying information practice analysis concepts to the units of analysis. This systematic approach generated information work models for the coexistent yet contrasting documentation formats available to the user-researcher. Each stakeholder information model was fitted with data specific to the context. The investigator's information model was populated with case study specifics.

Narrative report and limitations

The case study culminated in a narrative report. Thick description of decisions and processes that guided methods undergird trustworthiness (Lincoln & Guba, 1985; Schwandt and Gates, 2018; Wildemuth, 2009a). Results based on theoretical analysis of empirical data may be generalisable; the reader may apply elements of the study to other contexts. Limitations pertain to the specificity of case study data and uncertain authorship of available text.

Analysis and results

Information work models grounded in information practice analysis concepts

Results were based on use of an information work model grounded in the author's tool for information practice analysis (Table 1).

Information work model: [Insert stakeholder context]			
Work context	Work purpose		
	Work tasks (contextual)	Work tasks (situational)	Work roles

Table 1. Information work model grounded in the author's tool for information practice analysis.

Each model systematically charted the stakeholders' viewpoint on stewardship in terms of information work, coded as work context, work purpose, work tasks, and work roles as follows. The work context corresponded to the stakeholders' setting (unit of analysis). Work purpose comprised work tasks in two categories, one for contextual, or long-term, attributes, and the other for situational attributes, or work tasks responsive to changing circumstances. Work roles considered expertise and responsibility needed

for tasks. Specific data from each stakeholder context was indicated in brackets to ground the tool in relevant empirical data.

First information work model, oral history program and oral history project stakeholders

The first information work model outlined the oral history program and oral history project stakeholders' viewpoint on stewardship (Appendix 1).

The setting for these stakeholders was the oral history program and oral history project. The work purpose was stewardship, a contextual attribute, and work tasks for situational attributes corresponded to digital preservation and access plus material preservation of original tapes and documents. Work tasks also included updating user access per release form terms as necessary. Situational attributes pertained to the volume of interviews, interviewers, and the time span of interviews, given that this information can change. Work roles were ascribed to entity stakeholders and information professionals in the oral history program.

Specific to the oral history project, work roles for conceptualising and implementing the project were suited to project stakeholders. Four work tasks for contextual attributes included project title, permanent link, project description, and sponsorship by Eugene Garfield Foundation. Purposive sample data indicated sponsorship for eight of 19 oral histories in the project. Co-creation of oral histories as a fifth work task in the contextual attribute category was ascribed to narrators and oral historians. The project, now part of program holdings, was accessed through Digital Collections.

Second information work model, Digital Collections information professionals

The second information work model outlined Digital Collections stakeholders' viewpoint on stewardship (Appendix 2).

The stakeholders' work context corresponded to the Digital Collections space. Overall work purpose aligned with preservation and access, while contextual attribute work tasks corresponded to Digital Collections metadata fields fitted with documentation from the work. Work roles were ascribed to information professionals on staff. Two metadata fields that might be situational attributes include the *Subject* **Links to DC resources** and *Related items* **Oral histories** since information professional staff could change them. The field "View in library catalogue" linked to the work's catalogued entry in Othmer Library.

Third information work model, Othmer Library information professionals

The third information work model outlined Othmer Library stakeholders' viewpoint on stewardship (Appendix 3).

The stakeholders' work context corresponded to Othmer Library. Overall work purpose was preservation and access. Contextual tasks corresponded to bibliographic metadata fields, and much like the Digital Collections model, situational tasks of mapping metadata fields to specific documentation in oral history works— presumed to have been accomplished by information professionals (the work roles)— have become contextual assets. The *Title* and *Cite as* fields mapped directly to the work's documentation. However, for these stakeholders, much of the rich documentation in oral history works had to be fitted into generic placeholders. Examples include the *Summary* field for the work's abstract, two *Description* fields for the sound files and transcript, and four *Note* fields. The oral historian's name, so important to the concept of joint authorship in oral history, mapped to a *Note* field and to *Alternate Author*.

Meanwhile, *Subjects* links in Othmer Library entries for works opened the bibliographic taxonomy, analogous to the way *Subject* links in Digital Collections accessed items in that space. Within these two stakeholder spaces of stewardship, in other words, the user was directed further away from the work's historiographic context as part of Scientific and Technical Information Systems Oral History Project. A closer look at the viewpoint of an oral history work's stakeholders follows.

Fourth information work model, Oral historian and Narrator

The fourth information work model outlined the stewardship viewpoint of stakeholders of the work of oral history (Appendix 4).

The work context corresponded to the oral history transcript based on the interview, and work purpose aligned with the list of work tasks. Work roles were ascribed to Narrator, Oral Historian, and Entity (Chemical Heritage Foundation, the entity in purposive sample transcripts). Work tasks were based on documentation found in transcript pdfs (author annotations in brackets). Administrative work tasks such as the final release form require the Narrator's input, while others such as the citation and entity mission statement are the entity's responsibility. The sponsor's project description did not appear in transcript documentation.

The narrator's and oral historian's work tasks were reflected primarily in the *Interview*, or transcript of interview dialog. Joint authorship or at least mutual consultation may be inferred for the *Notes*, in this case literature the oral historian consulted to prepare for the interview. The table of contents and index comprised structured information that may also represent joint authorship. Put another way, narrator and oral historian acted as information professionals for the primary source they created jointly. The project stakeholders' work tasks became contextual assets available to information professionals in the Digital Collections and Othmer Library spaces.

Fifth information work model, Researcher

The fifth information work model outlined the viewpoint of stakeholders in the case study (Appendix 5).

The work context corresponded to the case study, and work purpose aligned with the list of work tasks appropriate for exploration of the research questions. Work tasks for contextual attributes included the literature review and research questions, methods, theoretical tools and empirical data, and a trustworthy narrative report. Work tasks for situational attributes included data collection and analysis. Work roles were ascribed to the user-researcher except for *Peer review*, assigned to the research community.

Results

Five information work models emerged in the data. Four models portrayed stewardship as an information practice specific to the stakeholders' context, where the information work of stewardship consisted of work purpose, work tasks, and work roles. A fifth model for the user-researcher's information practice framed the investigation as a meta-study.

> RQ 1) In what ways is an oral history project an information practice?

The first information work model elucidated the oral history project's information practice from the vantage point of entity stakeholders and information professionals of the oral history program. The long-term contextual assets of the program provided a stable foundation for project assets such as title, permanent link, and description. Situational tasks, such as digital stewardship activities and updating licensing terms, represented areas where change to contextual assets is anticipated. Entity stakeholders in this stewardship context provided access to the project through Digital Collections.

> RQ 2) In what ways is an oral history an information practice within the project?

The second information work model, in turn, portrayed the oral history project's information practice from the viewpoint of Digital Collections stakeholders. They utilised metadata fields, contextual assets populated with pertinent documentation from each oral history in the project. Two situational tasks were identified, for *Subject*: **Links to DC** and for *Related items*: **Oral histories**. These links connected the work to other resources in the Digital Collections rather than to other works in the project. The Digital Collections stewardship context also included a link to the work's catalogued entry in Othmer Library.

Stakeholders in the Othmer Library stewardship context, third, shaped the oral history's information practice utilising

bibliographic fields as contextual assets for documentation excerpted from the work of oral history. Situational tasks for *Subjects* and *Genres* led deeper into the library's stewardship space. Much like the Digital Collections model, these links diverted user access away from the oral history project and its works.

The fourth information work model for stakeholders of the work of oral history was based on a work's transcript. As noted in the literature, documentation in oral history projects records information produced by multiple stakeholders who design projects and delegate implementation to oral historians. For transcripts in the purposive sample, the entity, the narrator, and the oral historian were stakeholders who populated contextual assets such as the final release form, table of contents, index, and of course the co-created interview that brought this primary source into being. Yet stakeholders neglected to include the project description, and sponsor acknowledgement was not found as indicated by the oral history program stakeholders. Lacunae, in this instance, distanced user access from the oral history project and its works.

> RQ 3) How does the researcher's information practice interface with that of the project and its oral histories?

The fifth information work model for stakeholders of the case study featured contextual assets framed as the literature review, methods, theoretical and empirical tools, and the narrative report. Situational tasks pertained to data collection from the four stewardship contexts. The user-researcher's information practice interfaced with the project and its works to gather data through stewardship modes of access, a situational work task that transformed raw data into a contextual asset in the narrative report.

Discussion

The case study's objective was to explore an oral history project through the lens of information practice research. The objective addressed stewardship of and access to oral history as described in the literature, including the researcher-as-user of disparate modes of access. The author developed an information practice analysis tool for coding data in information work models. Four findings and their implications follow.

Transformative agency in stewardship

In each of four information work models fitted with stewardship documentation, a stakeholder's information practice maintained stewardship of the setting's stable contextual assets and provided for handling anticipated change to situational assets. The case study found staff knowledge to be pivotal for information work tasks that change situational assets to contextual assets, rather than evanescent subjective knowledge as portrayed in the literature (Byström and Hansen, 2005; Byström and Lloyd, 2012). This finding has implications for transformative agency in stewardship recommended in archival literature on decolonising archives (Ghaddar and Caswell, 2019; Lowry, 2019).

Communities of practice and visible and invisible work in provenance and stewardship

The information work models opened a space to consider communities of practice and visible and invisible work dynamics. For example, the oral history project's stakeholders resembled a community of practice that coalesced around project inception. It may or may not have dispersed on project completion, especially if the oral history project is construed as an active project while interviewees remain alive to potentially contribute to the project or alter rights and licenses. Following this line of thought, criteria for selecting narrators and matching them to oral historians could be expected, based on the literature, but documentation of this important process was not found. Likewise, the project description was not attributed to an entity or individual, and a statement of sponsorship was lacking in transcripts identified by COH as sponsored works. These findings corroborate literature on fluidity in communities of practice and mercurial agency in visible and invisible work. They may have implications for transparency in stewardship and the provenance of oral history projects, again with reference to archival literature (Doel, 2003; Ghaddar and Caswell, 2019; Lowry, 2019).

Stewardship and data curation lifecycles

The active or terminated status of the oral history project suggests another visible and invisible work dynamic in the data. The volume of interviews, interviewers, and span of interview dates aids historiographic contextualisation of the project. Empirical data gathered manually on the volume of interviews and their dates suggests that the project's active lifecycle phase ended in 2001. The literature on oral history stewardship was silent on data curation lifecycle models, but the case study suggests their relevance for oral history projects during and after the active research lifecycle (Borgman, 2009, 2015; Carlson, 2014; Higgins, 2008, 2012). Reuse of data accessed from trusted repositories adds value to that data, regardless of disciplinary origin (Borgman, 2009, 2015). As seen in the case study, stewardship stakeholders reuse documentation for multiple modes of preservation and access, an instance of transformative agency.

Stewardship and the migration of meaning

Users access oral histories where they are held, as noted in the literature. In the case study, the user-researcher explored four modes of access to works in the purposive sample. These textual sources, transcripts that had been digitised from interviews recorded over a period from 1987 to 2001 on audio cassette tapes, represented information work that project stakeholders performed decades ago. Case study findings explored how the original stakeholders transformed interview data into a primary source, its documentation a contextual asset utilised in different ways by stakeholders in four stewardship settings to produce multiple modes of access within one institution. Mapping an insight on human artifacts from an archaeological context to social science research, Hodder, (2000) theorised that texts are intended to be used, and their meanings changed through use. While findings corroborate this insight, the information work models also tracked losses of documentation that impoverished historiographic context for works. Stewardship settings were also found to direct user access toward resources internal to that setting but unrelated to the oral history project. This finding has implications for transformative agency in stewardship as well,

suggesting that agency in stewardship and scholarly reuse of oral history project metadata might instead amplify and concentrate meanings as they migrate through both processes.

Conclusion

The oral history genre complements written archival records and bibliographic sources. Scientific oral history projects bring the historiographic arc of social networks in those projects to life through a collection of oral histories. However, access to oral history projects is understudied.

The case study's theoretical and empirical explorations of information practice contribute to theory development in the domain of information-intensive settings where oral history research unfolds. The authors' tool for information practice analysis explored four information work models for modes of access to an oral history project held at Science History Institute in Philadelphia. Prioritising stakeholder viewpoints on stewardship in four contexts within this setting—the oral history program, Digital Collections, Othmer Library, and oral history project transcripts originally produced from 1987 to 2001—elucidated modes of access that shape works of oral history according to the setting.

This case study on a scientific oral history project was also a meta-investigation of modes of access and the researcher's information practice. Understanding how users approach research is vital to '*a re-examination of our descriptive and reference practices, and a restructuring of our archival training*' (Freeman, 1984, p. 111). That each oral history in a project is co-created by a narrator and an oral historian to produce a primary resource jointly merits the interest of specialists in information science and human information behaviour research. The topic of scientific information systems in the case study is salient to these communities of researchers, of which the author is a member. Bridging the information-intensive contexts of oral history programs and projects, digital archives, and libraries, case study findings have implications for the stewardship and scholarly reuse of scientific

oral history projects: transformative agency by stakeholders in each community is needed to migrate oral history works to new historiographic contexts.

About the author

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Appendix I.

Work context	Work purpose		
	Work tasks (contextual)	Work tasks (situational)	Work roles
Oral history program	Stewardship	Digital preservation and access, material preservation	Entity stakeholders
		Update access per release form	Information professionals
	Volume of interviews	[19]	
	Volume of interviewers	[6]	
	Time span of interviews	[1987 to 2001]	
Oral history project	Conception and implementation		Project stakeholders
	Oral history project title	[Scientific and Technical Information Systems Oral History Project]	
	Link (persistent identifier)	[https://digital.sciencehistory.org/collections/3xmlr6n]	
	Project description	[text on project webpage]	
	Sponsorship acknowledgment	[Eugene Garfield Foundation, 8 of 19 oral histories]	Sponsorship stakeholders
	Co-creation of oral histories		Narrators, oral historians

Appendix I. First information work model: Stakeholders of the oral history program and oral history project.

Appendix II.

Work context	Work purpose		
	Work tasks (contextual)	Work tasks (situational)	Work roles
Digital Collections	Preservation and access		Information professionals

Work context	Work purpose		
	Work tasks (contextual)	Work tasks (situational)	Work roles
	[Title]	[Oral history documentation]	
	[Date]	[Oral history documentation]	
	[License type]	[Oral history documentation]	
	[Abstract of interview]	[Oral history documentation]	
	Interviewee	[Oral history documentation]	
	Interviewer	[Oral history documentation]	
	Sponsor	[Eugene Garfield Foundation, where applicable]	
	Place of interview	[Oral history documentation]	
	Format	[Sound, Text]	
	Genre	[Oral histories]	
	Extent	[Oral history documentation]	
	Language	[English]	
	Subject	[Links to DC resources]	
	Rights	[License type]	
	Rights holder	[Science History Institute]	
	Credit line	[Courtesy of Science History Institute]	
	About the Interviewer	[Oral history documentation]	
	Institutional location Department	Centre for Oral History	
	Collection	Oral History Collection	
	Collection	Scientific and Technical Information Systems Oral History Project	
	Oral history	[Unique access number]	
	Physical container	[Unique identifier]	
	View in library catalogue	[Link to Othmer Library entry]	
	Related items	Oral histories	
	Interviewee biographical information	[Oral history documentation]	
	Cite as	[Link to citation information]	

Appendix II. Second information work model, stakeholders of Digital Collections.

Appendix III.

Work context	Work purpose		Work roles
	Work tasks (contextual)	Work tasks (situational)	
Othmer Library	Preservation and access		Information professionals
	Author	[Oral history documentation]	
	Title	[Oral history documentation]	
	Oral Histories Call Number	[cataloguing data]	
	Description	Sound files [extent]	
	Description	Transcript [extent]	
	Series	Chemical Heritage Foundation Oral History Transcript: [unique access number]	
	Note	["Sponsored by Eugene Garfield Foundation" where applicable], [Interviewer name and location of interview (city and state)]	
	Summary	[Abstract]	
	Cite as	[Oral history documentation]	
	Note	Sound files [Entity, Science History Institute], Transcript [Entity, Science History Institute]	
	Use	[Access level, permissions, rights holder (Chemical Heritage Foundation)]	
	Note	[Narrator CV excerpt, oral history documentation]	
	Indexes	[Transcript has been indexed]	
	Note	[Digitization notice, entity (Science History Institute)]	
	Subject(s)	[Links to Othmer Library sources]	
	Genre	[Links to Othmer Library sources]	
	Alternate Author	[Link to oral historian(s)' works in Othmer Library] [Link to rights holder (Chemical Heritage Foundation)]	
	Alternate Title	[(Narrator Name) oral history interview]	

Appendix III. Third information work model: Stakeholders of the Othmer Library.

Appendix IV.

Work context	Work purpose		
	Work tasks (contextual)	Work tasks (situational)	Work roles
Oral history transcript	Title page		Narrator, Oral Historian, Entity [CHF]
	Final release form	[Acknowledges Narrator's participation in taped interview with interviewer (name and date), receipt of transcript from CHF, reading of transcript. The "work" extent. Assigns rights CHF, Narrator retains use rights till death. Access level selection. Signature and date.]	Narrator, Oral Historian, Entity [CHF]
		[Access level] [Citation] [Entity address] [Entity mission statement]	
	CV of Narrator	[CV of Narrator]	Narrator, Oral Historian
	Abstract	[Abstract]	Narrator, Oral Historian
	Interviewer biography	Interviewer biography]	
	Table of contents	[Table of contents]	Oral Historian
	Interview	[Transcript of interview dialog]	Narrator, Oral Historian
	Notes	[References]	Oral Historian
	Index	[Index]	Oral Historian

Appendix IV. Fourth information work model: Oral historian and Narrator.

Appendix V.

Work context	Work purpose Work tasks (contextual)	Work tasks (situational)	Work roles
Case study	Literature review, research questions Methods		Researcher
	Theoretical tools and empirical data	Data collection and analysis	
		Peer review	Research community
	Trustworthy narrative report		Researcher

Appendix V. Fifth information work model, stakeholders of the case study.