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Beyond information policy

Conflicting documentation ideals in extra-academic knowledge making practices

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Abstract

Purpose – The purpose of this paper is to explore and explicate documentation ideals parallel to information policy, and by means of this analysis demonstrate how the concept "documentation ideals" is an analytical tool for engaging with political and institutional contexts of information practices.
Design/methodology/approach – The paper is based on a case study of documentation ideals in a debate about quality in archaeological documentation. The methodology draws on idea analysis, and on the science and technology studies' controversy studies approach.
Findings – The paper explicates three documentation ideals, how these ideals allocate responsibility for documentation to different actors, how the ideals assign roles to practitioners, and how the ideals point to different beneficiaries of the documentation. Furthermore, the analysis highlights ideas about two different means to reach the documentation ideals.
Research limitations/implications – The case's debate reflects opinions of Northern European professionals.
Social implications – The paper illuminates how documentation ideals tweak and even contest formal information policy in claims on the documentation and on the practitioners doing documentation.
Originality/value – Documentation ideal analysis is crucial as a complement to formal information policy analysis and to analysis guided by practice theory in attempts to understand the contexts of information practices and documentation, insights central for developing information literacies.

Keywords Archaeology, Information practices, Information policy, Controversy studies, Documentation ideals, Idea analysis, Knowledge making practices

Paper type Research paper

1. Introduction

Imagine you are an archaeologist. With trowel in hand, consider that "The most important duty of archaeologists must be to interpret and present their results in such a way that they are relevant, usable, and accessible to all" (Andersson *et al.*, 2010a, p. 19), and in addition that "[a definition of the function of the text is] to present scientific documentation of high quality and thus of relevance for the work of one's peers" (Glørstad, 2010, p. 33). At the same time, keep in mind that a "well-balanced level of ambition is also vital for the cost-effectiveness of an investigation" (Andersson *et al.*, 2010a, p. 21). Now, how do you feel about your investigation and the report you are about to write? How do you act?

Above statements are but a sample of declarations of ideals concerning what documentation should be like, for what purposes, and for whom. These ideals are often more contemporary, and thereby closer to the practitioners doing documentation than formal information policies. The ideals become specifically pertinent when expressed by persons in influential positions, as in the introductory example by government officials, leading specialists, and top academics. Here I call these and other such declarations documentation ideals. Documentation should here be understood in its widest sense, including textual and other types of expressions (Lund, 2010). These documentation ideals interpret, but also tweak, and even contest formal

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information policy. Thus, documentation ideals add demands to information practices many of which already are significantly regulated by formal policy.

This paper explores the characteristics of documentation ideals in one case study and develops the concept for application in future studies. The case study is an analysis of a research journal debate about quality in archaeology. The debate concerns Swedish development-led (DL) archaeology. Terms describing activities similar to DL archaeology in other countries are contract archaeology (in USA), commercial archaeology (in UK), *Arqueología de contrato* (in Spanish speaking countries) and *archéologiques préventives* (in French speaking countries). DL archaeology is the type of archaeology required by heritage preservation legislation undertaken prior to land development. Put simply, this type of archaeology is the use of theory and research methods for investigations where water pipes, roads, and buildings are about to replace remains of the human past (cf. Lucas, 2012). Yet, archaeology is only one example of a practice where knowledge is produced within a framework of formal information policy as expressed in legislation and regulations (cf. Braman, 2006), and informal ideals concerning information and documentation. Other examples of work under similar circumstances are environmental impact assessments prior to land exploitation, expert committees' government reports prior to legislation, and research and development departments' outputs supporting development at public or private institutions.

The theoretical framework departs from formal communication and information policy analysis (cf. Braman, 2006), and takes a stance closer to the information and media studies scholars Milton Mueller and Becky Lentz' focus on the "social determinants of public policy" (Mueller and Lentz, 2004, p. 155). Similarly to how Mueller and Lentz' look beyond formal policy to explore cultural norms, I look beyond policy to investigate informal but explicit ideals parallel to policy. However, rather than as Mueller and Lentz, assuming that these norms or ideals affect formal policy I assume that formal policy and informal ideals co-exist and in combination form a mesh of demands on practices and practitioners. The concept documentation ideals and the analytical approach are developed with inspiration from idea analysis (Bergström and Boréus, 2012a) and the controversy studies tradition in science and technology studies (STS) (Pinch and Bijker, 1984; Sismondo, 2010).

The combination of the controversy studies framework (Pinch and Bijker, 1984; Sismondo, 2010) and idea analysis (Bergström and Boréus, 2012a) was first chosen to meet the need to analyse a debate within which multiple conceptions of science are central to the positions taken regarding what documentation should be like. Compared to other methods for text analysis, for example discourse analysis (Bergström and Boréus, 2012b), the controversy studies framework provide a theoretical model to understand a controversy (such as that about the DL archaeology documentation) as: first, a social negotiation within which the parts try to establish consensus; and second, as inherent to scientific evolutions (Sismondo, 2010). The foremost advantage of this approach is how this model helps us explore how proponents of different documentation ideals draw on "scientificness" as an argument in diverse ways, and how scientific ideologies play out parallel to and intertwined with state administration and market logics. In future information science (IS) studies, the approach will be particularly useful to explore documentation ideals in information practices somehow related to (different conceptions of) science, but potentially also in other areas where negotiations over what documentation and information should be like takes place.

The analysis explicates three documentation ideals, how the ideals allocate responsibility for documentation to different actors, how the ideals assign roles to practitioners involved, and how the ideals point to different beneficiaries of the documentation. Hence the analysis shows how the potential impact of the documentation ideals is not isolated to the documentation, but also involves the practitioners doing documentation and how they (according to the ideal) should perceive of their work. As such, the documentation ideal analysis is a valuable complement to analysis of formal information policies in attempts to understand how information and information practices take form (conceptualised as area of IS interest and studied by, among others, Cox, 2012; Moring and Lloyd, 2013; Olsson, 2014; Savolainen, 2007). Improved understandings of the documentation ideals can inform policy development and management of information practices, but also support critical readings and usage of (i.e. literacies for) the works produced in these practices (cf. Bawden, 2001 for review of literacy concept).

The paper begins with a review of the literature regarding archaeological documentation, specifically focused on debates about documentation. The Section 3 defines the idea analysis approach and explains how the controversy study tradition aids the analysis. Section 4 provide a brief background to the DL archaeology case, and further details on how the analysis is carried out. Section 5 is followed by the Sections 6 and 7.

2. Literature review

2.1 Archaeological documentation

In archaeology various types of representations, i.e. documentation, often stand in for material remains, artefacts and sites (Lucas, 2001). The literature on archaeological documentation is relatively rich, and continuously expanding. Most of this research is self-reflective, by archaeologists examining and discussing their own discipline's documentation practices (e.g. Davidović, 2009; Hodder, 1989; Lucas, 2012). Additionally information scientists direct attention to archaeological documentation (e.g. Börjesson, 2015; Huvila, 2006; Olsson, 2015). Research on archaeological documentation covers textual, visual and physical representations of archaeology (Gardin, 1980; Hodder, 1989; Lucas, 2012; Moser, 2012; Nordbladh, 2012; Pavel, 2010). Research in recent decades also takes interest in digital 2D and 3D representations based on digitised, or on born-digital data, from photogrammetry, aerial or ground laser scanning (a.k.a. LIDAR data), and processing thereof in geographical information systems software (e.g. contributions in Ch'ng *et al.*, 2013).

The rationale behind the documentation research, which the present study shares, is the assumption that documentation conditions knowledge making (cf. Buckland, 2012; Pinch and Bijker, 1984). Classifications, ways to write archaeology, traditions for visual, physical, and digital representations, are all assumed to have potential impact on how objects and sites are identified, analysed and interpreted. For instance, shifts in narrative style provide one example of how disciplinary trends inspire documentation: the use of first person narratives in survey reports dominated up until the late nineteenth century when a de-personalised narrative tone took over and reports became increasingly technical (Hodder, 1989). In the current era valuing personal accountability and personal intellectual property, the first person narrative has regained popularity and visibility of authors increases (Berggren and Hodder, 2003). In the case of images the tradition to define objects by physical features coexisted with the tradition to display objects in typological context, together with similar objects on charts collected in albums (Moser, 2012).

Documentation genres as the report genre has similarly been analysed as dependent on context. The IS researcher Isto Huvila uses Susan Leigh Star and James R. Griesemer's (1989) notion "boundary object" to analyse archaeology reports. The reports are scrutinised as arenas for negotiation between antagonising discourses emerging from different stakeholders' interests (Huvila, 2011). We should also note that archaeological documentation is the focus of applied studies providing input to report production and evaluation (e.g. Magnusson Staaf and Gustafsson, 2002; Riksantikvarieämbetet, 2012a). A less developed line of research concerns how archaeological documentation is regulated by legislations, regulations and praxis explicated in handbooks (Börjesson, 2015; Carver, 2009; cf. Lindh, 2015). The present study contributes to this less developed line of research and illuminates the element in between formal policy and tacit norms – explicit but informal expressions of documentation ideals.

2.2 DL archaeology documentation

Despite the rich research on archaeological documentation only few studies focus specifically on the most common form of publication in archaeology: the DL archaeology report (Berggren and Burström, 2002; Börjesson, 2015; Seymour, 2009, 2010a)[1]. This study takes on DL archaeology as a case in an effort to add insight about this less studied form of archaeological documentation. However, the DL archaeology documentation case is also comparable to documentation in other types of research activities outside academic settings, and thus serves as a base for a more general discussion.

In research archaeology the documentation is governed by the interplay between established and emergent disciplinary standards (cf. Lucas, 2012). DL archaeology outside the academic[2] setting is administrated by regional government authorities and most commonly financed by land developers. It is governed by the same standards as research archaeology, but also by directives in cultural heritage legislations and regulations, by the organisational setting within which the documentation is produced, and by stakeholders' (e.g. government officials', land developers', special interest groups', etc.) interests (Börjesson, 2015; Huvila, 2006). DL archaeology reports serve triple purposes: first, as documentation of investigations; second, as administrative documents on which government authorities use in their decision-making; and third, as products transacted from DL archaeology firms to land developers and to society (for deposit in public archives) (cf. Linden and Webley, 2012). Reports in archaeology have traditionally not been published or made widely available although this has changed by means of digital archives in many countries in the last decade. Still, these reports are sometimes described with the term grey literature denoting literature not controlled by commercial publishers and where publishing is not the primary activity of the publishing body (Farace and Schöpfel, 2009).

2.3 Documentation quality debates

The split of archaeology into the orientations research archaeology and DL archaeology, and the resulting variations in primary publication venues (peer review publication in academic research vs reports and other types of grey literature in DL archaeology) cause concern for an alleged detachment of documentation and knowledge making (although also DL archaeology practitioners contribute significantly in academic genres by writing dissertations and research journal

articles; Artelius, 2010; Rudebeck, 2004). These concerns have peaked in heated debates at several times. One example is the on-going exchange of views about the role of grey literature in archaeology (e.g. Aitchison, 2010; Roth, 2010; Seymour, 2010b; cf. Johansen and Mogren, 2014; Larsson, 2013; Petersson and Ytterberg, 2009). One stance in this discussion criticises the quality and the accessibility of the documentation from extra-academic DL archaeology, and is pessimistic about the outlook for improvement. Another position instead criticises practitioners and academics for neglecting the extra-academic documentation as an information source on par with peer-reviewed publications. Researchers have similarly addressed the same issue in more theorizing discussions. Sometimes the concern is dressed in terms of an experienced division of responsibilities between fieldwork and interpretation, and other times as a division of labour between DL archaeology and academic archaeology (Berggren and Hodder, 2003; Johansen and Mogren, 2014; Larsson, 2013; Lucas, 2001). The main concern is, in short, that the documentation and interpretation work cannot be divided between sub-disciplines without a significant knowledge drain. The worry over this separation goes back at least to the 1980s (for a review of the earlier debate Seymour, 2010b), and is described as a crisis for the discipline (Harlan, 2010; Karlsson, 2000; Rudebeck, 2004).

This concern has brought about a broad re-evaluation of the praxis to expect DL archaeology to deliver raw documentation or data to academic archaeologists (Jensen, 2012; Kristiansen, 2009). Today one general theoretical trend goes towards theory-driven fieldwork and in-field, continuous and collaborative interpretations (sometimes called post-processual or reflexive archaeology) (e.g. as discussed in Berggren and Burström, 2002). Yet the circumstances for post-processual archaeology are not ideal at all excavations, particularly not in DL archaeology (Berggren and Hodder, 2003; Harding, 2009). Funding and time limits, level of expertise among the excavators, and even weather conditions can hinder thorough in-site analysis. This paper analyses a selection of voices from this on-going discussion about what the DL archaeology documentation should be like, and explicates the different ideals at play. By doing so it provides one answer to why common grounds seem hard to reach among the partners involved in this conflict.

3. Theoretical framework

The present study relates to formal information policy analysis (cf. Braman, 2006), but departs from it in a couple of central aspects. Even though information policy analysis can be used to study the emergence of information policy (Mueller *et al.*, 2004), it tends to keep formal policy as primary object of analysis. This study moves formal policy to the background and instead highlights the parallel, informal expressions of ideals concerning what information should be like (cf. Bergström and Boréus, 2012a). This should not be mistaken for the ideological approach in policy analysis, exploring ideological determinants of policy (c.f. examples reviewed in Galperin, 2004, p. 161). I do not assume the ideals analysed here will affect policy, or that they are the effects of current policy. I assume these ideals co-exist with policy.

There is no one, fixed place to look for documentation ideals but they appear in all interactions around documentation. I look at one place where the ideals surface particularly clearly, situated in the context of a wider set of values – in a research journal debate about quality in archaeology. Since ideals in this case are expressed in the modus of a debate wherein authors attempt to claim the primacy of their own stance, I do in the analysis draw upon the STS controversy studies tradition. The controversy studies approach is developed to investigate controversial stages in

the history of facts or artefacts (in this case a controversy concerning what documentation should be like), preceding the development of consensus, closure, on an issue. The research rationale is based on constructivism and on power-critique (Sismondo, 2010). It assumes that facts are social constructs supported by structures of power. Places to look for those structures of power are the participants' social positions (e.g. professions and statuses), their past investments in skills (e.g. professional specialisations), resources (e.g. institutional affiliations) and claims (e.g. ideological profiles) (Sismondo, 2010).

The controversy studies tradition entails a symmetric approach to the positions in every controversy. The analysis aims to retrieve and retell each position's consistency and rationality. The term positions is crucial in place of sides, since controversies are anticipated to be more complex than simply a pro and a con camp. In this paper ideal substitutes the term position. The ideals in this study do appear to be a form of de-personalised positions, maintained as the collective of professionals in the debate discusses them. A few of the professionals do for sure represent one ideal more than other ideals, but several of the participants in the debate analysed here acknowledge and legitimise several parallel ideals rather than promote only one.

The stage before closure on an issue, which is the phase of the debate studied here, is characterised by interpretative flexibility. Interpretative flexibility refers to the range of understandings possible for people to hold, in this case the various documentation ideals. Controversies come to a closure through a process when positions, i.e. groups, in a controversy, by the force of argumentative and other resources like the aforementioned structures of power, try to limit the interpretative flexibility and establish consensus (Pinch and Bijker, 1984). Social groups are organised or un-organised groups of people sharing the same set of meanings about an assumed fact or artefact, for example people working at a certain institution or with a specific work task. The underlying assumption in analysis of processes of closure is that consensus is not truth, but constructed through persuasive arguments and pressures from social groups (Sismondo, 2010). The argumentative resources particularly relevant to the debate accounted for in this paper are: first, isolating one position as more scientific or central – or as deviant; and second, showing one position to be more useful. Debaters applying the former of these two attempt to, as described by Sergio Sismondo (2010), marginalise opponents in the name of science. The protagonist undermines the opponent's voice as less valuable to science, and hence closes the antagonist out by a circular argument. The second resource relies on pragmatics. Debaters using this resource try to prove their approach as more useful and therefore better. The pragmatic stance may seem more reasonable and opens up for opponents to take part in an exchange of views, provided they accept the pragmatic view.

4. Method and material

4.1 The case: DL archaeology

The choice of archaeology and DL archaeology as the case presented in this study is an effect of the orientation of the research project on information in archaeology which this study is part of. However, the case has notable similarities with other types of knowledge-based work (cf. Evetts, 2010) and knowledge making practices. DL archaeology is specifically similar to other research and research-like activities outside academic institutions. Furthermore the case is comparable to other types of work wherein documentation matters to the professional endeavour. However, the following brief notes give valuable background for the specificities of this case.

Most archaeology in several countries like the USA, the UK, and Sweden is DL (or comparable forms of archaeology) (Aitchinson and Rocks-Macqueen, 2013; Riksantikvarieämbetet, 2016; United States Department of Labor, Bureau of Labor Statistics, 2014). It juxtaposes with academic research archaeology at several points. Research and DL archaeologists are educated together. It is common for archaeologists to engage in both academic archaeology and DL archaeology throughout one career. Academic and DL archaeology practitioners can simultaneously survey sections of the same site. The two orientations of archaeology depend on each other to communicate findings for the collective knowledge making. At the same time, academic research and DL archaeologists work under different circumstances. Land development projects direct the goals and scope of DL archaeology surveys, and DL archaeology practitioners rely on these surveys as their main source of income. More government regulations guide DL archaeology, and the work is often subject to stricter deadlines. DL archaeology practitioners often have organisational responsibilities such as being a partner in a firm, accountant, or the human resources representative in addition to surveying and excavating. Their work is assessed by non-academic institutions, and DL archaeology practitioners have a different form of primary publication, the reports (cf. Harlan, 2010; Huvila, 2006; Neumann and Sanford, 2001). Moreover they organise in partly separate labour unions and professional associations.

The presence of two (or more) orientations and professions (such as academic research archaeologist and DL archaeologist) in the same discipline is common. Nonetheless, archaeology is unusual in that the core activity of both academic research archaeology and DL archaeology is the same: to create knowledge about the past based on material remains. The discipline's split into these two orientations present challenges to the joint knowledge making, notable for example in situations of information sharing between these two orientations (Hardman, 2009, 2010; Seymour, 2010b).

4.2 Idea analysis and material

The material consists of texts from a special issue of the journal *Current Swedish Archaeology* (2010). The choice of journal articles is motivated by two factors. First, a significant part of the debate about archaeological documentation takes place in journals and other texts. Secondarily, the character of the journal debate is specifically apt to ideal analysis. In articles authors provide the background they perceive relevant and deliver their standpoints uninterrupted. Hence the ideals called upon are interwoven in each author's context of choice (Bergström and Boréus, 2012a). The richness of the material and the explorative aim of the study motivate the choice of one special issue.

In the special issue three authors co-authored the keynote article "Assessing and measuring: on quality in development-led archaeology". The editor invited four experienced professionals in leading positions in archaeology to comment on the main article. The authors of the first article also wrote one final response. In all the six articles (see Appendix 1) cover 45 pages. The authors of the main article are all senior advisors at the Swedish National Heritage Board, specialists on the second chapter of the Heritage Conservation Act (the chapter concerning DL archaeology). At the time the responses were written one commentator was a Swedish archaeology professor, one was the head curator at the University of Oslo's Museum of Cultural History in Norway, another was a Swedish associate professor in philosophy, and two were researchers/administrators at the French National Institute for Preventive Archaeological Research (INRAP). The group of article authors is comparable to a

core-set as defined in controversy studies: "[those] deeply involved in experimentation or theorisation which is directly relevant to a scientific controversy or debate" (Collins and Evans, 2002, p. 242).

The qualitative analysis of the six articles identifies each author's articulations concerning documentation (Bergström and Boréus, 2012a). These articulations are the authors' opinions, or opinions retold to by the authors. The concept archaeological documentation as used here is an inclusive abstraction (cf. Lund, 2010) with the purpose of covering all of the allusions to different types of documentation found in the material. The abstraction includes explicit ideals about documentation:

> "[reporting] includes all documentation that is produced during an investigation where material is described, interpreted and presented" (Andersson *et al.*, 2010a, p. 23).

The abstraction also includes implicitly conveyed ideals as "The objectives and questions posed […] are thus decisive for the creation of the archaeological material […]" (excerpt 38 Andersson *et al.*, 2010b, p. 54) where the notion "archaeological material" stands in for documentation. Excerpts concerning documentation are numbered (nos 1-61) and collected in a spreadsheet. References are made to the excerpt numbers in the analysis. In addition, citations to single words and expressions are referenced with excerpt numbers rather than author names, in order to reduce the focus on individual authors and to improve the readability of the analysis. A sample of three excerpts when more than ten excerpts are relevant.

The excerpts were coded iteratively with inspiration from grounded theory coding (Charmaz, 2010). Category names are inspired by the controversy studies framework and by two distinctive features of the statements in the empirical material, namely, how responsibility for documentation and the role of the archaeologist are portrayed. Therefore, rather than being a pure grounded theory analysis the categorisation and subsequent interpretations also resemble theoretically driven Qualitative Document Analysis (Altheide *et al.*, 2010). Each excerpt is coded with four categories: first, documentation ideal; second, explicit or implicit allocation of responsibility for the documentation; third, explicit or implicit assumption about the role of the archaeologist doing the documentation; and fourth, explicit or implicit statement of social group benefiting from the documentation. The first category is an operationalisation of controversy studies in the realm of opinions about documentation. It clarifies the idealised view(s) on documentation promoted in each statement. The following two coding categories tie back to conceptions of responsibility for work (here documentation), and its subsequent effects on the role of the archaeologist in the documentation process. The lattermost category reflects the beneficiaries of every position, as is central in controversy studies. You find the analysis and interpretation matrix in Appendix 2. Although this analysis primarily unpack and detangle different ideals, it should be noted that empirically the articulations of ideals, allocations of responsibility, assumptions about the role of the practitioner, and the groups benefited converge. The same author may call upon several ideals throughout the same article, and even within the same argument.

The analysis has two main limitations. First, despite that the editors claim that the articles analysed "concerns the everyday reality of many archaeologists" (Hansson and Källén, 2010), the analysis draws on a limited number of authors' articulations. Second, the authors have all either had a strong initial motivation to address the topic (as the main article authors), or have been invited to write (as the authors responding to the main article). Hence they likely have, or have had a good reason to develop, more

initiated opinions on the subject than the average practitioner has. However, by developing the concept documentation ideals and the structure for study thereof the scope of this study can be extended in further case studies.

5. Analysis

Three documentation ideals emerge in the analysis: documentation as scientific; documentation as scientific but context-dependent; and documentation as educational for society. Each of these ideals entail ambitions exceeding the quality of the documentation, they are interwoven with assumptions about who should be responsible for the documentation, what the role of the documenting practitioner should be, and which group should benefit from the documentation. As such, each of the documentation ideals also attempts to organise the structure around the documentation in order to support the ideal in question. The Table I clarifies how each of the documentation ideals (presented by the three rightmost columns) is linked to claims exceeding the documentation.

In addition to the three documentation ideals, two ideals about the means to reach the documentation ideals emerge in the analysis: documentation management and documentation governance (presented by the two rows at the bottom of Table I). The table illustrates how the ideas about the "documentation management" and "documentation governance" are most common along with the scientific but context-dependent, and along with the educational for society documentation ideals. Based on the empirical material in this study the "documentation as scientific" ideal stands relatively free from concerns about means to reach this ideal. The following parts explain each of the ideals and the means to reach the ideals in more detail, illustrated with examples from the empirical material.

5.1 Documentation ideals

Documentation as scientific. In the debate a more traditional, or idealistic, ideal of scientific documentation meets a rather well defined alternative: documentation as

"Problem" Documentation ideal	What should documentation in DL archaeology be like?		
	Scientific	Scientific but context-dependent	Educational for society
Allocation of responsibility for documentation	Individual archaeologist as a part of research community	Individual archaeologist + system and regulations	Archaeology as community + system and regulations
Role of the practitioner in the documentation	Archaeologist as a researcher	Archaeologist as a researcher primarily responding to system's regulations and secondarily to research rationalities	Archaeologist as educator of citizens
Social group benefited	Research community	Research community (accepting extra-academic variation of archaeology); society as represented by the DL archaeology system	Pedagogical actors (e.g. museums, schools, heritage societies); people to be educated
Means to reach documentation ideal		Documentation management→ Documentation governance→	

Table I. Documentation ideals – results summary

Sources: Evetts (2010), Pinch and Bijker (1984)

scientific but dependent on the DL archaeology context. Although these two ideals both explain themselves as scientific, fundamental differences separate the two. Here I explain the former, next section explicates the latter.

The more traditional ideal about "documentation as scientific" equals the DL archaeological craft with the scientific craft (8; 16; 27; 51; 54). The ideal projects archaeology as a special kind of scientific activity in between the natural sciences and the humanities (54; 55). The quality of an investigation and hence documentation is described as dependent on the definition of the research objective and on the formulation of research questions, as well as on the methods for fieldwork, finds management, writing, and knowledge dissemination (23; 26; 28; 38; 41). Documentation is framed as the means for communication with peers, that is: current and future research colleagues (13; 21; 22; 23; 26; 27; 30; 33; 34; 51). The ideal promotes scientific critique (48; 58; 60; 61) and scientific evaluation (21; 22; 41; 59) as necessary for the scientific process and implicitly for the documentation.

Quality in archaeology is explained as "complex and difficult to determine" (2). Furthermore "research factors" (25) in archaeology are portrayed as requiring "time for consideration" (25), and that they "cannot be forced" (25). The ideal portrays the scientific quest as transcending the time limits and financial limits set in single DL archaeology projects. That an analysis takes longer time than specified in the research plan is seen as potentially necessary and even benign for the results (25). "Originality" (13) and "scientific renewal" (13) are put forth as qualities.

Moreover, the ideal calls upon subjectivity:

> […] a source material can never be retrieved in a purely objective manner (excerpt 37, Andersson *et al.*, 2010a, p. 54).

Andersson *et. al.*'s phrase here marks a theoretical positioning about subjectivity. This stance emerged from critique of rigid functionalism in interpretations of material remains, from critique of excessively schematised documentation, and from critique of ignorance of archaeologists and publics' cultural biases. The standpoint is associated with post-processual or reflexive archaeology, honing explications of the situatedness of analysis and interpretation (e.g. Berggren and Burström, 2002; Lucas, 2012, pp. 124-168; Trigger, 2006, pp. 540-548).

The scientific documentation ideal places a significant responsibility on the individual practitioner to act as a researcher (e.g. 34; 54; 57). The archaeologist is assumed to be part of archaeology as a unified discipline, i.e. (s)he is engaged in knowledge making surpassing any structural boundaries between extra-academic and academic archaeology (cf. Rudebeck, 2004; Zorzin, 2015). The major group benefited by the "documentation as scientific" ideal is the research community (e.g. 30; 51; 57). Altogether the "documentation as scientific" ideal portrays documentation as a scientific activity shaped by customs developed within the scientific community (research objective, methods, etc.), and assessed by means of collegial authority (through communication with peers and formalised peer-review), ideally autonomous from rational-legal forms of authority (e.g. from assessment by government officials).

Documentation as scientific but context-dependent. The ideal of "documentation as scientific" is contrasted by a conception of "documentation as scientific but context-dependent". Here good scientific quality is dependent on its definitions in policy documents (as the use of scientific methods to reach knowledge of relevance to

authorities, research, and the general public) (15; 16; 32; 39; cf. Kulturdepartementet, 2007; Riksantikvarieämbetet, 2012b). The right to define scientific quality is in this ideal located to the Cultural Ministry and the National Heritage Board. Furthermore, regional authorities (County Administrative Boards) are assigned the task to monitor documentation and knowledge dissemination (15; 17; 21; 22; 23).

A dissimilarity between the two documentation ideals alluding to scientificness (explained in this and previous section) lies in the relative weight placed on the scientific. In the former ideal the scientificness, the level of scientific character, of DL archaeology documentation is absolute (8; 13; 23; 30; 51; 54). In the latter scientificness is but one value among other values in an overall investigation project design, including "a well-balanced level of ambition" (24), "an investigator's competence" (15), and "level of goal attainment" (15). Furthermore, in the scientific but context-dependent ideal the scientific character of the work and the documentation bears no inherent value, but is the means to meet society's assumed ends (15; 16; 17; 18; 22; 24; 33). These ends include "benefit to society" (22) through presentations that are "relevant, usable, and accessible to all" (18). The most extreme display of this ideal is the assumption that the quality of DL archaeology can only be measured by how "the results are transposed into knowledge and are discussed" (33) in archaeology and society. Hence, the context-dependent scientificness is fundamentally different from the more inflexible scientific ideal concerning the view on the primary purpose of the documentation. Overall, the scientific but context-dependent ideal promotes scientificness, balanced with other values, as useful to society.

In the scientific but context-dependent ideal the responsibility for documentation is allocated to individual practitioners, but also to the system and the regulations defining key concepts such as documentation, reporting and quality (5; 6; 15; 16; 28; 32; 39), and ascribing scientific documentation the role as means for other ends than research[3]. The ideal also depicts rational-legal forms of authority, here the current cultural heritage preservation system, as responsible for time framing of investigations accommodating to land development projects' financial limitations and business schedules rather than to research concerns (25; 33; 41). Hence, the scientific but context-dependent ideal depicts responsibility as shared between the individual practitioner, and the system and regulations directing and constraining him/her. The beneficiaries of the scientific but context-dependent ideal are both the research community (if accepting the DL archaeology orientation as research), and society as represented by the DL archaeology system and by various generalisations of citizens (6; 13; 15; 17; 21).

Documentation as educational for society. Excerpts portraying DL archaeology documentation as scientific (above) sometimes converge with portrayals of documentation as directly or indirectly educational, as in:

> We cannot measure the quality of development-led archaeology until the results are transposed into knowledge and are discussed among those in both the archaeological world and society in general (excerpt 33, Andersson *et al.*, 2010a, p. 23).

The educational ideal ranges from more abstract notions like "of benefit to society" (22, cf. 24, 26), "meaningful knowledge of relevance" (16, cf. 34), and "accessible" through the "right channels" (35) to more concrete notions as "products and knowledge of great value for society" (24). The beneficiaries of the documentation varies from the "state" (52), "society" (6; 18; 22; 24; 26; 33), "all" (18) and the "general public" (16, cf. 18, 34), to "various interested parties" (16, cf. 6, 35), "different target groups" (17, 32).

The role of the practitioner becomes that of an educator of the above described variety of conceptions of citizens. The role stretches and transforms as the body to be educated at times is general (18; 32; 34; 35), and at other times is somewhat specified, for example to "the great number of people in society who are interested in history and archaeology" (excerpt 35 Andersson *et al.*, 2010a, p. 24). The role of the archaeologist as an educator is at times merged with that as a researcher:

> Today, development-led archaeology is one of the major sources of new archaeological knowledge. […] Data can only become knowledge when interpreted, communicated and used. The most important duty of archaeologists must be to interpret and present their results in such a way that they are relevant, usable, and accessible to all (excerpt 18, Andersson *et al.*, 2010a, p. 19; cf. 16; 22; 26; 32; 33; 52).

Other times the educator role is defined more by how archaeologists are embedded in a system with regulations requesting them to be educators, whose educational activities are overseen by a regional authority (6; 15; 17; 22; 31; 32).

Within the ideal of "documentation as educational" we also find instances where the practitioner is portrayed as a deliverer of educational goods or services, as in:

> When an investigation costs large sums of money, products and knowledge of great value for society must be produced (excerpt 24, Andersson *et al.*, 2010a, p. 21; cf. 5; 17; 36; 42).

Hence, knowledge is here seen as producible in exchange of money at a predictable exchange rate (i.e. large sums give knowledge of great value).

For the "documentation as educational" ideal the responsibility for documentation is portrayed as a joint venture between the collective of archaeologists in DL archaeology and the system within which they work. The ideal pictures the archaeologist as responding to external authority, here regional authorities' requirements originating in regulations (16; 17; 18; 32; 33; 35). The beneficiaries of the "documentation as educational" ideal are both the discipline's educational institutions including museums, schools, and heritage societies, and citizens to be educated (e.g. 16; 34; 35).

5.2 Means to reach documentation ideals

Besides articulating ideals for documentation, the authors in the debate call upon different ideas on how to reach the ideals set out for documentation. These ideas about means to reach documentation ideals emphasise how the documentation ideals are connected to a wider set of ambitions for the particular practice. The following two sections explicate two different ideas about how to reach documentation ideals present in the debate analysed in this paper: "documentation management", and "documentation governance".

Documentation management. The first ideal for the means to create documentation emphasises active management of documentation. This ideal accentuates the place of DL archaeology documentation within a competitive system (11). Regulations and guidelines rule the system and define key concepts a priori practice (15; 39). It is within the system that "highest quality of standards" is set (19).

The system is applied through public procurement like processes and contracts, and formulations therein (7; 17; 21; 31). A well-balanced level of ambition is honoured (24), as is the cost-effectiveness it is assumed to bring to investigations and documentation (9; 11; 14; 21; 24). Generalised "target groups" (32) or various specified interested parties as "authorities, research, and the general public" (16) are imagined as users of the documentation.

The ideal pictures assessments and measurement at several points in the DL archaeology process as the means to assure that goals set out by regulations and guidelines are met (15; 22; 33; 20; 21; 23). The same body monitors both legal correctness and content quality throughout the investigation process:

> […] responsibility for both a legally correct process and the quality content of an investigation rests with the county administrative boards (excerpt 20, Andersson *et al.*, 2010a, p. 20).

Hence the "documentation management" ideal places significant responsibility on the administrative system, here the cultural heritage preservation system and the regional authorities as its executive representatives to ensure the function of DL archaeology. The role of the practitioner is being a producer of services or goods to several audiences (3; 9; 10; 11; 14; 16; 17; 21; 22; 24), responding to the regional authorities' requirements with a professional attitude (7, cf. 1; 15; 19; 20; 22; 23; 31; 32; 39).

Documentation governance. The second ideal for the means to create documentation focuses on DL archaeology as qualitatively set apart from science and from the commercial market (16; 22; 39). Here DL archaeology is depicted as a unique system with system-specific definitions:

> The definitions of the terms "quality" and "good scientific quality" which are given in the Regulations must be seen not as universal definitions of these concepts but as clarification of how these terms are to be understood and applied with reference to specific points in the Regulations (excerpt 39, Andersson *et al.*, 2010b, p. 55).

In this ideal DL archaeology is not equal to scientific archaeology, but applies scientific methods to achieve a separate goal (16). Monitoring and evaluation is in this ideal neither a scientific operation, nor is it a question about a strict valuation of a product or service, but an act of governance, an assessment by the regional authority of how well "scientific quality" (22) and "benefit to society" (22; cf. 17; 32) are balanced. Different, simultaneous target groups of each investigation are emphasised. Rather than using the term cost-effectiveness more closely connected to "documentation management", the governance ideal refers to a balance with "society's resources" (14), indicating a greater flexibility concerning what the extent of these resources might be.

The meaning and value of DL archaeology is within the governance ideal pictured as broader than each single undertaking (8; 54). The findings from each investigation are thought of as having a "greater value" (36) than to the immediate land development project. Hence long-term dissemination is seen as a salient aspect of each undertaking (15). The governance ideal pictures far-reaching mercantilisation as a potential problem. Risks explicated include that time for an investigation is kept to a minimum (4; 25), that investigations are rendered to the satisfaction of the customer (53), that economic surplus is chosen over communication with target groups and colleagues in other organisations (47; 48), and that knowledge is deliberately withheld from colleagues for competitive advantage (53).

The governance ideal pictures the archaeologist, not as a businessperson, but as a practitioner holding expert knowledge and having intellectual integrity to resist pressures from outside the DL archaeology system, be it market forces or scholarly interests. Other actors, like the regional authority administrators are also pictured as holding system-specific expertise on how to balance the research quality and economic calculations (21). The actors in the system are in one instance titled "guardians of a

quality-led archaeology, in the spirit and the letter of the Valetta Convention" (i.e. European Convention on the Protection of the Archaeological Heritage) (54).

The ideal distributes the responsibility for the archaeology at large and the documentation throughout the system (12; 54). It is stressed that:

> […] the whole development-led archaeological process is permeated with an awareness of the highest quality of standards and the way to achieve it (excerpt 19, Andersson *et al.*, 2010a, p. 19).

This emphasis on distributed responsibility also reflects the fact that reprimands rarely are experienced (46). The governance ideal assumes documentation to be emergent through instances of governance rather than architected by incontestable rules.

6. Discussion

Tracing, unpacking, and detangling documentation ideals in the case of Swedish DL archaeology explicates three documentation ideals, the interwoven values and assumptions about the structure around the documentation, and two ideas about the means by which to reach the documentation ideals. The three ideals, along with the two ideas on how to reach the ideals, make up the interpretative flexibility of the documentation work task as perceived by the professionals involved in the debate analysed above. In the terminology of controversy studies the ideals and the ideas about the means to reach the ideals are multi-directional, i.e. shaped by diverse interests pulling in different directions at the same time (cf. Pinch and Bijker, 1984; Collins and Evans, 2002). However, the phase of interpretative flexibility and multi-directional ideals also, according to the controversy studies framework, forebode attempts at closure. Here I contextualise the multi-directional ideals concerning DL archaeology documentation and the attempts at closure to a wider "socio-cultural milieu" (Pinch and Bijker, 1984, p. 409), drawing on previous research on archaeological documentation.

In the debate analysed above the sides attempt to make a closure. They adopt rhetoric positions attempting to marginalise others. The "documentation as scientific" ideal takes on a more scientific position. The scientific but context-dependent and educational for society ideals adopt more useful positions (cf. Sismondo, 2010). Especially the latter take a position of immediate usefulness (to citizens), while the former claims usefulness in a more indirect sense through heritage preservation in land development processes. These positionings regarding documentation are relatable to more comprehensive ideas about the public sector and about heritage as part of states' areas of interest. DL archaeology in social liberal countries like Sweden has historically been viewed as a function of the modernistic well-fare state. When DL archaeology was introduced around the mid-twentieth century to secure remains threatened by the building boom of the post-Second World War years, academic research archaeologists already occupied the knowledge producing role. At first DL archaeology was therefore primarily seen as a sub-contractor delivering scientific data to the research archaeologists at the universities (Jensen, 2012; Kristiansen, 2009). However, as the idea of the modern society has transformed through the information and knowledge society turns, and through neo-liberal currents and economic turmoil, the situation for DL archaeology has changed. The late twentieth century and early twenty-first century brought about increasing pressure on DL archaeology to balance costs with scientific ambitions, and with outreach to the public (Artelius, 2010; Karlsson, 2000; Linden and Webley, 2012; Magnusson Staaf, 2000). Additionally, a major theoretical movement in archaeology has shed light on excavations as an

analytical act, rather than just data collection (Berggren and Burström, 2002; Berggren and Hodder, 2003).

The changes in society and in archaeological theory place a different set of demands on all DL archaeology investigations and on the documentation thereof. The theoretical development in archaeology is likely accountable for the "documentation as scientific" ideal as it proposes that all documentation needs to be performed with a research mindset. The pressure from the transformation of the state's ambitions for DL archaeology (to be more immediately useful) and the market-economy is in turn a plausible explanation to the scientific but context-dependent ideal. It demands of documentation to exhibit considerations of limitations to economic resources allocated to heritage preservation, and greater accommodation to the land development processes. Additionally, the extreme version of this discourse, demanding state affairs to be of immediate service to citizens, is likely contributing to the "documentation as educational for society" ideal. In this ideal people in society (and other generalisations of citizens) should instantly gain from publicly regulated undertakings like DL archaeology. Hence, we see how all of the ideals appearing in the analysis have reasonable rationalities in relation to demands from the state, the political discourse, and the research community.

However, the attempts at closure as outlined above point to incompatibility of these ideals, unless central ideas and concepts are redefined. Take the idea of academic peer-review as an example. In the excerpts promoting the scientific documentation ideal the idea of academic peer-review is central to quality assessment. Within the scientific ideal there is no acceptance of alternative methods for quality assessment (e.g. regional government officials' assessments). In the documentation as scientific but context-dependent ideal the scientific quality is first not a top priority, and second government officials are assumed to have the skills to judge scientific quality. Unless the idea and concept (and activity) of assessment is redefined through a joint effort by advocates of these two sides, outlooks for consensus on how documentation should be assessed seem scarce.

Due to the multi-directional character of the ideals, and the attempts at closure drawing on different views on what DL archaeology should be in relation to the scientific community, the state and its' citizens, the controversy does not come to a closure in the debate analysed here. However, since one of the positionings, the scientific but context-dependent documentation ideal, is connected with significant structural investments in the heritage preservation administration system in Sweden, I argue that the debate still reaches a kind of partial closure by force of these previous investments (cf. Pinch and Bijker, 1984; Sismondo, 2010). The heritage preservation system in its current iteration is dependent on the possibility to conduct research outside the academic realm. The scientific but context-dependent ideal allows archaeology and archaeological documentation adhering to public procurement agreements, cost-efficiency demands, and requests results to be presented in ways supporting land development decision-making and the general society's approval of the arrangement. Obstacles to extra-academic research, such as the problem with lack of peer review, are solved: in this ideal regional authorities are assigned control of scientific content although they are structurally independent from the academic realm.

However, the long-term success of the "scientific but context-dependent" ideal as a solution to the problem: What should DL archaeology documentation be like? Depends on how the groups promoting this ideal interact and negotiate with groups promoting contrasting, still rational and relevant, ideals. The more the "scientific but

context-dependent" ideal is promoted as the sole solution by those with power over revisions of the system (e.g. the National Heritage Board), the wider the gap will we see between this group and groups promoting other ideals. This might not be only negative, but a number of potential consequences emerge at the horizon: an increased polarisation will likely bring increased specialisation. The DL documentation will likely require more professional specialisation if it becomes less similar to scientific documentation. In addition, the DL archaeology documentation will likely not be considered as meriting by those outside this group of specialized professionals. In Huvila's (2011) terms, the DL archaeology documentation runs the risk of decreasing an already weak position as boundary object between DL archaeology and research archaeology. With regards to a joint knowledge making this development would be negative.

Yet, due to the partial closure being only partial, the scientific but context-dependent ideal continues to co-exist with other ideals for documentation and knowledge making in DL archaeology. As an effect, when these ideals overlap practitioners may be expected to act like researchers doing documentation to further archaeological knowledge, to accommodate to definitions and regulations set by the DL archaeology system, and to do so as employees in organisations quasi-commercial market.

7. Conclusions

Documentation ideals in knowledge making work changes over time. As previous research shows archaeology's function in state's heritage preservation systems, theoretical and stylistic disciplinary trends, and the influence from various stakeholders' demands all affect the archaeological documentation. The explorative aim of this paper provides a perspective on how to view and systematically explicate informal documentation ideals beyond and parallel to formal information policy.

The multi-directional documentation ideals exposed here relate to the reflexive theoretical stance in archaeology, to ideas about efficient, on-demand, knowledge making outside academic research, and to discourses about citizens' rights to immediate return (here as educational content) of public investments. Thereby the analysis provides one answer to why common grounds seem hard to reach between the positions in the controversy. The ideals represent different views on the primary goal of the documentation. Hence, even if accessibility to the documentation increases, for example by improved digital access, the fundamental disagreement about the content will likely remain. This disagreement and the challenges it presents is highlighted by accessibility projects, but require other means than improved accessibility to be solved (e.g. active negotiation of common ground, redefinition of central concepts and activities). Although each of the three ideals explicated here attempt to make a closure and establish its own position as consensus, the "documentation as scientific but context-dependent" backed up by the current structure of the DL archaeology system is nearest to accomplishing a closure.

Analysis of documentation ideals improves our understandings of these ideals and more comprehensive political and institutional agendas influencing documentation. As such, the results of documentation ideal analysis do, as a complement to previous stylistic studies of documentation (e.g. Hodder, 1989; Lucas, 2012), and in addition to studies of formal information policy (e.g. Börjesson, 2015; cf. Braman, 2006), support critical readings and usage of the documentation in question. This study also contributes specifically to previous research about archaeological documentation by a micro-level empirical analysis of documentation ideals as one aspect conditioning

documentation and archaeological knowledge making. Furthermore, the documentation ideal analysis shed light on how different ideals promote different approaches to the formal information policy. The "documentation as scientific" ideal appears as the least concerned with formal policy. The "documentation as scientific but context-dependent" is more prone to adhere to formulations in formal policy, as is the "documentation as educational for society" ideal. As such, this study has the potential to support information policy development and management of information practices.

If we, through the lens of this study, direct our attention to the people involved in the documentation they appear to carry out documentation under the pressure of a system requiring one type of documentation (primarily "documentation as scientific but context-dependent"), and additional, contesting ideals (the "documentation as scientific", and "documentation as educational for society" ideals). As the ideals are interwoven with different ideas regarding the allocation of responsibility for documentation, as they assign various roles to the practitioners, and point to different beneficiaries of the documentation it is reasonable to assume that the documentation ideals have potential implications for how practitioners perceive of and feel about their investigations and the reports they write – in the bigger picture affecting the discipline's knowledge making.

Future application of the documentation ideal concept should therefore include at least two lines of research. First, further case studies of debates about documentation in other fora, and other national contexts, would refine the documentation ideals concept and further develop the analytical model (cf. Appendix 1 and Table I). Second, studies of how practitioners perceive of the compound of information policy and information ideals, and how these interplay and affect practitioners' work, would refine our understandings of the impact of documentation ideals on practices (Cox, 2012; cf. Lindh, 2015). This research could, for example be undertaken using terms bridling and unbridling as previously applied in the policy anthropologist's Davide Però's studies of policy implementation (2011). Bridling denotes what the policy, or ideals, ascribes practitioners to do. Unbridling denotes the measures practitioners take to escape demands they deem inappropriate or find conflicting. As such, the documentation ideals concept complements the information practice approach (traditionally) with analytical focus on the corporeal, material, interactional, and routine aspects of practices (Cox, 2012). The documentation ideals concept is a tool to analytically engage with the political and institutional contexts of information practices – as expressed through documentation ideals.

Notes

1. The articles analysed in this study are a part of the previous research on DL archaeology documentation. For clarity they are presented separately in the Section 4.2.
2. The concept "academic" in this paper denote institutional character. It is a binary concept, i.e. institutions can either be academic, run by universities, or extra-academic. Contrastingly "scientific" denote the character of activities. Activities can be more or less scientific, regardless if they take place within or outside academic institutions. In this paper the term "scientific" is an abstraction spanning any differences between social sciences, humanities, and natural sciences.
3. "System" is here used in the same sense as in Andersson *et al.* (2010a, pp. 14-15), to denote related institutions engaged in DL archaeology. Included institutions and ties are more or less regulated by the state. These systems vary across national borders, but also within national borders across time.

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Appendix 1. Texts analysed

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Appendix 2. Analysis and interpretation matrix

Contextual data

- Author and position by 2010
- Institutional affiliation and institution's nationality
- Text and URL
- Geographical scope defined in text

Excerpt data

- Page, lines
- Quote, explicitly or implicitly on documentation

Analysis

- Documentation ideal, summarised (free text)

Interpretation

- Step i: Documentation ideal, categorised
  - (a) Documentation as manageable
  - (b) Documentation as context-bound
  - (c) Documentation as educational
  - (d) Documentation as governable
  - (e) Documentation as scientific
- Step ii: Explicit or implicit allocation of responsibility for the documentation (free text)
- Step iii: Explicit or implicit assumption about the role of the practitioner doing the documentation (free text)
- Step iv: Explicit or implicit statement of social group benefiting from the documentation (free text)

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