

Crowding out the Archivist?

Implications of online user participation for archival theory and practice

Thesis submitted in fulfilment of the degree of PhD in
Information Studies: Archives and Records Management

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UCL

2015

Declaration

I, Alexandra Margaret Mary Eveleigh, confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

This thesis charts a course through an emerging landscape of online user participation in archives, focusing upon user involvement at the point of practice known to professional archivists as archival description. Recent years have seen significant growth in participatory initiatives in the archive sector, and the application of Web 2.0 technologies — augmenting traditions of user engagement and volunteering — has been widely heralded as a new opportunity to ‘democratise’ archival practice. The study considers a spectrum of online initiatives which have sought to benefit from the skills or knowledge of diverse user groups: from mass participation ‘crowdsourcing’ transcription projects, via tagging and commenting functionalities added to traditional archive catalogues, to community engagement programmes which have attempted to build up multiple layers of narrative interpretation.

The research was designed around three principal stakeholder groups, professionals, participants, and users, seeking to address three main research questions:

- Does online user participation constitute an evolution or a revolution in archival practice and professionalism?
- What contexts and circumstances motivate and sustain participation?
- Who benefits from user participation in archival description?

Two new analytical frameworks are presented as navigation aids for this exploration of participatory archives, taken from the perspective of professional archivists and of participants respectively. The discussion on users is necessarily more speculative, but concludes that realisation of the claims made for the transformative impact of online user participation is dependent upon a redefinition of archival use which is inclusive of both participation and the communication of meaning, in addition to the routine processes of information seeking. Future research directions are identified therefore which lie at the points of intersection between engagement (participation and use combined) and professional theory and practice.

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List of Abbreviations

AHRC	Arts and Humanities Research Council
APA	American Psychological Association
API	Application Programming Interface
ARA	Archives and Records Association
BPMA	British Postal Museum and Archive
CLIP	Crew List Index Project
DCMS	Department for Culture, Media and Sport
EAD	Encoded Archival Description
GWAP	Games with a purpose
GIS	Geographical Information System
ISAD(G)	General International Standard Archival Description
IT	Information Technology
LEADERS	Linking EAD to Electronically Retrievable Sources (research project)
LSE	London School of Economics
MOCCA	Modeling Crowdsourcing for Cultural Heritage (research project)
NARA	National Archives and Records Administration (United States of America)
n.d.	No date (of publication)
OAIS	Open Archival Information System (conceptual model — BS ISO 14721:2012)
PROV	Public Record Office of Victoria (Australia)
PSQG	Public Services Quality Group (of the Archives and Records Association)
SNA	Social Network Analysis
SQL	Structured Query Language
TEI	Text Encoding Initiative
TNA	The National Archives (United Kingdom)
UCL	University College London
UCLIC	UCL Interaction Centre
U.K.	United Kingdom (of Great Britain and Northern Ireland)
U.S.	United States (of America)
VFI	Volunteer Functions Inventory

Citation Style

The citations in this thesis follow an author-date parenthetical (Harvard) style, with references to online resources broadly constructed according to the sixth edition of the American Psychological Association's *Style Guide to Electronic References* (American Psychological Association 2012), currently the most detailed specification available for web-based sources. However, the *APA Style Guide* gives no advice on referencing web archive resources. So for web archive references, I have instead adapted the guidance on citation supplied by the Internet Archive (<http://archive.org/about/faqs.php>). These long URL references therefore appear in the bibliography (in common with blog posts and message board threads) instead of the in-text citation format used for entire websites and webpages (American Psychological Association 2012, p. 32). All in-text URLs cited were accessed on 7 December 2014.

Primary data (interview transcripts, free text survey responses, images, reports and other documentation not publicly accessible) are referenced by alias. Old Weather interviews have been assigned references beginning OW, the Old Weather survey report is referred to as OW-S, and my report on Your Archives web log data is YA-R. All other qualitative evidence has a P reference. Further documentation relating to The National Archives, used as background material but not specifically coded for this research, is referred to using TNA references. A complete list of interviews and other primary data, together with their respective alias references, can be found in Appendix B.

List of Digital Resources

Interviews (and other primary data collection) for this PhD focused around the projects and platforms listed below:

All About Cheshire — URL no longer available

A wiki launched in 2009 by Cheshire Archives and Local Studies to share information about the people and places of Cheshire. Discontinued c2012.

Black Country History — <http://blackcountryhistory.org/>

A search interface to information about historic objects, images and documents held in Black Country (an area to the west of Birmingham in the UK) museums and archives. Metadata is also made available to developers via an API.

BPMA wiki — URL no longer available

A wiki launched by the British Postal Museum and Archive in 2008. See Looseley & Roberto (2009) for further details.

Citizen Archivist dashboard — <http://www.archives.gov/citizen-archivist/>

A landing page which presents the various online user participation opportunities offered by NARA in the U.S., including tagging, transcription, editing wiki articles, and the U.S. phase of the Old Weather project.

Crew List Index Project — <http://www.crewlist.org.uk/>

An independent volunteer-led project to improve access to information about British merchant seamen by indexing records held in local record offices across the U.K.

Discovery — <http://discovery.nationalarchives.gov.uk/>

Discovery is The National Archives' (U.K.) catalogue. Tagging facilities were added in 2012.

Exploring Surrey's Past — <http://www.exploringsurreyspast.org.uk/>

Searchable interface to Surrey's (an area of south east England) archaeology, archives and museums. Users can tag or comment upon individual catalogue entries or contribute to thematic pages.

FromThePage — <http://beta.fromthepage.com/>

FromThePage is free software that allows volunteers to transcribe handwritten documents online. Originally developed for the transcription of a series of family diaries chronicling life on a tobacco farm in Pittsylvania County, Virginia (U.S.).

Lincs to the Past — <http://www.lincstothePast.com/>

Launched in May 2008, Lincs to the Past is a hub for research relating to items and information held in Lincolnshire's archives, libraries, museums, and Historic Environment Record data. Commenting and tagging is enabled for images and records.

LSE Flickr projects — <https://www.flickr.com/photos/lselibrary/>

The London School of Economics and Political Science joined Flickr Commons in October 2009 as part of the LSE: a History of Pictures project to open up access to historic photographs held by the LSE Library.

Old Weather — <http://www.oldweather.org/>

A collaboration between the Met Office in the U.K., the Zooniverse citizen science consortium, and cultural heritage institutional partners, to transcribe meteorological data from ships' log books. The original phase of the project focused around Royal Naval ships' logs held by TNA; subsequent phases have extended the project to U.S. ships.

Our Archives wiki — <http://www.ourarchives.wikispaces.net/>

A wiki offered by NARA in the U.S. as 'an online space for researchers, educators, genealogists, and Archives staff to share information and knowledge about the records of the National Archives and about their research'. To be discontinued in March 2015.

PROV crowdsourcing transcription pilot — URL no longer available

A collaboration between the Public Record Office of Victoria (PROV) and the Victoria eResearch Strategic Initiative (VeRSI) to develop and publish an open source online application to enable members of the public to find, transcribe, index and geo-locate images of records held by PROV.

PROV wiki — <http://wiki.prov.vic.gov.au/>

A wiki launched by the Public Record Office of Victoria in 2008 with the intention of providing an online platform for users to contribute their knowledge of archival records held by PROV. Closed to new registrations and made read-only in mid-2013.

The Whitby Group — <https://uk.groups.yahoo.com/neo/groups/thewhitbygroup/info/>

A closed membership Yahoo group 'for everyone interested in the history of Whitby' (a coastal town in Yorkshire, U.K.).

Transcribe Bentham — <http://blogs.ucl.ac.uk/transcribe-bentham/>

An online participatory project run by University College London to transcribe the papers of the philosopher Jeremy Bentham.

VeleHanden — <http://velehanden.nl/>

VeleHanden ('Many Hands' in Dutch) is a crowdsourcing platform originally developed as a partnership between the City of Amsterdam Archives and Picturae, a Dutch digitisation bureau, for a pilot project based upon Amsterdam's *militieregisters* (militia registers). Subsequently opened to archives and museums across the Netherlands to hire for crowdsourcing projects.

Westminster Memories — <http://www.westminstermemories.org.uk/>

A gathering of community history sites supported by the City of Westminster Archives Centre (London, U.K.).

World Through A Lens —

<https://www.flickr.com/photos/nationalarchives/collections/72157632921688592/>

Images from the U.K. Foreign & Commonwealth Office archives held at TNA added to Flickr to enable commenting, tagging and sharing of the images. The pilot project 'Africa Through A Lens' was later extended to other areas of the world.

Your Archives — URL no longer available

The wiki launched by TNA in 2007 for staff and users to share their knowledge of archival sources. For further details see pp. 38 ff. of this thesis and Grannum (2011).

Prelude



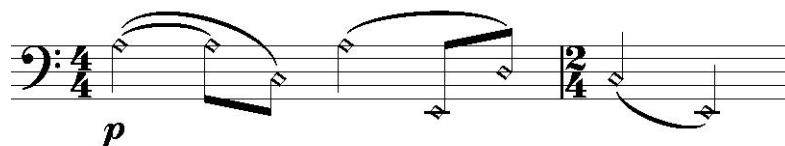
Cercles Mystérieux, dancing round and round in circles in anticipation of a final sacrifice, seems a pretty apt description of the candidate's experience of a PhD. Thank you to my supervisors, Dr Andrew Flinn and Professor Elizabeth Shepherd from the Department of Information Studies (DIS) at UCL, Dr Valerie Johnson of The National Archives (TNA), and Professor Ann Blandford from the UCL Interaction Centre (UCLIC) for their patient manoeuvring of my circuitous meanderings into more productive paths. Thanks also to everyone entwined into my various PhD student circles, but especially to Dr Jenny Bunn, Dr Pete Williams and Dr Elaine Penn for proving that it is possible to emerge alive, to Anthea Seles, Anna Sexton and Katarzyna Stawarz for regularly sharing the anguish, and to Naya Sacha-Xaya and Pimphot Seelakate for always sharing smiles. I was made warmly welcome by everyone at UCLIC during my cross-disciplinary year, but still I would not have achieved so much without the encouragement and help of Dr Charlene Jennett, Dr Anna Cox and colleagues working on the Citizen Cyberlab project, and Dr Jo Iacovides who persuaded me that maybe there was something of value in digital games research after all. Thank you too to Dr Louise Gaynor and Kerstin Michaels for working out the mechanism although there were no instructions.

I would like to acknowledge everybody who generously gave their time to facilitate or to take part in my research at The National Archives, in the wider archives sector, and beyond — by inviting me to meetings, extracting data, filling in surveys or taking part in interviews. I cannot name you all, not least because in some cases this would forfeit your anonymity in the research itself, but without your willing assistance I would not have got very far. I am particularly grateful to Ellen Fleurbaay from Amsterdam City Archives, for taking an interest in my research at an early stage and introducing me to colleagues across the cultural heritage and research communities in the Netherlands, including Professor Julia Nordegraaf and Angela Bartholomew at the University of Amsterdam. My work on Old Weather could not have taken place without the support of Dr Philip Brohan from the Met Office and his colleagues in the Old Weather science team and the Zooniverse more widely.

This research has been funded by the Arts and Humanities Research Council and The National Archives and, for my year at UCLIC, by a UCL graduate research scholarship for cross-

disciplinary training. Again on a practical level, undertaking a PhD at a university 200 miles from my then home in Yorkshire would simply not have been possible without the kindness of my friends who so often gave me a bed for the night — or nights. For this I owe an enormous debt to Clare Simmonds and Dr Cynthia Shaw, and to my mum; also to Caroline Ashley, Rachel Boxall, and Ivan: thank you all for regularly putting me up and putting up with me.

The musical extract above from the cello part of Stravinsky's *The Rite of Spring* is reproduced by permission of Boosey & Hawkes Music Publishers Ltd. A piece which I was lucky enough to play for the first time at the age of just sixteen, it is symbolic, for me, of so much in this thesis — although I cannot (Polanyi would agree) elucidate all of these resonances in explicit terms. Suffice it to say that I am convinced that my experiences as a musician have profoundly shaped the development of my thinking about participation, about expertise, about representation, and about how we reconstruct and reinterpret the past in the present:



There are multiple representations, but there are also multiple interpretations, and multiple understandings (and possible re-arrangements): an infinite cycle of creativity. Anyway, without music, I would have given up on this PhD long ago. Thank you to all of my musical friends, but especially to Dr Sarah Calaghan, Julia Reynell, Stephan Brown, Richard Webster, and David Brereton, and again to Rachel and Clare; to Maud Hodson who engraved the excerpts here; and to multiple configurations of orchestral cello sections. Perhaps now I shall have some time to practise.

Special thanks to Ivan Rockey for helping out with the proofreading, but more importantly for keeping me happy and focused when the writing was hard. Also very specifically, for our many conversations about music and music making, and particularly for introducing me to *The Apollonian Clockwork* (Andriessen & Schönberger 1989) whose inspirational quirkiness you certainly recognise but would not have thought especially important to me.

And finally, to return full circle and end at the beginning again, my profoundest thanks to my mother, without whose encouragement I would not even have applied; and to my late father, who always encouraged me in everything I wanted to achieve.

Chapter 1: Introduction

Background context

Recent years have seen numerous practical experiments in the archive sector exploring the potential of user participation, encouraging greater public involvement in a variety of ‘professional’ activities and seeking to unlock latent user knowledge for the benefit of the archive service and all its users. When the research for this PhD commenced in 2010, interest was building around the ‘social web’ and its potential to harness what Clay Shirky (2010) termed the ‘cognitive surplus’: increasing participatory opportunities for educated citizens around the globe to produce, coordinate, and share knowledge and experiences using the Internet; moving away from a passive model of information consumption towards the active engagement of the public in creating new knowledge. Such developments were by no means peculiar to the sphere of archives, but were reflective of broader societal and popular cultural trends in which concepts of collective intelligence and collaborative creativity were said to be flourishing, sometimes at the expense of more traditional professional or expert voices (Leadbeater 2008; Shirky 2008, 2010; Surowiecki 2005). In the archives domain, the application of social media technologies was additionally heralded as an opportunity to ‘democratise’ the archive to include traditionally excluded voices and minority communities, and to allow for a postmodernist layering of multiple understandings and contextualities of the archival record (Flinn 2010; Palmer 2009).

Across the information and cultural heritage sectors generally there was a particular experimental focus upon the potential for users or visitors to help address acknowledged problems in the description and representation of collections (Duff & Harris 2002; Karp & Lavine 1991). Prominent examples of online participation initiatives by cultural heritage

institutions already in existence in 2010 included The Commons on Flickr consortium, spearheaded by the Library of Congress, to identify public photographic collections and make them more widely accessible (<http://www.flickr.com/commons>); the National Library of Australia's collaborative text transcription platform for historic Australian newspapers (<http://newspapers.nla.gov.au/>); the Your Paintings Tagger partnership between the Public Catalogue Foundation and the BBC (<http://tagger.thepcf.org.uk/>); and the Steve Project, researching the social tagging of museum objects (<http://www.steve.museum/>).

In 2007, the Moving Here project, a partnership led by The National Archives which aimed to encourage 'community involvement on the Web' in this manner, could be described as being 'unmistakably on the cutting edge' of professional practice (Alain & Foggett 2007). However, in spite of the coining of the moniker 'Archives 2.0', reflecting a perception of fundamental changes underway in archival practice and values (Theimer 2011b), most early developments in the use of social media in the archive sector can be seen in retrospect as clustering around the periphery of the professionalised curation functions of the archives service. Blogs and Twitter proved a popular method of permitting an archivist-choreographed insight and limited feedback into the cataloguing process; generic web platforms such as Flickr allowed for user tagging and commenting, but upon carefully curated digitised collections. The National Archives' wiki Your Archives (for detailed description, see pp. 38 ff.), which did enable users to contribute free-form articles about any archival sources, provided 'a versatile and valuable resource which complements The National Archives' catalogue and finding aids', but was still clearly delineated from them (Grannum 2011, p. 127). Even the experimental Polar Bear Expedition Digital Collections Finding Aid at the University of Michigan, which sought to introduce user interactivity into the design of a 'next generation' finding aid, carefully left intact the authority and control of 'The Archivist' (Krause & Yakel 2007; Palmer 2009). Furthermore, some of the most innovative applications of social technologies for

participatory cultural heritage emerged outside the formal archives sector, with online communities of interest creating and sharing content amongst themselves without professional mediation. Some of these community archives, such as My Brighton and Hove (<http://www.mybrightonandhove.org.uk/>), only exist in a virtual environment, receiving digitised images, descriptions and memories about a particular place or topic from all over the world.

But although numerous archival theorists had questioned the positivist principles of traditional archival science and helped to establish a compelling postmodernist theoretical underpinning for a more participatory, representative archival culture, in 2010 there had been few attempts (particularly in the U.K.) to evaluate the real reach and impact of practical user participation initiatives in the domain. Where studies of such ventures in archival settings had been published, the authors were often disappointed to find that user contributions were limited to minor corrections or were merely establishing a personal connection to a specific document (Krause & Yakel 2007; Sedgwick 2008). Rich seams of user knowledge appeared to be more difficult to attract than the postmodernists had perhaps anticipated. And since many archival applications of social technologies were experimental or project based, there was little discussion in the practice literature regarding the longer-term ramifications of participatory practices, such as what resources and techniques might be required or recommended to shape and sustain successful collaborative description, or how best to manage the ensuing dialogue with users. Shortly after this research commenced, a TNA internal review of Your Archives found low numbers of regular contributors (either external or internal) and 'little sense of community or collaborative working', despite having attracted nearly 29,000 users to sign up to the wiki over three years of operation (P43). Thus sustainability — the interplay between the ongoing process of project development and the

effort required to support an initiative — was as much a concern for the largest, organisation-led developments as for the volunteer-supported charities in the community archives sector. Additionally, much of the research that was available in 2010 concerning the potential and limits of user participation in heritage environments came from the museums domain, which was not necessarily immediately applicable to archives. For instance, one of Jennifer Trant's criticisms of museums collections databases (as something which users might be motivated to help correct) is that objects are described 'without context and in isolation from related works' (Trant & Wyman 2006, p. 1). This is not true in the archives environment where great professional emphasis is put upon context, especially the context(s) of creation. In the archival world, the debate focuses instead upon whether user contributions might perhaps help to loosen the shackles of traditional archival conceptions of provenance and original order, thereby promoting the greater accessibility of archival materials.

Participatory working is of course not necessarily technology dependent, and there is a long tradition of involving users and 'Friends of the Archives' in both organisational governance and (more controversially, and not always acknowledged) in collections management operations, including cataloguing (for further examples, see pp. 133–134). As Krause and Yakel (2007, p. 288) observed in their evaluation of the Polar Bear Expedition Finding Aid, 'this idea that users can contribute to descriptive products is not new.' Indeed, the role of the volunteer in archives, as in other sectors of society, is itself undergoing something of a resurgence in line with cultural policy imperatives which put a premium value on 'empowering' people and communities (Ray 2009; Williams 2014). A more formalised example of what might be called an analogue approach to user participation is the 'Revisiting Archives' methodology, which uses a focus group approach to facilitate the creation of new interpretations and personal opinions about archive documents, with the objective of incorporating this user-generated content into professionally-structured finding aids. Again,

the Revisiting Archives toolkit explicitly links this activity to wider cultural and public policy shifts in the U.K. which champion diversity, community engagement, access and inclusion (Newman 2012).

Definitions

Some clarification of key terms used in this thesis may be helpful before progressing further:

The *Oxford English Dictionary* definition is helpful in teasing out both the process and outcome aspects to **participation**:

The process or fact of sharing in an action, sentiment, etc.; (now *esp.*) active involvement in a matter or event, esp. one in which the outcome directly affects those taking part.

Participation in this thesis is taken to mean the active involvement (for the purposes of this research, usually taking place online) of an individual in some task or pursuit which results in the creation or digital reproduction of descriptive, contextual or affective metadata about archives. But, diverging somewhat from the dictionary definition, the outcome may be diffuse rather than personal to the participant. Potential beneficiaries of participation include the archives institution, a broad spectrum of participants and users, and even the wider archives sector and kindred cultural heritage domains generally. There is also scope for the outcomes of participation to impact negatively upon this range of stakeholders. Further, the input of participation is held pragmatically to be interchangeable with a **contribution**, i.e. there is not necessarily any assumption of depth or quality of involvement, although it is recognised that there is a spectrum of engagement ranging from an individual's momentary encounter through to a much richer, open-ended, and socially inclusive **collaboration**. Nor does this understanding of participation explicitly attempt to address issues of power and (in)justice, nor assume that participation is necessarily change-oriented, although it is recognised that

‘seeking to transform the world’ does indeed inspire certain examples of online participatory archives practice (for example, <http://mentalhealthrecovery.omeka.net/>).

Web 2.0 is used to describe a perceived second generation of the World Wide Web which is more dynamic and interactive than the repository of static information content which constituted the original model of the Web (sometimes retroactively referred to as Web 1.0). Web 2.0 is typified by technologies which enable individuals to create and share information (commonly described as ‘**user-generated content**’; also referred to in this thesis as ‘**user-contributed data**’ and ‘**user-contributed metadata**’, or simply as ‘**contributed content**’) on the Internet — including blogs, wikis, sharing platforms for specific types of media (such as Flickr for photographs or YouTube for video), collective annotation tools (tagging, bookmarking, rating and review), and personal networking sites or **social media** (such as Facebook). The archival literature tends to emphasise the sharing characteristics of Web 2.0, commonly harnessing the concept to a ‘democratisation of inquiry’ argument; an enabling mechanism for revealing a multiplicity of different perspectives, meanings and contexts:

Web 2.0 is about connection, collaboration, community. For archives, Web 2.0 connects communities with collections or, maybe even more conceptually, communities with their history and identity. What is more, it invites collaboration about that history: what it means, how it should be presented, and what we know. Shared authority and distributed curation are the point (Yakel 2011b, p. 258).

Archives 2.0 takes this idea of a new generation of practice facilitated by technology and applies it to the professional archival workflow. Theimer (2011b, p. 58) argues that this must encompass ‘a comprehensive shift in archival thinking and practice that is related to, but not dependent on, the use of Web 2.0 tools’. Nevertheless, this is still to a large degree a transformation led and shaped by professionals, in which members of the public are permitted to participate. **Participatory description** is my term for the process and output of participation around the point of professional practice known as archival description.

The archival literature is further littered with a plethora of ill-defined and loosely applied buzzwords used as shorthand to refer to almost any initiative in the field which seeks to engage users to contribute to archives or to comment upon archival practice through the medium of the Internet, including *crowdsourcing*, *user participation*, *user collaboration*, *(radical) participatory archive(s)*, *citizen archivists*, the *Archival Commons*, and *citizen-led sourcing*. I prefer the terms *(online) user participation*, *participatory practice* or *participatory archives*, used interchangeably, to refer to the complete range of participation initiatives or opportunities, whilst recognising that these may vary considerably in both design and impact.

A more detailed analysis of the problematic term *crowdsourcing* and its relationship to a more radical conception of the participatory archive appears in the section of the literature review relating to participants (Chapter 2), following a distinction made between crowds and communities. The concept of the *Archival Commons* is explored in greater detail in Chapter 3. A discussion on my distinction of *professional*, *participant*, and *user*, to differentiate between the agents interacting in the participatory archives, follows in the introduction to Chapter 2.

Finally, as a professional archivist myself, occasionally in this thesis I use specialist archival terminology or common language terms which carry specifically archival connotations. *Respect des fonds* is a much-debated but fundamental archival principle closely linked to provenance, which requires that the archives of a person, family or organisation (the *fonds* or collection) should not be mixed or combined with archives created by another individual or corporate body. *Accessibility* in Chapter 5 is used both in its common language sense of being easily obtainable or available, and in relation to the professional role of providing access to archives — ‘the ability to locate relevant information through the use of catalogs, indexes,

finding aids, or other tools' (Pearce-Moses 2005a) — and the opportunity or right to locate and use archives. **Outreach** refers to the action of professionals in reaching out to users by designing services or events tailored to their needs, particularly in relation to audiences who may previously have had limited or no acquaintance with archives. In UK archives parlance, outreach is commonly used in conjunction with **engagement** ('**outreach and engagement**'), an action of involving such external stakeholders as part of professional practice. For further definitions of these and other specialist archival terms, the reader is referred to either *A Glossary of Archival and Records Terminology* published online by the Society of American Archivists (<http://www2.archivists.org/glossary>) or the International Council on Archives' *Multilingual Archival Terminology* (<http://www.ciscra.org/mat/>).

Shaping the research

In line with the purposes of the Arts and Humanities Research Council's Collaborative Doctoral Award scheme, this research was shaped with the work of The National Archives (the collaborative partner organisation in this instance) in mind. Issues which appeared key to investigate at the outset of the project included:

1. *A need to map the online participatory landscape in the archives sector, and to evaluate the effectiveness of user participation initiatives towards helping archives address key organisational and professional objectives, such as widening access.*

The National Archives and other major heritage institutions across the world had been experimenting with user participation technologies for several years, and smaller archives organisations were beginning to follow suit. Shirky (2010) has argued that this trial and error approach is characteristic of a society in transition, even of a revolution in communications. But organisationally, at least, there was a need to move beyond this experimentation stage: to assess existing projects, establish what social and technical structures best supported user participation, and to feed the results into the design of future initiatives. For example, although Your Archives inspired a number of imitation services elsewhere in the archival world (Our Archives at the U.S. National Archives and Records Administration being the most prominent — <http://www.ourarchives.wikispaces.net/>; also the PROV wiki (P41)), early evaluation studies of wikis in heritage contexts were already suggesting that this particular model of online collaboration might be especially challenging to design and sustain (Looseley & Roberto 2009). Your Archives itself was closed to new contributors from February 2012, then switched to read-only mode and moved into the U.K. Government Web Archive the following September ('Your Archives home page' 2013). So what benefits — if any — might different types of user

participation projects offer to an archives organisation, and are some participatory models more successful than others, and why? What are the outcomes that participatory projects aim to achieve, and how can these outcomes be measured? Do user participation initiatives result in a sufficient improvement in organisational outcomes to warrant the level of organisational input into designing, developing and maintaining participatory interfaces (the sustainability question)? Are successes at a national level scalable for implementation at a small, local archive service?

2. *The desire to discover what archives could learn from fields where online participation models were longer established (for instance, the open source software movement, or citizen science), or better studied and understood.*

The context and literature review for this study were to be consciously interdisciplinary, crossing boundaries in cultural heritage, and in information and social sciences. For example, museological critiques of description and representation, in the light of new understandings about identity construction and power relations in cultural contexts, suggested one philosophical frame of reference (S. Hall 2005). Library science offered insights into user expectations, and participatory theory and design (Lankes et al. 2007).

Online participation behaviours — social navigation, crowdsourcing, tagging and commenting — and the motivation and moderation of user-generated content had, unsurprisingly, been studied earlier and in the greatest depth in computer science disciplines. Similarly, online communities, their characteristics and development had been the subject of intense debate in sociology and anthropology since the emergence of the Internet (Garton et al. 1997; Hine 2005). ‘Commons-based peer-production’ is Harvard Law School professor Yochai Benkler’s term for a new model of economic production in the networked information environment, characterised by large-scale, open collaboration (Benkler 2002). This study attempted to navigate, and set

participatory developments in the archives sector into these complex cultural and technological milieux.

3. *A need for further insight into user participation from a user's perspective, referring to both contributors of content (participants) and to information seekers or information users (researchers).*

The limited amount of research undertaken into collaborative initiatives in archival settings had (as things stood in 2010) tended to concentrate on the accessibility and (re)usability of user-generated content for information seekers rather than on motivations for contributors to participate (Pymm 2010; Samouelian 2009; Sedgwick 2008). Much was made, in the practice literature, of the opportunity through the use of Web 2.0 applications to raise the profile of archives and to attract and involve 'new' users (Nogueira 2010). So who were these would-be contributors and researchers, and what might motivate them to participate in archival contexts? This PhD also set out to extend the existing research into issues surrounding the discoverability and usability of user-generated descriptive data. How can the accuracy and reliability of users' contributions best be assessed? What are the options for 'expert' review and moderation contrasted against critique and correction by the 'crowd'? In short, how can we establish that user contributions in archival contexts are trustworthy and useful?

More specifically, the research set out to:

- Distinguish between and evaluate different approaches to virtual user engagement with the professional world. The research sought to identify why archivists and archive organisations might be drawn towards, or resist, cultures of participatory practice. In exploring the implicit and explicit attitudes of professional archivists towards user knowledge and creativity, the study aimed to elucidate whether theory and practice were

keeping pace, or developing in divergent directions, as user participation became more established in the archival world. These issues are addressed in Chapter 3, examining the professional perspective on user participation.

- Discuss the implications of user participation upon professional practice, with special regard to archival description, in order to consider whether participatory models of working might change notions of the role and unique attributes of the professional archivist. Again, these issues are discussed in Chapter 3.
- Understand why participants might be motivated to contribute their knowledge, or to use their skills, in the context of archives or in response to archival source materials, or conversely, what might be hindering participation — with a view to enabling future participatory archives initiatives to maximise the potential of collaborative working. The participants' perspective is presented in Chapter 4.
- Investigate the value of contributed content to the user as information seeker and as a communicator of meaning and interpretation, and the consequences of user participation in terms of archives' visibility, accessibility and the potential for serendipitous discovery. Chapter 5 discusses how contributed content might be used and by whom, and addresses concerns about accuracy and authenticity, together with other barriers to the use of participatory archives as a research resource.
- Explore new methodological approaches for measuring and assessing online user participation, in order to identify what criteria might enable 'success' or lead to 'failure' in the participatory archive. Whilst the original case for support for this doctoral research envisaged taking a 'broadly qualitative approach' (UCL Department of Information Studies 2008), I saw potential in the availability of large quantities of automatically-generated, online user activity data to supplement this exploratory, qualitative mapping of an emerging landscape with some quantitative analysis of participation patterns. Although these new (to me) methods could not be fully exploited within the scope of this

thesis, Chapter 3 in particular is influenced by concepts derived from social network analysis (SNA), and Chapter 4 also integrates lessons learned from experiments in applying SNA as an analytical technique in this context, and from web log analyses of participation data from Your Archives and Old Weather (the latter reported in more detail in Eveleigh et al. (2014)).

- Develop a conceptual model of user collaboration in archives. Chapters 3 (professionals) and 4 (participants) present two matrix frameworks which combine pre-existing theoretical perspectives from psychology (motivation), organisational, and social network theory, as a means to scrutinise the variety of evidence collected on participants' and professionals' attitudes towards participatory archives. Although in this thesis I do not reach so far as a single, overarching model of online user participation (indeed I conclude that this is not really feasible, nor particularly useful), these evaluation frameworks and my emerging understandings of participation in archival contexts strongly influenced my input to the Modeling Crowdsourcing for Cultural Heritage (MOCCA) project, which did attempt to develop a model of conditions and design properties necessary for effective crowdsourcing in the wider cultural heritage sphere (Noordegraaf et al. 2014).

Research questions

Taking the collaboration with The National Archives into account, and the opportunities and constraints that this setting posed for investigating online participation's evolution and effect upon the archives domain at large, the research began to take shape around three principal stakeholder groups: professionals, participants, and users. Research questions were designed to encompass the issues identified above, with one primary question for each stakeholder group, and a series of sub-questions which could evolve and be added to as the research

progressed and alongside any new participatory developments both in- and outside of the archives sector:

1. *Professionals: Does online user participation constitute an evolution or a revolution in archival practice and professionalism?*

Are these participatory developments substantially new phenomena, or do they have similarities with previous attempts by archivists to engage with wider communities and to encourage volunteering? How does the adoption of collaborative descriptive practices, facilitated by interactive web technologies, impact upon notions of archival professionalism and professional practice? What is the relationship of user contributions to professional descriptions, and how and when might user contributions be integrated into professionally authored resources such as the archive catalogue, particularly when the contributions received are emotive or illustrative in contrast to the traditions of archival description? What are the implications of user-generated content for archival authority and control? And what role does the professional archivist have to play in the moderation or dissemination of user-contributed metadata?

2. *Participants: What contexts and circumstances motivate and sustain participation?*

What motivates participants to donate their time, knowledge and skills in archival contexts? How can participatory platforms be designed to reward contributions? What do participants value about taking part, and what are the optimal frameworks for promoting ongoing participation? What might participants learn through the processes of contribution? Might some models of contribution operate more effectively outside of the mainstream archives sector, or indeed, independently of the cultural heritage sector as a whole? Are some communities of interest more inclined to participate than others?

3. *Users: Who benefits from user participation in archival description?*

Does online user participation help to attract new users to archives, or promote innovative new uses for archival material — or do the demographics and uses mirror those of an archive’s customary audience in the physical world? What is the impact of participatory practice upon existing research users of archives? How do users evaluate the reliability and usability of user-generated descriptive metadata, and establish trust in participants and their contributions? Does user-generated content help or hinder information seeking in archives?

Each of these research questions is addressed in turn in chapters 3 (professionals), 4 (participants), and 5 (users) of the thesis.

Methodology

This thesis explores and charts a course through the participatory landscape within the archives sector, focusing upon those types of contribution which are broadly synonymous with the process of metadata creation, or the point of practice known to professional archivists as archival description. This incorporates a spectrum of initiatives which seek to benefit from the skills and knowledge of diverse user groups: from mass participation ‘crowdsourcing’ transcription initiatives which rely on automated techniques for data verification via double-keying, to the building of user communities with the aim of enriching traditional archival catalogues with ‘thick’ description and creating multiple narrative access points to archives. The intention has been to explore the reality behind the claims made regarding experts and crowds, and to examine how a shift towards involving non-archivists in description (metadata creation) might impact upon professional archival theory and practice. The spotlight is specifically upon online developments in the formal archives sector, although

setting these within the context of broader community archives initiatives and traditional volunteering models.

When work on this PhD commenced in 2010, user participation was a new area of archival practice which was as yet relatively unexplored as a research topic, and archival implementations online were largely still in development as the underlying technologies themselves evolved. The relevant literature in the archival sphere was mostly concerned either with advocating the alleged benefits and aims of user participation (such as promoting access and diversity) (Flinn 2010; Huvila 2008; Nogueira 2010), or engaged in defending traditional practices from perceived threats, such as loss of control over the accuracy and reliability of archival descriptions (Burrows 2008; Kennedy 2009). Most case studies were purely descriptive (Daines & Nimer 2009; Theimer 2010), although a few did discuss the characteristic behaviour of users in experimental settings or speculate upon potential future development paths (Samouelian 2009; Sedgwick 2008; Krause & Yakel 2007; Yakel et al. 2007).

An application submitted to the Arts and Humanities Research Council (AHRC)'s Collaborative Doctoral Award funding stream (in late 2008) reasoned that sufficient numbers of user engagement projects were under development in the archival domain to make an empirical study of the actual implications of user participation initiatives timely and practically feasible (UCL Department of Information Studies 2008). However, an exploratory and flexible research design was evidently still necessary in order to enable insight into aspects of user participation which had not previously been studied. Cresswell & Plano Clark (2011, pp. 7–11) recommend a mixed methods design as particularly appropriate for new research settings, especially where a need exists to understand a research objective through multiple phases or where reliance upon one data source might prove inadequate. In this case, the research was positioned to investigate an innovative, often experimental, area of practice, over an

extended (initially anticipated to be three, eventually four, years) timeframe, and from the contrasting perspectives of the professionals, participants, and users involved.

Research design and data collection methods

Stage 1: The National Archives

In line with the aim of the Collaborative Doctoral Award scheme to encourage and develop collaboration and partnerships between university researchers and non-academic organisations, the initial phases of data collection set out to observe the evolution and realisation of online participatory practice at The National Archives. The original case for support submitted to the AHRC had referenced Your Archives as an example of innovative online practice at The National Archives. However, by the time data collection commenced in mid-2010, the future of this pioneering wiki project was already under review. Despite this, overarching policy objectives remained in place aspiring ‘to harness the expertise of our customers’ and to engage actively through technology with communities ‘who can add value to the information we hold’, and these were subsequently strengthened by direct reference to ‘increas[ing] user participation’, and ‘enabl[ing] and foster[ing] the creation of communities’ in the ‘Public Task’ statement of future organisational priorities presented to the wider archives sector at the Society of Archivists’ annual conference in September 2010 (TNA26; TNA27). At the point at which the internal review of Your Archives reported in July 2010 (P43), steps were already in train towards defining a new range of online participation options designed to enable users to contribute more directly into The National Archives’ services and products, principally the Catalogue. A User Collaboration strand was added into the Rediscovering the Record work stream of the Resource Discovery development programme (later known simply as Discovery) to develop these ideas further. A first public

announcement regarding the User Collaboration plans was made at The National Archives' Catalogue Day in November 2010.

Professionals

Whilst initial use cases were being put together for these proposed new tools, a first round of data collection focused upon the anticipated impact of user participation upon professional practice (i.e. the first research question — *Does online user participation constitute an evolution or a revolution in archival practice and professionalism?*). The methods of evidence gathering used were qualitative, with two rounds of interviews planned with staff across The National Archives.

Data collection began in September 2010 with a programme of semi-structured interviews with key staff involved in the transition towards embedding user involvement as a core organisational mission. These included interviews with archivists, IT specialists, and customer services staff, plus two Directors whose responsibilities spanned the area of user collaboration and hence jointly bore accountability for these projects, and a snowball sample of other staff suggested by these User Collaboration group members (see Appendix A: Interview Guides — Staff Interviews 2010). Thirteen interviews were held during the initial phases of the User Collaboration developments during autumn 2010; all (except for three pilot interviews which were transcribed from notes only) were recorded and fully transcribed from the audio.

A second round of interviews with The National Archives staff was planned for early 2012, when it was originally anticipated that new user participation tools would be ready for release for public testing. In the event, practical progress on the User Collaboration project was held up by recruitment issues, a change of responsible Director, the development of a

new business plan for 2011–2015 entitled ‘For the Record. For Good.’, and an interregnum in the Chief Executive role. The change of Director responsible for User Collaboration led directly to an added emphasis during the financial year 2011/12 on putting together a formal User Participation Strategy, prioritised above tool development. A steering group was established with the aim of defining The National Archives’ approach to user participation in a formal strategy document, ‘to professionalise the way the organisation interacts with volunteers’, and to put together ‘a framework and governance structure to assess and prioritise current and future user participation (volunteering) initiatives’ (TNA41). The focus of this document was significantly wider than the online initiatives which the PhD research had set out to evaluate, ‘combining traditional volunteering activities with virtual collaboration’, which, it was subsequently claimed, ‘reflects how we intend to work with volunteers in the future’ (The National Archives 2012). A Programme Board began evaluating current projects and new proposals in July 2011, and put together a matrix tool to aid transparency to this evaluation process, finalised in March 2012.

The strategy document was published in June 2012, tellingly under the title ‘Volunteering at The National Archives’ (The National Archives 2012). The practical consequence was that by the time a second round of staff interviews were conducted in April and May 2012, few staff at The National Archives yet had applied experience of user participation, since most of the proposed pilots had still to be progressed through the evaluation matrix. Nevertheless, the general implementation directions that the User Collaboration project hoped to take appeared reasonably clear and stable. For planning purposes, I grouped these into three over-arching categories (influenced by Agosti and Ferro’s annotations model (Agosti & Ferro 2007)): metadata annotation tools (tagging, bookmarking etc.); transcription; and content enrichment platforms (commenting, wikis). Internally at The National Archives, a variety of titles were conceived to describe the proposed User Collaboration tools, including ‘bulk

cataloguing' and 'enabling the semantic transcription of record series' (tailored transcription tools for specific record series), and 'catalogue contributions', 'user corrections and geo-referencing', and 'fine tuning', which referred to the planned commenting and error correction tools to be added to the new Discovery catalogue interface. 'Metadata crowdsourcing' was another term adopted, to describe tagging capabilities for individual catalogue records (known as Information Asset pages). A watching brief over a fourth category, user-led creativity, was incorporated into the research framework at this stage in order to cover some smaller scale initiatives being fostered by individual members of staff (working with the Wikimedia Foundation, and running a software developers' hack day), which had no formal links to either the Strategy development process or to the User Collaboration workstream, yet held the potential to develop into a more ambitious type of online user engagement.

Alongside staff interviews, data collection for the professional perspective took the form of observation of the User Collaboration (from July 2010) and User Participation Strategy (from January 2011) teams' formal meetings (some meetings were attended via audio teleconference, rather than in person), at which I took notes in the role of observer-as-participant (Gorman & Clayton 2005). To counter observer bias, reference was also made to documentation prepared by staff in the course of the project. I was granted privileged access to documentation created by team members in the course of each project, including meeting minutes, flipchart notes from internal staff workshops, review documentation for Your Archives, and the written-up outcomes of user focus groups undertaken by The National Archives staff during the course of the wider Rediscovering the Record project, which touched upon user participation themes (P43 to P98, P113 to P115; further background documentation used in the reconstruction of this chronology of events at The National Archives is also listed in Appendix B).

The User Collaboration project implemented an adapted version of the ‘scrum’ agile software development methodology ([http://en.wikipedia.org/wiki/Scrum_\(software_development\)](http://en.wikipedia.org/wiki/Scrum_(software_development))), which emphasises an iterative approach to project management, with formal ‘sprint’ review meetings held every 30 days throughout the lifecycle of the project between team members and expert advisers from across the organisation. Three sprint meetings, and a series of ‘creativity workshops’ with stakeholder staff outside of the User Collaboration team, took place during 2010, before a government recruitment freeze and the preparation of The National Archives’ strategic and business plans for 2011–2015 necessitated the realignment of the project to meet these new organisational priorities. A new timetable put the first deliverable from the project (the bulk cataloguing or transcription tool) back to November 2010, and aimed to have the other planned tools ready for public test release during the first half of 2011. But although some progress was made on prioritising use cases for bulk cataloguing and on constructing a ‘wireframe’ mock-up of a transcription tool for tithe records, and sprint meetings began afresh in October 2010, the project continued to be plagued by personnel issues and practical tool development stalled. Work proceeded behind the scenes on preparing the ground for the integration of User Collaboration features into the new Discovery collections interface, which was made available to the public in beta in March 2011 and replaced the former Catalogue completely from April 2013. A facility for users to submit error correction suggestions direct from individual catalogue pages was added in November 2011, and tagging capabilities were included in February 2012 (‘Discovery updates’ 2014).

Strategy steering group meetings were held approximately monthly during the period January to August 2011, which I attended. At this time, a sub-group (which I did not attend) continued to meet regularly to consider proposed participation projects using the governance matrix, whilst work continued on writing the actual strategy document. Following publication

of the strategy in June 2012, the focus shifted towards repositioning user participation as a ‘business as normal’ function under the oversight of a User Participation Governance Board. The User Participation programme closed in April 2013, with the formal closure report dated August 2013 (TNA41).

Against this backdrop, the second round of interviews with six members of National Archives staff went ahead as planned in the research timetable (see Appendix A: Interview Guides — Staff Interviews 2012). Four of these were repeat interviews with staff members who had taken part in the earlier round. Two interviews also took place in late 2011 with staff from the Marketing and Communications team who were involved in online engagement projects from more of an outreach perspective: the Through a Lens project, which was publishing online images from the former Colonial Office Library and asking members of the public to add identifications and comments via the Flickr photo sharing website; and Old Weather, a new partnership with the Met Office and the Zooniverse citizen science consortium, which hoped to crowdsource meteorological observations from Royal Navy ships’ logbooks held at The National Archives (see further Stage 3: Old Weather below).

Participants and Users

Further rounds of interviews at The National Archives considered user participation from the perspective of participants and users (i.e. research questions 2 and 3). Some interviews were carried out in conjunction with two members of staff at The National Archives responsible for customer research initiatives as part of the User Participation Strategy development (see Appendix A: Interview Guides — Participants Interviews). I collaborated on the design of the interview discussion guide, and agreed to conduct four of a planned total of thirty interviews. Potential interviewees (18 current volunteers or online contributors with The National Archives, 6 staff who managed volunteers or were online contributors, and 6 on-site users of

The National Archives who did not currently participate as volunteers or online contributors) were recruited via The National Archives User Forum and through the online medium of Your Archives. In the event, seventeen interviews took place during April and May 2011, of which 11 were current volunteers or online contributors, 5 members of staff, but only one was representative of a user of The National Archives who did not currently volunteer or contribute online. All thirty interviewees were asked to consent to their responses being used towards this PhD research project, as well as contributing towards the development of the User Participation Strategy.

Further interviews with users were scheduled to follow the finalisation of the User Participation Strategy and the test release of new User Collaboration tools. However, the continued development delays necessitated a change in plan. A short questionnaire was distributed to onsite visitors leaving the reading rooms at Kew on 1 December 2011 (see Appendix C: Surveys — Onsite Readers Survey): 201 questionnaires were issued, and 143 returned, a response rate of 71%. Although put together primarily as a means of recruiting interviewees, this snapshot onsite survey revealed generally low levels of take up or even awareness of existing participation opportunities at The National Archives or elsewhere in the archives sector: 2.8% of question respondents had contributed to Your Archives, whilst 11.9% had submitted corrections to The National Archives' Catalogue. 19.4% of respondents claimed to have taken part in other participatory archives projects. Yet nearly a quarter of respondents (23.8%) had made use of others' contributions in their own work, and the majority seemed unconcerned by the prospect of increased opportunities for user contribution — 79.7% selected 'no' when asked whether they thought there were downsides or disadvantages to user participation in archives, and specific concerns centred around issues of accuracy and quality control. Ten respondents were interviewed in follow-up to this onsite questionnaire, including residents of Australia, the United States, and Ireland in

addition to United Kingdom citizens. These interviews took place, some in person at The National Archives, some over Skype, during March and April 2012. The interview guide used can be found at Appendix A: Interview Guides — Onsite Users Interviews.

Although the onsite survey had already identified certain users whose primary contact with The National Archives was online rather than onsite, it was thought important to attempt also to reach some users whose only experience of The National Archives was via their website. Another short questionnaire was made available on The National Archives' blog on 29 March 2012 as a means of recruiting interviewees (Eveleigh 2012). This survey received 24 responses before it closed at the beginning of May, as a result of which a further seven interviews were conducted (see Appendix A: Interview Guides — Online Users Interviews). Three of these interviewees were resident in the United Kingdom, plus one each from Australia, Finland, the United States and Canada. Five of the questionnaire respondents and two of the eventual interviewees from this pool reported that they had never visited The National Archives in person.

One additional 'participant' interview was carried out in June 2012 in follow-up to an evaluation questionnaire circulated by email to attendees of The National Archives' 'Hack on the Record' weekend for web developers and designers held on 24 and 25 March 2012.

All interviews were recorded and later transcribed for analysis.

Your Archives

The availability of some longitudinal statistical data for the wiki Your Archives presented an opportunity to triangulate this interview evidence with some quantitative data on visits, contributors and edits. Although some summary, auto-generated statistics were available

publicly via the wiki's statistics page ('Your Archives statistics page' 2013), previously the only other statistics available (internally at TNA) had been cumulative counts of visitors collated from web server logs, and no attempt had been made by staff at The National Archives to examine the more detailed data held in the database underlying Your Archives.

Your Archives, The National Archives' wiki for staff and users to share their knowledge of archival sources, was launched in 2007, the same year that the word 'wiki' was incorporated into the *Oxford English Dictionary* (itself an organisation with long traditions of user involvement and collaborative editing ('March 2007 Update : Oxford English Dictionary' 2007; Winchester 2003)). Your Archives was described internally as 'necessarily experimental' (TNA5). The novelty of this wiki caught the attention of the archives and information domains' professional press and blogosphere, and won plaudits from *The Guardian* and a nomination for the 2007 national e-Government awards. Visits to the site and user registrations accumulated steadily, with a final tally in early 2012 of just over 31,000 registered users and contributions of over 190,000 pages of content.¹ However, there were lingering doubts that Your Archives was not being used to its full potential. An internal review of Your Archives, dated 6 July 2010, warned that 'supporting a site with [a] small number of regular contributors is unsustainable in the long term', leading to the eventual decision, announced publicly in January 2012, to decommission Your Archives (P43).

With support from The National Archives' IT department, it was possible to extract raw data from Your Archives' MySQL database across the period of its active life (from 2007 to February 2012). Extracting the data was an iterative and experimental process: submitting SQL queries to the database, processing this result set, and then formulating revised queries to reduce inconsistencies in the retrieved results. For example, data may be counted more

¹ Figures retrieved from Your Archives statistics page, 4 February 2012. For the final snapshot of this page taken for the U.K. Government Web Archive on 21 February 2013 see ('Your Archives statistics page' 2013).

than once in different parts of the database: edits, for instance, are recorded both in the `revision` and `recentchanges` tables of the database ('Help: Advanced editing — Records of edits in the database' n.d.). These database tables easily can — and evidently had, in the case of Your Archives — fall out of sync as a result of ordinary system maintenance and upgrades. For instance, old edits might be removed from one but not both tables, or data might be moved around as a result of upgrades to newer versions of the MediaWiki software.² And whilst data extraction was ongoing (December 2011 to March 2012), the wiki also remained live to new user registration and user edits throughout, adding an additional layer of complexity to the results. This issue also gave rise to inconsistencies between the web log statistics and the MySQL data, so neither series of data can be considered entirely reliable although broad trends over time are reflected in both sets. In consequence, the first challenge in using this quantitative data on Your Archives use and participation is in interpreting the result sets returned in order to account for the inconsistencies between data counts retrieved from different locations.

To give the necessary context to these usage statistics (YA-R is the detailed report of this analysis), contemporary internal documentation for Your Archives was used to assess the project's purpose, and to compare anticipated and actual scope and use. Publicity and feedback about the project had been collated and recorded by staff involved in running the wiki (TNA1 to TNA7; TNA9 to TNA15), and documentation prepared for the 2010 internal review of Your Archives was also analysed (P43). In addition, two user surveys had been carried out in 2008 (TNA8) and 2009, the first undertaken to inform a Masters dissertation on Your Archives (Marsh 2008), the second internally reported within The National Archives

² Your Archives used MediaWiki, the wiki software developed for and used by Wikipedia. Whenever a wiki user submits an edit to a wiki page, MediaWiki writes this change to a MySQL database but without deleting previous versions of the page. This is the case even where the edit itself is effectively a deletion of content from the publicly accessible front-end of the wiki. The wiki database therefore constitutes a rich but exceptionally complex record of user activity on Your Archives.

(TNA3). Due to variations in the administration of the two surveys, the results are not directly comparable, although there was some overlap in the questions asked. Together these provide some snapshot impressions of Your Archives use, combining quantitative data with qualitative (free-text) responses.

Stage 2: Comparative perspectives

Whilst The National Archives sees itself, and is seen, as a trendsetter in the application of online technologies in the archives sector, it was also considered important to seek out and analyse contrasting examples of user participation relating to the wider archives field internationally. This was to ensure that the study might claim some wider applicability outside of the national repository, and also in order to investigate the hypothesis that the strength or, conversely, weakness of organisational ties to user participation platforms may themselves be significant factors in the success or otherwise of online user participation initiatives.

The categories of planned developments at The National Archives (metadata annotation, transcription, content enrichment tools and user creativity) formed a framework through which comparative projects were identified. Such participatory archives projects are commonly funded as short-term, rapid deployment initiatives, so it was important to be flexible and responsive to innovative best practice and to any new projects which might emerge. The original plan set out to identify at least two comparative projects relating to each broad category, and to represent a mix of organisational and disciplinary perspectives on user participation in an archival context. The field from which these comparative projects are selected was not restricted to the United Kingdom, but did focus primarily upon English-language initiatives (although one example is Dutch) from Europe, North America and

Australasia. The intention was to enable cross-analysis of several user participation initiatives within each broad category, to allow for some degree of transferability of the findings across the wider archive sector context.

The initial point of entry — as for The National Archives developments — was via interviews with representatives of each project or organisation selected. The complete list of organisations and projects represented in interviews is as follows (the specific projects which were of interest to this research are indicated in italics). One interview was conducted for each project unless otherwise indicated below:

- Local, regional or specialist archives organisations: Amsterdam City Archives (*VeleHanden*) [The Netherlands]; Cheshire Archives and Local Studies (*All About Cheshire wiki*); Surrey History Centre (*Exploring Surrey's Past*) [2 interviews]; Public Record Office of Victoria (*PROV wiki* and the *PROV crowdsourcing transcription pilot*) [Australia — Skype conference call with 2 participants]; Lincolnshire Archives (*Lincs to the Past*); Westminster Archives Centre (*Westminster Memories*); Sandwell Community History and Archives Service (*Black Country History*); the British Postal Museum and Archive (*BPMA wiki*).
- National Archives and Records Administration (*Our Archives wiki* and *Citizen Archivist* initiatives) [United States — 3 interviews].
- Academic institutions and consortia: London School of Economics, Archives and Special Collections (*Flickr* projects); University College London (*Transcribe Bentham*); Institute of Historical Research; Zooniverse (*Old Weather*).
- Community-led initiatives: *Crew List Index Project* [3 interviewees in 2 interviews]; *The Whitby Group* [4 interviews, recruited via a contributor to *Your Archives*]; *FromThePage* transcription project [United States].

The category coverage from these interviews (remembering that some initiatives incorporate several different layers of tasks or participation opportunities) is divided approximately as follows:

- Metadata annotation: 3 (*Exploring Surrey's Past* tagging; *Lincs to the Past* tagging; *Citizen Archivist* tagging).
- Transcription: 7 (*Transcribe Bentham*; *VeleHanden* (*militieregisters* project); *FromThePage*; *Crew List Index Project*; *Old Weather*; *Citizen Archivist* transcriptions; *PROV Transcription pilot*).
- Content enrichment: 8 (*BPMA wiki*; *All About Cheshire wiki*; *Our Archives wiki*; *PROV wiki*; *Exploring Surrey's Past* commenting and thematic pages; *Lincs to the Past* commenting; *Westminster Memories*; *LSE flickr* projects; *The Whitby Group*).
- User creativity: 2 (*Black Country History*; *Citizen Archivist*).

Opening contact with each of these projects was made via an unsolicited email or blog post comment. The majority of these interviewees gave a professional perspective on user participation within each context, often also representing a specific organisation. This professional voice was not necessarily archival however: historians were represented through the interview with a member of staff from the Institute of Historical Research, and initial contacts with *Exploring Surrey's Past*, the National Archives and Records Administration [NARA] in the United States, and *Old Weather* were via an IT professional, marketing executive, and research scientist, respectively. As regards the community-led initiatives, four contributors to the Whitby Group local history forum were identified via one of my National Archives user-interviewees who had attempted, unsuccessfully, to encourage colleagues from this forum to contribute to *Your Archives*. He posted a call for participants on the forum on my behalf, which yielded four responses. A serendipitous glance at a stranger's Twitter profile led me to one of the contributors to the *Crew List Index Project*, who subsequently put

me in touch with the husband-and-wife team responsible for its success. Ben Brumfield, the software developer who designed the FromThePage transcription application, was contacted through his frequently updated blog. I also interviewed two contributors to NARA's Citizen Archivist initiatives, after speaking to a member of NARA staff.

The other two exceptions, where the user and participant perspectives were explored in depth, were VeleHanden (see the following section) and Old Weather (see Stage 3: Old Weather).

The VeleHanden test panel

My initial contact with the Dutch transcription crowdsourcing platform VeleHanden ('many hands' [make light work] in Dutch), at this stage still under development, came via a comment on my own blog from the archivist and project manager, Ellen Fleurbaay in June 2010 (Eveleigh 2010). VeleHanden is an initiative of Amsterdam City Archives, and was designed as an innovative public-private partnership between the archives and Pictura, a commercial digitisation company in The Netherlands. Any archive service in The Netherlands can make scanned documents available on VeleHanden and ask for volunteers to help with indexing these documents, or to transcribe them, or tag photographs, or match up data to scans — or indeed any kind of task that the archive service thinks people might be interested in doing online. Pictura meanwhile brings to the project expertise in software development and the hosting of large-scale image banks, as well as services for mass digitisation. An archive service wanting to use VeleHanden pays a service fee to Pictura related to the size, complexity and duration of the envisaged project, and any new functionality required, but the archive retains control over both the digital images and any metadata created by the volunteers during the project. The partnership therefore combines a commercial imperative

for Pictura to support, develop and sustain VeleHanden with the archival institutions' mission to promote online access and public engagement with archives (Fleurbaay & Eveleigh 2012).

An interview with Ellen Fleurbaay followed in early 2011 (P9), during which it transpired that VeleHanden was to attempt a very open approach to project development, recruiting a user test panel of 150 participants who would be given early access to the pilot *militieregisters* (militia registers) project, and receive free scan credits to download digitised images from Amsterdam City Archives' image bank, in return for their beta-testing contribution. I was invited to a meeting in Amsterdam in June 2011 at which the test panel volunteers were introduced to the project and to each other. The test panel was canvassed regularly about their experiences and about new features as they appeared on the site, and both before and after the public launch of the platform on 3 November 2011, and the results of these surveys were shared with me.

A call for interview participants was placed on the VeleHanden website at the end of August 2011, and 8 interviews with test panel participants were carried out in September, plus a further interview in November (again with a test panel participant but after the public launch). Of the interviewees, 7 were resident in The Netherlands (3 in Amsterdam), 1 was from the United States, and 1 from Canada. 7 were female, 2 male, ranging in age from 35 to 75 (mean 52.25, median 48.5 — not including one participant who did not provide a date of birth on her VeleHanden profile but described herself as semi-retired). At the point of interview, each test panel participant interviewed had indexed between 42 and 1526 pages (mean 418.5, median 146). Some had also begun to experiment with a new 'control' feature (Figure 1.1), whereby they were enabled to check each others' work — pages checked ranged between 0 and 683 (mean 164.2, median 48). All interviews took place on Skype, and were

conducted in English and recorded for later transcription. For the interview guide see Appendix A: Interview Guides VeleHanden Test Panel Participants.

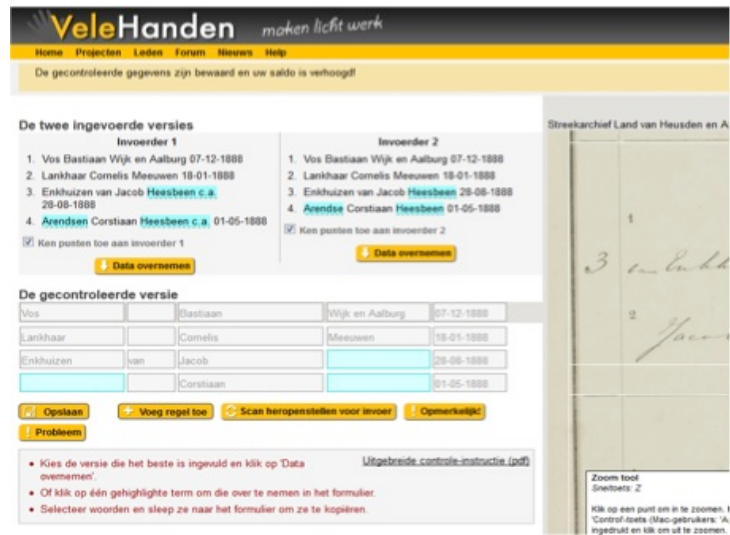


Figure 1.1 The VeleHanden control interface for the *militieregisters* project.

Reproduced with the permission of City of Amsterdam Archives

My involvement with the Amsterdam City Archives team behind VeleHanden extended beyond the immediate scope of my PhD research, to a joint paper on crowdsourcing error and quality control written for the 2012 International Council on Archives conference (Fleurbaay & Eveleigh 2012) and a collaboration with researchers from the University of Amsterdam which analysed two further crowdsourcing projects established and run by the City Archives, as a means towards defining the conditions and requirements for successful crowdsourcing in cultural heritage institutions (Noordegraaf et al. 2014). Although not formally part of my PhD data collection, in both instances discussions with these colleagues helped to shape my thinking on both the professional and public aspects of participatory archives, and gave me cause to consider the definition of ‘crowdsourcing’ in this context.

Stage 3: Old Weather

During the academic year 2012-13, I had the opportunity to explore the participants' experience of online transcription in one particular crowdsourcing project, Old Weather, quantitatively as well as qualitatively, thanks to the award of a UCL graduate research scholarship for cross-disciplinary training. This scholarship enabled me to spend an additional year of my PhD in the UCL Interaction Centre (UCLIC) acquiring new skills and knowledge in Human-Computer Interaction, in order to apply this back into my own research.

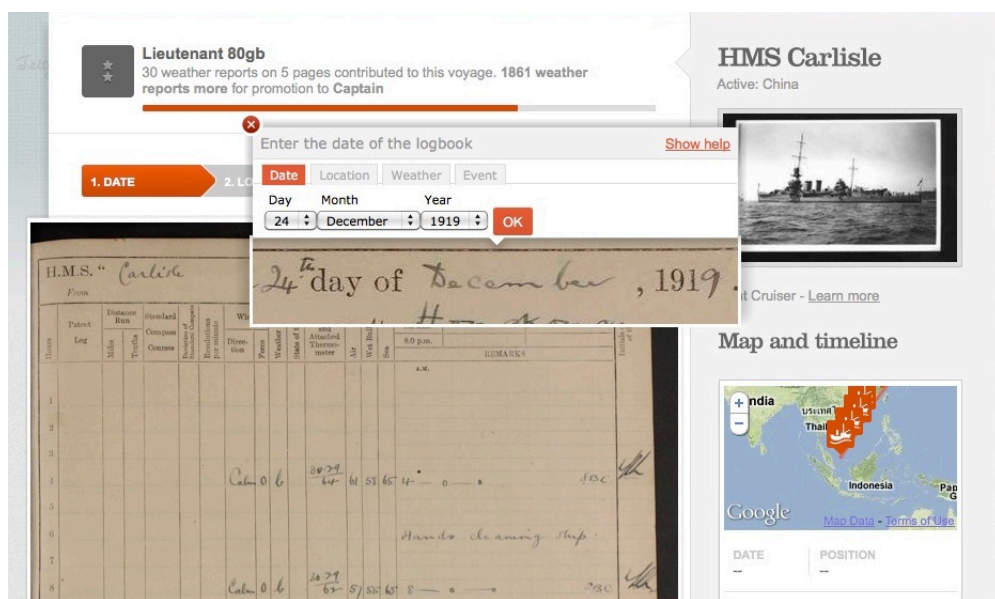


Figure 1.2 The Old Weather transcription interface.

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Old Weather launched in 2010 as part of the Zooniverse, a consortium of virtual citizen science and humanities projects led by researchers at the University of Oxford (J. Reed et al. 2013). Old Weather is sponsored by the Met Office, the primary task being to transcribe the weather observations recorded in historical naval ships' log books sourced from The National Archives (see Figure 1.2) and, subsequently, from the National Archives and Records Administration in the United States. Volunteers can also, optionally, transcribe additional

'event' information they deem important, such as battle action or personnel changes. Met Office scientists use the weather data for climate modelling. The edited logbooks are of interest to both naval and family historians.

Unusually then, Old Weather can appeal to participants with scientific or historical interests (or both), and produces outputs useful for research in both fields (Romeo & Blaser 2011). Similarly, my work on Old Weather was of interest not only to the Old Weather science team and to the cultural heritage organisations already involved in the project, The National Archives and the National Maritime Museum, but also to researchers at UCLIC working on a European Union funded project on citizen science, Citizen Cyberlab (Eveleigh et al. 2013, 2014; Kloetzer et al. 2013).

Data relating to participants' experiences of Old Weather was obtained from two sources — project records of contributions and an online survey. In July 2012 I sent an invitation to the Old Weather forum and mailing list to take part in an online survey about the experiences of participating in the project (28,347 registered users). The online survey was made available for 4 weeks. It comprised 16 questions covering participants' background, why they joined the project, their motivations for taking part, and what they were looking to get out of their participation. It took approximately 15 minutes to fill in. No monetary reward was offered for completing the survey. The survey received 545 responses, or 1.92% of registered users, although this underestimates the response rate, since we cannot tell exactly how many people received the invitation. 299 provided their Old Weather username and consented to us matching their survey responses with their project records. The biggest participant age brackets were: 60–79 years (32.1%), 46–59 (26.8%) and 26–35 (14.4%). 161 were male (53.8%), 131 female (43.8%) and 7 preferred not to say (2.3%). The majority were from the

United States (35%) and Great Britain (33%). Others were from Canada (5%), The Netherlands (5%), Australia (4%), Germany (3%), Italy (3%) and 24 other countries.

The Old Weather science team felt strongly that each person's input, however small, should be considered valuable, and they expressed a particular interest in exploring the experiences of those majority of participants who contribute in only small quantities or short bursts. If people were curious enough to register in the first place, why weren't they continuing their participation? Could the project be better designed to encourage occasional participants to take part more often? Could dropouts be tempted back into participation? The results of the quantitative analysis of the survey responses, which investigated how participants' expressed intrinsic and extrinsic motivations affected both the quantity of contributions, and the depth of participation, are reported fully in Eveleigh et al. (2014), and provide a backdrop which informs some of the discussion of contributors' experiences of online participation in Chapter 4. In particular, the wide range, and evident (but typical) positive skew in both the distribution of contributions and the number of days on which participants transcribed pages, provides counterweight evidence to the (albeit remote) possibility that, in the subsequent follow-up interviews, some interviewees may have exaggerated the extent of their participation or otherwise expressed what they believed the interviewer wished to hear.

As a follow-up to the survey, together with a colleague from UCLIC, I conducted a number of semi-structured interviews with a subset of survey participants (see Appendix A: Interview Guides Old Weather Interviews). Since this work was carried out in conjunction with Citizen Cyberlab, questions were wide-ranging and included participants' motivations, pattern of contribution, their attitudes towards 'gamification' (the use of game features in non-game situations (Deterding et al. 2011)) and the Old Weather community, and opportunities for learning and creativity. Potential interviewees were identified according to top and bottom

scores on the intrinsic and extrinsic motivation scale used in the survey, and for high and low contribution records. This cross-sectional recruitment strategy aimed to ensure that the interviews covered a range of contribution levels and a mix of declared motivations. Invitations to participate were sent to respondents' email addresses registered with the Zooniverse. Of the 43 respondents contacted, 16 were interviewed and 1 sent a detailed email response. We achieved an approximate balance between low (9) and high (7) contributors. An individual may score highly for both intrinsic and extrinsic motivation simultaneously, or high on one scale and low on the other, or express moderately equal motivations on both scales. Our final pool of interviewees comprised: high extrinsic (4), low extrinsic (4), high intrinsic (3), low intrinsic (1), mixed declared motivations (4). We also interviewed one member of the Old Weather science team who runs a spin-off logbook editing project for the <http://naval-history.net/> website. The interviews took place via Skype. Interviews were audio-recorded for later transcription and varied in length, from 30 minutes to 1 hour. All participants received a gift voucher for taking part.

Qualitative Data Analysis

All of these Old Weather interview transcripts were coded by myself in the software package Atlas.ti, using a thematic analysis method in order to group together extracts into themes of interest relevant to Citizen Cyberlab (Braun & Clarke 2006). Free text comments submitted by multiple respondents to the Old Weather survey were also analysed alongside the interview transcripts using the same technique (OW-S). Extracts from the Old Weather survey and interviews were subsequently included in two articles co-authored with Citizen Cyberlab researchers, relating to small-scale contributors (Eveleigh et al. 2014), and in relation to citizen science gamification (Eveleigh et al. 2013). However, at the same time I was coding these interviews and qualitative survey responses with a view to my PhD research questions,

such that the marked up transcripts could subsequently be incorporated into the wider qualitative data pool available for interpretation from an archival standpoint.

Like the Old Weather transcripts, all other qualitative data collected during my PhD was also analysed using a thematic coding method similar to but less rigid than grounded theory (Braun & Clarke 2006; Charmaz 2006). This involved working through the text line by line, dividing it into small components (usually part sentences, but sometimes whole sentences or even paragraphs), assigning a provisional coding label to each component, and then gradually refining the codes into themes. Data was analysed as soon as possible after collection, and individual codes were generally defined inductively from the data, hence this was a highly iterative process of analysis and assigning meaning. Initial coding was once again carried out in Atlas.ti, which also enabled the coding of images alongside text documents.

Each interview transcript, image, or other document imported into Atlas.ti was automatically allocated a P reference by the software, which functioned as a simple means of assigning an alias to each piece of evidence. The consent form signed by each interviewee had explained that it might not be possible to guarantee complete anonymity, but that although I might prefer to acknowledge interviewees by name, I would be happy to assign an alias or refer only to a person's professional role. Interviewees were asked to indicate whether or not their interview might be used with their name attached, or whether they would prefer an alias to be assigned; in one case (Ellen Fleurbaay, P9) the interviewee actually requested to be identified by name. Interviewees could also request a copy of the interview transcript for review. For practical reasons in this thesis, I cite all interviews by alias, but see Appendix B for a full concordance of interviews and other primary data, including an indication of interviewees' relevant organisational or project allegiances.

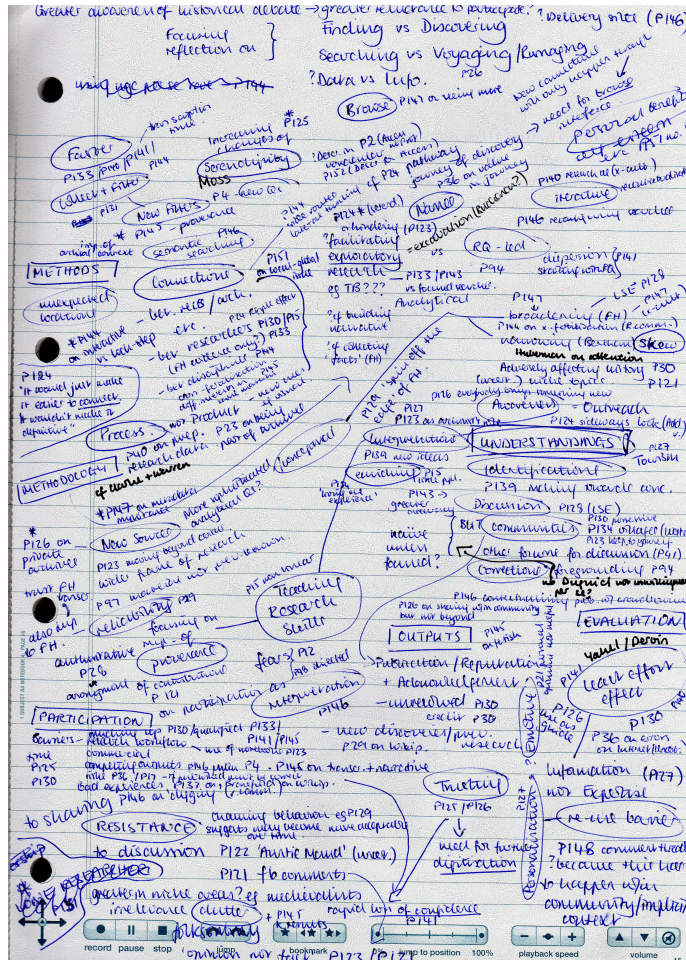


Figure 1.3 Mind mapping categories for Chapter 5 (Users).

As the number of source documents grew, the set of codes Atlas.ti became unwieldy, and so the whole qualitative dataset was imported into NVivo10 to facilitate the manipulation of the initial codes into more focused themes. A final phase of analysis to map out these themes and to select core categories for each discussion chapter followed after all data collection had ended. Although features for mind mapping are available within NVivo and online, I found it easier to undertake this mind mapping process using pen and paper (see Figure 1.3).

Research Scope

This research has not attempted a comprehensive study of the participatory landscape in archival contexts, but instead concentrates upon evaluating the use of collaborative technologies and techniques in the enhancement of archival description and metadata creation. There is of course the potential to exploit user knowledge at most, if not all, stages of the archival workflow, not just for description. Shilton and Srinivasan (2007) have proposed the ‘Participatory Archiving Model’ as a community-oriented re-articulation of traditional archival concepts of appraisal, provenance and ordering (arrangement and description), although they acknowledge that their methodology is ‘particularly labour-intensive’ and therefore ‘outside the scope of most archival institutions’. In contrast, this study will examine user participation in just one of these aspects — description — but by exploring the impact *in practice* within actual archival organisations, and drawing out from this some possible implications for archival theory (rather than Shilton and Srinivasan’s approach which defined participatory concepts in theory, before moving on to test their implementation in practice).

Isto Huvila has further argued the case for a still more radical ‘Participatory Archive’, which focuses on the collaborative management of an archive without privilege as to either structure or professional status, and with a particular emphasis upon enabling access and use:

Otherwise than from the technical point of view, information managers are equal to other users of the archive. Their role is not to direct the process of how an archive emerges, how something is described or appraised or what provenances relate to the materials (Huvila 2008, p. 26).

This study accepts that the phases of the archival processing framework do not have hard and fixed boundaries, as indeed the continuum model of recordkeeping makes clear (Hurley 1994). Not only might the record’s ‘internal’ stakeholders (i.e. the record creator(s), and later users

of the record within its immediate chain of custody) have much to contribute to the record's description, but enabling the participation of 'external' users can induce a feedback loop into collection building and appraisal:

Several of the commentators offered archival materials [to the archive] or digital copies of items that they wanted to see incorporated into the Polar Bear Expedition website ... Although we did not intend that our descriptive system would be transformed into a collection development system, this is a logical extension (Krause & Yakel 2007, p. 299).

Notwithstanding this fluidity of process, and the arguments over the purposes of description, this thesis concurs with Duff and Harris (2002, p. 272) that 'the power to describe is the power to make and remake records and to determine how they will be used and remade in the future.' For this reason, Yeo (2010a, p. 102) comments that 'descriptions are, or should be, "always beta", always responsive to new understandings and further development.' As such, archival description, and the opening of descriptive metadata creation to user participation, is, in this research, considered a critical subject for study in its own right.

In focusing upon online participatory initiatives in the mainstream archives sector, the research assumes a particular custodial model of the archival process, and primarily considers retrospective description, i.e. taking place after records have been transferred to a formal archival repository. This is not to say that user participation in the descriptive process, nor indeed the resulting descriptive product, are seen as constrained by the traditional boundaries of the archive. In fact, one idea that the research explored was that in order to harness the greatest potential from the 'wisdom of crowds' (Surowiecki 2005), archives should pro-actively deliver digitised archival content into user networks (such as Flickr) rather than expecting the users to come to the archives. However, the often innovative use of social computing technologies in the Community Archives movement are not evaluated in detail, since these grassroots initiatives are at present more typically focused upon the collation of thematic collections of archival content and dissemination of these materials to a self-defined

community of shared identity or interests (Flinn 2007), rather than concerned with the description or interpretation of that content *per se*. But it is acknowledged that some contributors may feel more comfortable, or are better motivated to participate, in community settings, and consequently such independent heritage groups form an important part of the wider context for the study and were included in the literature review. Some examples of 'bottom-up' developments designed to harvest community skills or knowledge, or to provide alternative, community-focused access routes to archival materials, were included within the scope of the interviews conducted with participants and users.

Chapter 2: Literature Review

This research focuses upon the participation of people who are not professional archivists (although in some instances this may include archivists acting outside of their professional role) in the creation or copying of descriptive, contextual, or affective metadata about archives, facilitated by the medium of online information communication technologies. This chapter aims to set out the thematic context for this research, by discussing the existing literature illustrating the questions that user participation might raise from the perspective of the three principal parties or audiences involved (Looseley & Roberto 2009):

- *Professional archivists* (whose interests and concerns in relation to user participation may or may not coincide with those of their employing organisation).
- *Users, contributors or participants* who donate their knowledge, skills and online time towards creating descriptive, contextual, or affective metadata about archives.
- *Users* (or researchers) who seek, read, consume, re-cycle, or re-use the metadata contributed by participants for research or for their own personal or creative purposes.

These groupings are, to a large extent, artificially constructed for my convenience as a researcher. Any individual might, of course, play multiple roles: for instance, a participant might also be a researcher, just as a professional archivist might contribute in a personal capacity.

These three categories are therefore not exclusive, and the boundaries between them are overlapping (Figure 2.1). In much of the archival literature, however, the conflation of contributors and information seeking users into a single 'user' segment runs the risk of assuming that only those with a conventional research use interest in archival material are

motivated to contribute to archival participatory projects (or indeed to seek and re-use the results). Since the avowed intent of many participatory initiatives is to attract new or different audiences to archives, an attempt has been made to tease out the separate perspectives, characteristics or concerns of these three groupings. In so doing, it has been possible to accommodate the potential for participation or use by the merely curious, or 'those interested in archives but not necessarily in archival research' (Blais & Enns 1990), whose expectations and needs may differ from those of traditional research users.



Figure 2.1 **Overlapping stakeholder categories.**

Additionally, the above diagram should not be viewed as implying any hierarchy between the parties. It could be rotated such that each group could appear in any of the three positions. Nor are the roles within each group fixed or necessarily aligned with customary practices. Thus archivists can be viewed as prospective beneficiaries as much as the likely architects or sentinels of online participatory practice (Duff et al. 2004). Equally, in certain circumstances, users themselves might be the initiators of participatory projects, or participants might take on custodianship responsibilities more traditionally associated with the archivist's role.

Another way of reading the themes introduced in this literature review is to consider them primarily as the issues raised at the intersection or overlap between each group. For example, how might users be induced to share their expertise as participants? Conversely, what

benefits are available to participants as a result of the contributions they make? Who should be responsible for ensuring the accuracy and reliability of contributions? What conditions of trust must underlie the model in order for the three groups to interact harmoniously together?

Professionals

Archivists have an important place in the modern information age if they realize that 'they are in the understanding business, not the information business.'

(Cox 1998, citing Terry Cook)

Democratising archival practice?

Democratisation or a new elitism (O'Neil 2010)? Brabham (2012, pp. 394–395) notes that polarised hyperbole, veering between an 'uncritical optimism and moral panic', is typical of the discourse that encompasses the reception of any new technology into society. Not only are both sentiments clearly in evidence in the archival literature on participation, but they even — in the practice literature in particular — sometimes appear in tandem, as archivists seek to align themselves with innovative practice and promote the opportunities for involvement and increased access to collections, whilst simultaneously worrying about the implications that open participation might hold for established professional practice (for an example, see Prichard 2014). Thus inclusive terminology such as 'empowerment', 'communities' and 'collaboration' is used throughout the literature, attempting to accentuate the purported emancipation of the user on the one hand (Brabham 2012; van Dijck 2009), whilst at the same time the language of amateurism and volunteering shrouds condescension in 'a veneer of praise' (Brabham 2012, p. 404) which helps to maintain the position of the authoritative professional.

But if archivists aspire (as the theoretical literature and recent policy directions appear to suggest they do) to a much wider civic transformation of their function — a democratisation of the archives and of the archivist's role (Flinn 2010) — they must expect, and be willing to accept, a subversion of the old hierarchical power relations between professional and user, expert and amateur. Hurley (2011, p. 8) identifies 'a fundamental shift in the balance of power between the user and the provider of information ... away from the provider and into the hands of the user' in the context of Web 2.0 technologies where 'we can no longer construct pathways along which users will approach archival resources we describe, or control the way they will be used.' Additionally, it could be suggested that archivists no longer control how these resources are described, or by whom. As archives, and archival theory, shift from a centralised, gateway model of information provision towards more dispersed frameworks for both custody and use (Bastian 2002; Lankes et al. 2007), it is not always made clear whether the objective of participatory practice is anticipated to be the democratisation of professional functions around descriptive input or access (output), or both. Professional archival practice has typically sought to control both, and this is mirrored too in traditions of volunteering in archives, yet more recent models of participation, such as Haythornthwaite's (2009a) 'heavyweight' communities (see further p. 77), are entrusted with responsibility for both knowledge process and product. In any case, do online user participation initiatives always widen access, or might they sometimes help to reinforce mainstream, establishment narrative? Rosenzweig (2006, pp. 126–127) observes that even Wikipedia, that most ambitious of initiatives, struggles with an English speaking, male bias to the balance of contributors even though otherwise 'participation in Wikipedia entries generally maps popular, rather than academic, interests in history.' Alternatively, since the effects of openly sharing their knowledge might be transformational for their community, might minority and radical groups perhaps be disproportionately likely to participate and the most resilient against controversy, with the 'danger[s] that others may feel unwelcome in the

virtual archive, that the finding process will be distorted ... and that the mediation of strong groups may bias users in their interpretation of records' (Lehane 2006, p. 10)?

Elaine Gurian (1991, p. 177) describes how museum professionals can become complicit with a segment of their audience in an unconscious marginalisation of a wider public, not wanting 'to have others join their company, as that would disrupt their own notion of their own superiority and their right to an exclusive domain'. Similar charges could be directed at archives professionals (and serious leisure users — see further p.75). Replicating traditional models of knowledge-sharing online might attract 'seasoned researchers' (P43), but are established researchers really the new users, delivering radically fresh perspectives, which the advocates of participatory practice would seek to engage? A determination to give a personal or narrative 'voice' to the under-represented of history does not fit easily within the structured framework of an ISAD(G)-compliant catalogue. The marginalised must necessarily disrupt the established patterns of society through their input, yet the mere provision of 'places from which to speak' (S. Hall 1992 quoted in Hopkins 2008) is not a sufficient condition for actual contribution, not least because, as Cook (2001, p. 31) points out, 'some do not wish to be "rescued" by mainstream archives and some will feel their naming by archivists as being "marginalized" only further marginalizes them.'

Noordegraaf (2011, p. 112) too questions the extent to which a democratisation of knowledge production is anyway attainable in practice, pointing out that 'this ... perspective seems to ignore the fact that an archive, besides being a collection of objects and information, also is an institution, with a long tradition of developing standards and procedures for the validation and descriptions of its holdings.' (This is perhaps what Kickert (1993, p. 273) describes as the 'ultimate quality of bureaucratic conservatism' or 'dynamic

conservatism. That is, a system which possesses the valued features of flexibility, adaptiveness, changeability, but uses them only to preserve its own existence.’)

Archival description

The discovery and use of archives depends to a large extent upon the provision of appropriate and effective access routes. Traditionally, these access systems have taken the form of textual descriptions, typically created by a single professional archivist, and ‘backed by the inherent authority of the institution in which a collection is housed’ (Light & Hyry 2002, p. 217). Commentators have noted that, while archivists agree that archival description is important, there is considerable disagreement over who or what description is *for* (broadly dividing into those who focus on the *record*, and those who focus on *users*), the best descriptive method to implement, and the point(s) in time at which description should take place (Duff & Harris 2002; Duranti 1993; Hurley 2005; Yeo 2010a). Thus description is seen to be a ‘fraught terrain’ (Duff & Harris 2002, p. 277), the tension inherent between a custodial instinct to control context and authenticity, and a desire to share access and promote usage. This fault line is deepened by the prospect of user participation, since involving others in description seems inevitably to weaken the archivist’s control over the process but at the same time attempts to magnify the accessibility of the descriptive product.

Amidst the ongoing debate surrounding user participation in archival description is something of a tacit assumption and acceptance that secondary textual representations will remain the primary access channel to archival material in the electronic age. This is despite a blurring of boundaries between previously separate descriptive products (calendars, catalogues, transcripts, indexes, etc.) in online contexts, improvements in optical character recognition and data mining technologies, and recent experiments with visualisation techniques for the presentation of the very large datasets which result (Whitelaw 2009). This assumption is

significant in the context of user participation, since adding considerable quantities of user-contributed metadata, comments, tags, and word-for-word transcripts of documents to archival descriptive systems which are already hard to navigate (Duff & Stoyanova 1998), can only amplify the existing difficulties of user interface design (Hedstrom 2002; MacNeil 2009). 'Where', asks MacNeil (2011, p. 189), 'is the balance to be struck between an indigestible feast and a famine of metadata, documentation and description?'

However, given that most archive organisations struggle with significant cataloguing backlogs, the idea that users might create, or supplement, descriptions has a clear pragmatic appeal (I. G. Anderson 2004, p. 47). Descriptive 'finding aids' are often incomplete, or realised at an insufficient level of detail to satisfy the information seeker's needs, or in some cases are simply non-existent. Even where finding aids are available, they are rarely updated to reflect new information, interests or perspectives. As such, catalogues may as easily prove a barrier as an enabler of access. This is a consequence both of practical collections management issues — cataloguing failing to keep up with the pace of new accessions (Greene & Meissner 2005) — but also of a compromise, a resolution that the products of description:

in order to be useful for every kind of research, had to serve none in particular. Thus, all documents had to be described in equal depth, independently of their 'importance' for one kind of research or another, and the descriptions had to emphasize context and function rather than content (Duranti 1993, p. 52).

User participation in description promises a solution to these dilemmas, enabling a richer, thicker description — even transcription — of content to take place at a detailed level of granularity across a broad range of subjects and collections. User participation also offers the opportunity to embrace a different style of description, capturing users' visceral or affective responses to items and collections (see Chapter 4: Participants, particularly pp. 174–175 and pp. 201–202 for further detail on affective experiences of archives), and perhaps also to help to bridge the semantic gap between professional description and the terms that users might

employ in searching for information from the archives (Trant 2009; Ridge 2011; Noordegraaf 2011).

Contextual description — the point in archival theory where archival description meets its twin, arrangement — is a more problematic locale for user involvement. Users, in their very diversity of interests in the records, put further strain on the archivist's sentimental attachment to *respect des fonds* and original order, concepts already under pressure from the exposure of archives to digital environments. For instance, Huvila's 'participatory archive assumes no consensus on order, no first order of order, just the necessity of keeping information findable' (Huvila 2008, p. 26). Ridolfo et al. (2010) offer a practical consideration of what they prefer to see as an ongoing opportunity to 'develop and tailor multiple interfaces to different stakeholder needs', no longer being constrained by having 'to think about the archive as one physical space, box, or catalogue' — although they also admit that balancing the expectations of multiple user communities is 'messy and time-consuming' for the professionals involved.

Indeed, there is widespread support amongst commentators on description for rethinking archival cataloguing as a dynamic, creative process which constructs a narrative, rather than seeing arrangement and description as a one-time collation of factual data into a static product (Duff & Harris 2002; Hurley 2005, 2011; Huvila 2008). The argument for a more flexible theory and practice of description pre-dates, and is independent of, theorising around user participation (Cook 1997), but 'inviting users into the virtual spaces of the archive in a more active way' is proposed as a means of facilitating this shift (MacNeil 2011, p. 187): user participation as a means of contextualising the archival context (I. G. Anderson 2004).

Authority and control? Or living with uncertainty?

The image of the archivist as the impartial gatekeeper of cultural memory figures strongly in the traditional canon of archival science. Regardless of repeated postmodernist critiques of the singular contextual perspective of archival finding aids (Light & Hyry 2002; Moss 2007), and a new recognition of the power of the archivist to shape the user's understanding (Harris 2009; Hedstrom 2002), an illusion of neutrality in respect of arrangement and description remains an influential notion in archival practice. A belief in the archivist as an impartial and systematic analyst of records' provenance is also closely connected to archival conceptions of authenticity, as Heather MacNeil (2009, p. 91) has demonstrated. Automation (as it was called) of description, and the development of archival descriptive standards during the last decades of the twentieth century have only contributed to the perception of description as a purely professional domain, complete with its own arcane jargon — ISAD(G), EAD, *fonds*, hierarchies and series, authority files — 'systemic imperatives to privilege, to exclude, to control' (Duff & Harris 2002, p. 277).

Opening up archival description to a multiplicity of user perspectives — 'to create holes that allow in the voices of our users' — is controversial, even threatening, in this professional context. Duff and Harris (2002, p. 279) are explicit: 'making space for the voice of the other means that we must relinquish some of our power to the other — power of voice, construction and definition'. But where does this leave the role of the professional? An early study of Your Archives acknowledged that some staff had been reluctant to contribute, fearing that 'if all their knowledge is readily available they may no longer be needed by The National Archives' (Marsh 2008, p. 34).

At the very least, user contribution to archival description (and potentially also to its management and moderation) must imply some modification to the professional function.

Caroline Haythornthwaite (2009a, p. 8) has one possible answer, suggesting that, in the light of user-contributed content, 'gatekeeping of information resources shifts from *contribution to retrieval*. When "anyone" can post to the web, the value is in being retrieved' (italics in original). For the archivist, might the shift be away from creating secondary descriptions towards a greater emphasis upon linking together the multiple representations and contexts of each information asset, establishing and maintaining their authenticity in the online digital world? Perhaps the selection of relevant contexts which was necessary in the analogue world (Yeo 2013) can be surpassed in the online world by facilitating user participation; by archivists focusing less on organising and describing archival content, and more on creating the 'structure to allow people to make their own structures' (Hinton 2009, p. 44). Sherratt (2009, p. 18), paraphrasing Duff and Harris (2002, pp. 283–284), notes that this is 'not simply a matter of improving the design of our systems, it is a matter of recasting the power relationships that inhabit them', by enabling users 'to create their own interfaces, to shape their own experiences, to build their own archives'. For Clarke and Warren (2009), as for Yakel (2011b, p. 258), this requires a shift in the professional mindset away from thinking of the products of description (and 'static repositories') as the locale for participation, but rather making participation itself the starting point: 'so that we might all play archon, produce our own collections that may be appraised and added to as we wish, classified according to our own taxonomic commands and rearranged in many ways' (Clarke & Warren 2009, p. 61). In the words of Kaplan (2002, p. 219), archivists in the postmodern world 'must learn to live with uncertainty'. MacNeil (2011, p. 187) suggests that user participation can be construed as a means to acknowledge the partiality of professional representations and 'to accommodate uncertainty, contingency and difference' in description. Living with uncertainty might also involve embracing 'data of varying levels of currency and quality', although perhaps only for limited durations (Lankes et al. 2007, p. 26). Tolerating the uncertainty implicit in user participation entails also accepting new, and shifting, patterns of influence between archivists

and their stakeholders; establishing a more transparent but accountable descriptive practice, including a recognition of the rights of others to control how they themselves are represented (Kaplan 2002; Sassoon 2007). This destabilising of authority need not imply that the expert voice of the archivist will become irrelevant, however, merely that any such claim to authority must be justified and earned as a relationship of mutual respect and trust (Yeo 2013).

Yet arguably it is also possible that, far from the cacophony of the crowd drowning out the authoritative, expert voice, some of the more radical crowdsourcing techniques may enable the professional to exert stronger control over contributions and the methods of participation:

These forums exist to draw in contributions, responses and comments, but are configured by site owners to limit the types of input and the visibility of individual contributors and contributions. At their leanest, they ask for a contributor's action, but not their opinions — e.g. as in clicking on surveys, identifying objects ... verifying spellings ... — and return only quantitative measures of participation or aggregate summaries of responses. In these highly lean forms, individuals interact with the computer, not with each other, and the site owners retain authority and control over the acceptance or rejection of submissions and what is done with them (Haythornthwaite 2009b, p. 6).

Here the implied shift of the professional role is towards the front edge of the descriptive process, if anything *extending* control over input standards down to a micro-level, although this tight professional control over process is incongruous against the deep involvement and self-aware, social interaction envisaged for the Archival Commons (S. R. Anderson & Allen 2009; M. J. Evans 2007).

In search of a new professional identity

According to MacNeil (2011, p. 175), the archivist's 'professional identity is constructed around the twin notions of archivists as trusted custodians and of archival institutions as trusted repositories'. User participation does not fit comfortably within this custodial

paradigm, with its emphasis on establishing control over not only the material traces of the past (the archives and the information contained within them) but also over the representation or representations of those traces through arrangement and description (and in the modern era, perhaps, through digitisation) — that is, Jenkinson's (1922) primary professional duties of the physical and moral defence of archives. Whilst post-custodial thinking has long since questioned the limits of the archivist's evidential and legal responsibilities, this debate has largely centred around the physical possession of the record, and it is only recently that the discussion has developed to incorporate access issues (Bastian 2002). Even Menne-Haritz's (2001) appeal for a reformulation of professional principles towards access is grounded upon ('enlarges') the traditional custodial paradigm, and thus despite being user-oriented, leaves much of Jenkinson's moral defence framework intact:

Access does not mean that the description and presentation of archives are user driven. They cannot try to replace the interpretation by the user because only the researchers really know what is needed for their questions. Access puts emphasis on an enabling approach. It opens information potentials in their context of creation, that guarantees them their plausibility (Menne-Haritz 2001, p. 63).

As Huvila (2008, p. 18) observes, 'Menne-Haritz sees access more as a concept and an attitude, rather than as an actual use of archives.' For Menne-Haritz, archives must be fixed, or 'finished before they can be interpreted' by users. User participation is seen as compromising objectivity in this interpretative activity. Archivists themselves are painted as somewhat paternalistic, neutral enablers who '[open] the records for insight by third parties, who gain all the possibilities of questioning and investigation and protect them [users] at the same time from becoming part of and being involved with the activities' (Menne-Haritz 2001, p. 61).

If user participation then involves a radical user (re)orientation which moves the guiding professional paradigm even beyond access, shifting the responsibilities for custody and curation beyond the traditional custodians (archivists) and re-contextualising not only the

archive records but the entire archival process (Huvila 2008), what might this mean for the future role of the archivist? Not surprisingly, user participation is often viewed as a threat to the function of the archives as a trusted place of custody:

These types of systems undermine the archives' control over their records and could perhaps threaten the traditional role of an archives as a trusted third party that protects the authenticity of records (Duff 2010, p. 131).

And to the archivist's role in both description:

By opening up descriptive tools for comment, criticism, and review, not only from other archivists but also from researchers, annotations could threaten archival professionalism (Light & Hyry 2002, p. 228).

And access:

Allowing visitors to implicitly or explicitly recommend collections and finding aids to each other challenges the hegemony of the reference archivist (Yakel 2006, p. 162).

In the archival literature, a significant part of the debate on user participation — particularly discussions around technology-mediated participation — focuses around these questions of professional identity, and grapples with the implications of a new paradigm of participation for archival theory and practice (Lehane 2006; Theimer 2011a, 2011b; Yakel 2011a).

Taking a cue from Yakel's (2000, p. 153) division of an archivist's user services role into four options 'for promoting knowledge creation under diverse circumstances' which 'are not necessarily distinct, nor exhaustive, but represent a tool kit of roles reference archivists may adopt with different types of users or in various situations', the following discussion considers the literature on the archivist's role in participatory practice under three headings: hubs, missionaries, and pluralisers:

Hubs

One strand of thought regards online user participation as simply the formalisation of a previously informal information exchange between archivists and visitors to the archives searchroom (Duff et al. 2004). There are several assumptions here: that participation is closely tied to use, indeed participation is merely a by-product that occurs at a point where users' and archivists' worlds overlap; that the users of records are relative experts and are willing to share their expertise (not only with archivists, but in the online context, also with the public); and that these users will contribute additional content in a style that archivists find useful — 'knowledge that strengthens description' (Duff et al. 2004, p. 70). This conception of participatory practice is a reflection too of a shift towards online service delivery, where users may be able to complete their work without actually visiting a physical archive. The archivist is nevertheless still recognised by some as being 'critically important' (Rutner & Sconfeld 2012, p. 10) in guiding research, and in this circumstance, 'the opportunity for this exchange, now provided most commonly by in-person meetings at the archival repository, should be catered for by services developed to support remote access & delivery' (Duff et al. 2004, p. 70). Even Huvila (2008, p. 27) is concerned that the participatory archive 'does not attempt to trivialise the role of archivists or the importance of archival work'. However, other authors recognise that users may 'want to be autonomous and discover information about primary sources at the network level, not the institutional level' and here the archivist's role may lie in 'making the collections more visible and staying out of the way' (Schaffner 2009, p. 5).

The consequence of this understanding of participatory practice is to see the archivist as a hub or focal point for gathering contributions and facilitating access. It is an egocentric, rather defensive, position (Morgan 2006, pp. 258–261) which also has much in common with the notion of the archivist as a co-ordinating 'boundary spanner' (Nardi & O'Day 2000; Yakel

2000), 'knowledge intermediary' or 'broker between users and sources' (Duff et al. 2004).

Added to this co-ordinating or linking role, however, is an updated responsibility for shepherding and checking (Causer et al. 2012; Fleurbaey & Eveleigh 2012) contributions from willing and knowledgeable participants (and deterring abuse or deliberate misuse (Looseley & Roberto 2009)), and then for ensuring the usability of the resulting 'crowdsourced descriptions' (I. G. Anderson 2004). For Huvila, the archive institution also has an important role in ensuring the sustainability and longevity of the site of participation:

Even though the majority of responsibilities fall on the participatory archive as a social system, the organisation which hosts the archive plays a central role in facilitating the preservation and functioning of the archive. The technical and organisational issues of hosting the archival system have to be managed on a permanent or, in practice, reasonably long-term basis. Similarly, the host must have sufficient privileges to keep the materials online permanently and to migrate or process them in any manner which is relevant to their continuing usability and preservation (Huvila 2008, p. 29).

In respect of the interaction between archivist and participant, however, the professional role is potentially rather passive: accumulating rather than championing user contributions, and, at the point of use, linking together and making accessible different types of evidence but not necessarily providing any assurances as to the quality or reliability of these various details.

The style of participation here is also reactive rather than proactive, still contingent upon the traditions of professional archival practice: 'Annotations to finding aids would allow multiple voices to express different perspectives and readings of a collection *after* processing is complete' (Light & Hyry 2002, p. 226 — my italics).

Missionaries

A second view of the archivist's role in participatory practice takes a more enterprising approach to the cultivation of relationships with would-be participants and with users. There is a common thread between this understanding and traditional outreach and advocacy activities whereby 'archivists create as much as respond to needs' and actively encourage

user involvement. The professional role is not just to collect contributions, but instead the archivist is 'imagined as a facilitator, removing barriers to participation and developing new avenues for engagement' (Sherratt 2009, p. 27). A degree of professional humility might also be required, in asking users to submit information about previously unidentified material (for examples, see Theimer 2010, p. 89, 99). Borrowing from the literature on knowledge management, we might envisage the archivist here in more of a directing role than under the 'hubs' metaphor, with a remit for providing the frameworks (practical and conceptual) through which users are encouraged to participate and are supported to create new knowledge (after Nonaka & Takeuchi 1995, p. 15). For instance, this might involve establishing certain permitted standards for participation (Grannum 2011), or the opposite, intentionally lowering cognitive or administrative barriers in order to induce more participation (Ridge 2011). Lehane (2006, p. 5, 13) also suggests that, in the context of use, 'user contribution [might] free archivists to take on a new role as contextualisers and educators, who assist users in viewing records and descriptions critically' and provide guidance 'in ways of evaluating the reliability of online material'. Akin to the 'gardener' role of the reference archivist then (Yakel 2000), the professional mission in this conception of participatory practice is to assist users 'in learning how to accomplish tasks themselves', whether those tasks be research or leisure use related, or 'to empower users to share their ... story' (Alain & Foggett 2007). But for all the language of empowerment, much of this activity can be parsed as a process of the attempted conversion of users into an archival perspective, encouraging 'authoritative annotation' (Meissner & Greene 2010, p. 197) or participation in the service of the archivist's objectives. Evans (2007, p. 398), for example, states that 'the archivist's job is to make sure that [this] tagging supports archival access systems.'

Pluralisers

A third reading plays up the archivist's contextualising role, but as a single participant amongst many equals in the shaping of collective memory (Ketelaar 2001; Meehan 2009). User contributions here are fostered as a means to 'supplement archivists as mediators in the source finding process' (Lehane 2006, p. 7), but more than this, to transcend the institutional archive by 'embrac[ing] multiple simultaneous views of provenance, description and interpretation' (B. Reed 2005, p. 182). For Huvila (2008, p. 27), 'a participatory archive is not a complementary layer, but a primary knowledge repository about records and their contexts.' Barbara Reed (2005, p. 189) observes that archivists themselves are often reluctant to take on an active (or perhaps activist), interpretative mantle, but contends that 'such thinking would not displace or supersede a perfectly legitimate organisational interpretation of role, but begin to enable alternative readings of processes to coexist' (p.183). The notion of archival description as a neutral, objective professional function, devastated anyway at the hands of postmodernist critics (Duff & Harris 2002), is superseded too in the literature on online practice, where it is argued that new audiences create new demands for interpretation and narrative around records beyond mere description (Hill 2004, p. 142). The collaborative, or at least collective, dimension to user participation extends this argument by 'alert[ing] all recordkeepers to the inherently contested and political nature of description processes [which reflect] the time and place of description, a realisation which is not restricted to archivists alone' (B. Reed 2005, p. 184). The role of the archivist in this perspective upon participatory practice must be negotiated with users, where responsibilities are shared, and the relationship(s) are dynamic across time.

Participants

In the post-modern sense, the notion of participation is built into any human interaction with information, which makes it and its implications also essential in the archival and records management contexts.
(Huvila 2008, p. 19)

Much of the early discussion of participatory practice in the archival literature rather expected contribution inevitably to follow once provision for participation had been made available. For Huvila, for instance, 'the radical user orientation assumes that the moment when an archive is built is the starting point for participation' (Huvila 2008, p. 30).

Rosenzweig (2006, p. 137) promotes participation by academic historians almost as a moral duty: 'If historians believe that what is available on the Web is low quality, then we have a responsibility to make better information sources available online.' Huvila's (2008, p. 28) attitude is similar: 'All individual members of this participatory community have a responsibility to provide enough contextual information on records and their descriptions so that the content is independently understandable to their peers and not only for themselves.' In both of these cases, the participants are anticipated to be subject matter experts in the field in which they will contribute, and as such are likely already to be users of archives. Their motivation is also assumed to be primarily altruistic in that their participation is expected to benefit others as well as (or rather than) themselves. For all the postmodernist reasoning employed in justification of participatory archives as a radical new departure in archival practice, it seems the concept relies heavily upon established users of archives.

Amateur archival communities

Certainly, user 'communities of practice' (Wenger 1998) have a long heritage in archives through volunteering initiatives (for example, Bateson & Leonard 1999) and the pursuit of

'serious leisure' (Stebbins 2007). In 1947, Hilary Jenkinson, the iconic Deputy Keeper of the Public Records often credited with the establishment of the modern British archival profession, inaugurated the new course in Archive Administration at University College London:

I hope there always will be, *room for the Amateur*, and in large numbers ... that our School will always find a place for the part-time student — the Local Official or other enthusiast whose Archives do not need and cannot claim the whole of his time; but *who can find enough to undertake their listing* or repair or photographing and wishes to acquire, within those limits, something of a professional technique (Jenkinson 1948, p. 29).

The juxtaposition of 'amateur' and 'professional' in this quote is noteworthy, for as Brabham (2012, p. 402) observes, 'there is power in professionalization, and so long as individuals are seen as outside of the boundaries of a profession, they will be seen as not having access to that power.' However, there is scant evidence in the archival literature for the term 'amateur' being applied in a derogatory or condescending manner, even though this may be how user participation is sometimes portrayed in the mainstream press (Brabham 2012, p. 404). Where the term 'amateur' is encountered at all in the cultural heritage professional literature, it generally has more positive connotations:³ Nogueira (2010) speaks of 'quite unexpected but well-informed sources' providing a contrasting, not competing, perspective to the professional. Or, as in the Jenkinson extract above, where the amateur's capacity is limited by time only, not skill. Owens (2013, p. 122) argues that professionals should seek to embrace the involvement of these 'lovers of' cultural heritage as peer participants in a new ethical form of crowdsourcing without the crowds, whilst Finnegan (2005, p. 9) further suggests that amateur participants may even have the advantage over professionals in exploring innovative technologies or new areas of study, having the freedom to 'take risks and venture beyond disciplinary regimes and regurgitations'.

³ Although the gulf between amateur and professional may perhaps be wider amongst historians. For an academic historian's argument in favour of discriminating between onsite users of archives on the basis of professionalism contrasted to 'recreational' interests, see Mortimer (2000).

Serious leisure

Serious leisure is a theoretical framework coined by sociologist Robert Stebbins (2007, p. xii) to characterise the 'systematic pursuit of an amateur, hobbyist, or volunteer core activity sufficiently substantial, interesting, and fulfilling in nature for the participant to find a career there acquiring and expressing a combination of its special skills, knowledge, and experience.' He contrasts this serious leisure with short-lived, casual leisure (such as watching television) and project-based leisure (such as planning a holiday). Stebbins emphasises that individuals' motivations to participate in serious leisure activities, and the rewards they receive for taking part, have both group and personal dimensions.

Whilst the avowed organisational objectives for many participatory initiatives in the archives sector run along the lines of, 'opening up' the archives, or, to 'increase knowledge and information sharing' (P43), many implementations appear primarily to have replicated these familiar, expert communities of practice in a technologically enhanced setting. The National Archives' wiki Your Archives, for example, sought to 'harness the expertise of those using our records' ('The National Archives Priority Action Plan' 2006 quoted in Marsh 2008). But might one of the consequences of replicating traditional models of serious leisure and knowledge-sharing online be implicitly to exclude the more radical participation of those who cannot fit in with established, professional norms or existing social communities surrounding archives, or, alternatively, who lack the confidence to challenge traditional centres of authority?

Volunteering

Studies of volunteering provide a useful methodological precedent for research into participants' experiences and motivations, and once again support the notion that both personal and social purposes are pertinent to the decision to volunteer. Several studies of

online participation outside of the archives context apply Clary et al.'s (1998) volunteer functions inventory (VFI), whose six elements — value, understanding, enhancement, career, social, protective — could also be traced in many archives volunteer projects (for example, Ray 2009). Smith (2002) observes the significance of loneliness in onsite volunteers' motivations — where participation is triggered by retirement, redundancy or bereavement, and where volunteering acts as a diversion or compensation for the loss of social networks — something which has also been noted in online participation contexts (Dunn & Hedges 2012, p. 15). Kuznetsov's (2006) and Nov's (2007) studies into the motivations of Wikipedians also support the translation of these socially-embedded frameworks of volunteer participation into the purely online world. Clary et al. (1998, p. 1517) define 'volunteerism' as 'planned helping', 'voluntary, sustained and ongoing', which seems a reasonable representation of user participation in the context of an active 'Friends of the Archives' group and equally of the committed 'super-users' in an online participatory context (Causer & Wallace 2012). But it is less satisfactory as a description of the anticipated pattern of usage for the stripped-down, mobile interfaces (such as the Flickr Commons iPhone 'app') which aim to target 'people out there killing time at the bus stop' (Webb 2011), and which are an emerging trend in the wider cultural heritage domain (Pert & James 2011).

Klandermans (1997) offers a three motive classification for voluntary participation in social movements such as ethnic pressure groups, trade unions and civil rights movements: collective motives (goals of the project; roughly equivalent to subject interest in an archival context), social motives, and reward motive at the level of the individual participant.

Simon et al. (1998) extend this classification to incorporate an additional motive of 'collective identification', where individuals identify closely with a particular group and behave according to established group standards. Thus family historians, for example, might be motivated to contribute to archival endeavours by guiding beliefs about sharing data, or

perhaps by a determination to resist the growing commercialisation of genealogical source material. They also speculate that the collective identity of the group may be more significant for members of 'fundamentalist movements than in the context of movements with more circumscribed agendas' (B. Simon et al. 1998, p. 657), perhaps a clue to the question of whether some campaigning communities of interest might be more willing to participate in archives' online fora than others.

Crowds and communities

The persistent claim in the archival literature that online user participation is necessarily associated with 'a comprehensive shift in archival thinking and practice' (Theimer 2011b, p. 58), and a means to address troubling issues of marginalisation and representation, professional passivity and power, is undermined both by the strong traditions of amateur and volunteer participation in archival practice, and through observation of the hierarchical power relationships operating in some instances. The sociologist and social network analyst Caroline Haythornthwaite (2009a, 2009b) distinguishes between 'communities' and 'crowds' as opposite ends of a spectrum of online distributed knowledge organisation. 'Overall, the difference between a crowd and a community is not what the collective does, but in how — or indeed whether — its participants need to pay attention to each other in order for the enterprise to succeed' (Haythornthwaite 2009b, p. 8). Similarly, Brabham (2012) notes that participants' motivations in contributing their knowledge or skills in online contexts may vary between the earnest and the casual.

Communities

According to Haythornthwaite (2009a), communities entail a 'heavyweight' degree of commitment from participants since contributors share responsibility for the design and

operation of the process of knowledge production, as well as collaboratively crafting the knowledge product: these systems are knowledge creators. The social ties between contributors are vital to the success of the enterprise. This is particularly the case where the evaluation of participation extends beyond the quantity of contribution to a recognition of quality as assessed by the participant's peer community.

Most archival commentators have preferred a notion of community (translated online) over the crowd as the conceptual model for online user participation — supporting a greater degree of self-regulation and project ownership amongst participants, who, it is acknowledged, may well be experts in their own particular field (Flinn 2010; Palmer 2009). Archival organisations' early attempts to embrace collaborative technologies in practice also tended to fall to the heavyweight end of Haythornthwaite's scale, or at the least assumed a level of prior expertise more characteristic of community-oriented endeavours. Significant archival domain knowledge (and familiarity with the mark-up language) was required to contribute an article to Your Archives, for example. Commitment to this wiki project was further reinforced by a design decision to oblige contributors to register (unlike Wikipedia, which does allow casual browsers to edit and update entries anonymously). Even adding a substantive comment to an archive photograph on Flickr can be said to involve the expression of a point of view, where attribution is important, and participation requires some awareness of, and adherence to, group norms.⁴

⁴ For an example of emergent norms, see the controversy over The National Archives' use of archaic spelling in photograph descriptions on The Commons on Flickr:
<http://www.flickr.com/photos/nationalarchives/4457274453/>,
<http://www.flickr.com/photos/nationalarchives/4457269241/> and
<http://www.flickr.com/photos/nationalarchives/4457274461/> (accessed 4 October 2014).

Crowds

At the opposite, casual end of the participation spectrum, knowledge crowds are characterised by low barriers to entry (typically the predefined tasks are small and require limited expertise) and comparatively little commitment is expected from contributors, either to the output, or to each other: these systems are knowledge aggregators. Crowd participation models, then, are designed to appeal to the widest possible range of participants, which would include the elusive 'new' users (see further pp. 98–101). Individuals may still be motivated by interest in the nature of the undertaking (for instance, family history or local relevance), but participants are prepared to contribute in exchange for minimal recognition in the form of rating and ranking mechanisms. The decision to participate may also be motivated by ideals of sharing, or of contributing to a free or open access resource, but contributors are not obliged to make a long-term commitment or take part in community discussions.

Haythornthwaite emphasises that these models of participatory peer production can overlap, and that some enterprises, including Wikipedia, demonstrate both light and heavyweight characteristics. A project such as Old Weather, for instance, has combined lightweight 'game-like mechanics' (Romeo & Blaser 2011) to inspire participants to set personal transcription milestones, with user forums and an accompanying ships' histories editing project to support the small percentage of visitors who take a deeper interest in researching the events and stories revealed in the transcribed data.

When this PhD research began in 2010, most major examples of lightweight initiatives involving archives actually originated from outside of archives organisations: for instance, FamilySearch Indexing (<https://familysearch.org/indexing/>) and Ancestry's World Archives Project (<http://community.ancestry.co.uk/awap/>) are successful transcription projects for

genealogical data associated with commercial digitisation enterprises;⁵ the Zooniverse project Old Weather was just getting underway, with partners from meteorology, citizen science and naval history (<http://www.oldweather.org/>); HistoryPin was a newly emerging partnership between the social campaign We Are What We Do⁶ and Google (<http://www.historypin.com/>). Five years on, not only are there more examples of archives-inspired, crowd-focused projects in evidence (such as the Dutch Velehanden platform), but also a growing interest in cultural heritage contexts more generally in gamification as a means to motivate or sustain participation (Eveleigh et al. 2013; Flanagan & Carini 2012; Ridge 2011). Indeed, this style of user participation may be particularly appropriate where an initiative is planned as a short-term, project-based development, since fostering a community takes time and effort, and is also difficult to bring to an end without adversely affecting the intrinsic motivation of community participants. However, the extrinsic motivational tools involved in spurring on the crowd seem a world away from the social dynamics of the offline archives volunteer.

Crowdsourcing controversy

And so it is that a growing number of essays by archivists extol the transformative potential of the social web for opening up both archival content and the archive profession ‘for the people’ (M. J. Evans 2007), but still struggle to disentangle the inherent contradictions between web-scale and community focus. Huvila (2008, p. 27), for example, explicitly conceives of his concept of a radical participatory archive as something which goes *beyond* crowdsourcing: ‘Even though a participatory archive is about crowdsourcing, it focuses on deeper involvement and more complex semantics rather than on larger crowds and simple

⁵ Although, as Haythornthwaite (2009b, p. 7, footnote 1) notes of commercial crowdsourcing whereby ownership of ideas (or of intellectual property rights in the case of indexing of archive material) is retained by the company, ‘it would be unfortunate if these kinds of “old models now posted to the web” were held up as great examples of web 2.0 practice. They are not. They have missed the opportunity to engage collaboratively with their participants and readers. They have missed the boat on creative commons licensing.’

⁶ We Are What We Do was rebranded as Shift in 2014 - <http://www.shiftdesign.org.uk/>.

annotations.’ Yet elsewhere, crowdsourcing within the archives domain is characterised as merely a technologically-enhanced version of volunteering or ‘microvolunteering’ (Ferriero 2011), a shallower engagement comprehended as ‘letting some others to [sic] play with (some of) *my toys in my sandbox*’ (Huvila 2010 — italics in original).

Rockwell (2012, p. 139) observes that ‘crowdsourcing is not the opposite of solo work; it is an extension where some have more influence than others.’ Of course, those carrying or asserting influence in this ‘new knowledge society’ may not necessarily be the established professional classes, such as archivists or academic historians. Barnett (2005, p. 273), for example, is even concerned that in a world in which ‘what counts as *bona fide* knowledge is itself no longer clear cut’, malevolent intent may masquerade as participation which ‘turn[s] out to be tainted by power and the influence of the market’. Others are merely anxious to defend the boundaries of professional scholarship, and to recognise that there is often a qualitative difference between the activities performed by lay participants, and those for which domain experts have spent many years in training. Rosenzweig (2006, p. 142) speculates on perceived differences between the scholarly activity of history and the collective nature of antiquarianism: ‘From the perspective of professional historians’, he states, ‘the problem of Wikipedian history is not that it disregards the facts but that it elevates them above everything else and spends too much time and energy (in the manner of many collectors) on organizing those facts into categories and lists.’ But Dunn & Hedges (2013, p. 155) see this differential in task magnitude as a feature of crowdsourcing, indeed as a prerequisite to project success; that the task presented to the public should be ‘one that could [not] be performed by computer software, although for the most part could be carried out by a person without specialist expertise’. However, in a provocative blog post, the crowdsourcing advocate and software developer Ben Brumfield (2013) turns this argument on its head, arguing that a particularly pernicious barrier to participation may occur amongst

expert communities, ‘a sort of Gresham’s Law of crowdsourcing, in which inviting the public to participate in an activity lowers that activity’s status, driving out professionals concerned with their reputation’.⁷

Community development, sustainability and resilience

The archetypal community behind the usual conception of participation in the archival literature is that of genealogy, where expert participants are not only willing to share their knowledge (Duff & Johnson 2003; Yakel & Torres 2007) but may even feel under some reciprocal obligation to do so (Lambert 1996; Yakel 2004). The outcome of this investment in participation is an ‘extensive social network of fellow researchers [which] facilitates the work of genealogists’ (Duff & Johnson 2003, p. 90), both reactively (in response to other genealogists’ questions), and also proactively, by way of specialised information retrieval systems designed by genealogists for other genealogists (Duff & Johnson 2003). Much like Bryant et al.’s (2005, p. 1) reading of membership in the Wikipedia community, it is possible to account for participation in genealogy as an ‘adaptable process that evolves over time’ — moving from incidental participation helping others in locating or interpreting records in the course of research towards a generalised concern with supporting ‘genealogists as a community of records’ (Yakel & Torres 2007). A survey respondent quoted by Lambert (1995, p. 15) describes genealogical research as a ‘great “leveller” — bringing people of all backgrounds together’, honing individuals’ identity and self-esteem.

This transition from novice to fully committed member of a community of practice is an example of legitimate peripheral participation (Lave & Wenger 1991), which is facilitated in the online environment by the opportunity for newcomers to read information submitted by

⁷ Gresham’s Law: the economic principle that ‘bad money drives out good’, i.e. that a debased coinage will soon come to replace more intrinsically valuable coins which will be hoarded and hence disappear from circulation.

others without being required to contribute themselves. This activity is sometimes referred to, disparagingly, as lurking. But enabling participants to build up their confidence and commitment gradually may also be crucial to developing resilient and sustainable communities of participants, particularly since the costs of joining and leaving online projects are so low compared to the membership of physical communities.

The quiet disappearance from the Internet of several early, wiki-based experiments in technology-mediated participatory practice — among them Your Archives, but also Shilton and Srinivasan's South Asian Web (Shilton & Srinivasan 2007; Srinivasan & Shilton 2006), the wiki associated with The Old Bailey Proceedings Online digital archive (Howard et al. 2010), and the BPMA wiki discussed by Looseley & Roberto (2009) — draws attention to these issues of the resilience of online participation and project sustainability outside of previously established communities (such as genealogy). Other well-known examples, such as the University of Michigan's pioneering Polar Bear Expedition prototype (Krause & Yakel 2007; Yakel et al. 2007) remain available but as read-only resources, or, like the Saari Manor Digital Archive (Huvila 2008) or the Plateau People's Web Portal (Christen 2011) show little evidence of recent interaction, or else appear heavily curated by professional hands.

Butler (2001) found that sustainable online social structures need to balance the interaction between membership size and communication activity, both of which simultaneously promote and hinder the development of the community. In the cultural heritage context, Looseley & Roberto (2009) follow Bowen (2007) in arguing that a 'critical mass' of contributors is necessary for the success of a wiki. But neither paper offers any guidance for when or how this concentration might be reached or assessed, other than by oblique reference to Wikipedia, which Bowen et al. assert has now (in 2005) attained such a critical mass. Huvila (2008, p. 30) too, whose participatory digital archive case studies are built upon

standard wiki technology but on a much smaller scale than Wikipedia, claims that 'the functional sustainability of a repository is highly dependent on the activity of archive users and the emergence of a culture of collaboration, integration into daily practises, and a critical mass to sustain [the] necessary level of contributions, which obliges others to contribute.' Elsewhere, Huvila links the concept of a critical mass to the intended transparency of the participatory archive, with the 'diversity of motivations, viewpoints, arguments and counterarguments' (p. 25) increasing in line with ever greater numbers of participants. But Huvila's opinions are also somewhat inconsistent: in the same article he also 'suggest[s] that the archive does not need to be updated constantly if its materials are of sufficient significance to some of the users' (p. 30).

Empirical research into online participation in other domains has also largely proceeded under the assumption that 'sustained contribution by individual volunteers is critical for the viability of such communities' (Nov et al. 2011b, p. 250). Researchers are aware that contributors often slow down or drop out of projects after an initial flurry of activity, and are troubled by this 'alarmingly high attrition rate' (Nov et al. 2011a, p. 69), but choose nevertheless to concentrate on encouraging in-depth, committed involvement rather than facilitating occasional participation or a more gradual progression from initial engagement. Certainly many virtual crowdsourcing projects remain heavily dependent upon core groups of participants with a pre-existing intrinsic enthusiasm for a particular topic, who are willing to devote considerable personal effort towards achieving project goals (Crowston & Prestopnik 2013; Massung et al. 2013). Owens (2013, p. 121) highlights the misleading nature of the term 'crowdsourcing' as applied to libraries, archives and museums, where many successful projects 'do not rely on large, anonymous masses of people' but instead 'invite participation from members of the public who identify with particular professional occupations and their characteristic ways of thinking'. Yet where participation appeals only to volunteers who are

prepared or able to commit substantial amounts of time and energy to the contribution task, this jeopardises not only project sustainability but also the scalability of online participation initiatives: as the range of initiatives on offer continues to grow, projects cannot afford to rely upon intrinsically-motivated core groups of participants willing to devote considerable personal effort in every niche investigation (Crowston & Prestopnik 2013).

For (the crowdsourcing sceptic) Mathieu O'Neil (2010), the rapid development of Wikipedia is connected to the churn of members coming and going, even as the overall size of the project increases, although he also argues that 'for wisdom to emerge, the crowd needs to be there in the first place.' Wiggins & Crowston (2010) similarly, suggest that in lightweight circumstances in citizen science, project sustainability results not so much from persistent and committed individual effort as from a ready supply of fresh participants. Rockwell (2012) advises that projects should plan to support imbalance and diversity, recognising the cumulative importance of small-scale contributions and the invisible value of non-active participation to advertising the project and recruiting new contributors (Eveleigh et al. 2014).

Motivation

Studying motivation in online participation contexts is complicated both because of the diversity of contributions (Crowston & Fagnot 2008) and because participants typically report that they are motivated by more than one factor simultaneously (Dunn & Hedges 2013, p. 152; Raddick et al. 2013; J. Reed et al. 2013). Other complicating factors include the variety of different frameworks used to study motivation (J. Reed et al. 2013), and the use of different terminology to describe similar underlying concepts (e.g. 'values' or 'altruism'). There are also inherent difficulties of defining and operationalising latent motivational concepts, and consequently the results of empirical studies of the effects of motivation on contribution are contrary and often ambiguous (Borst 2010).

Intrinsic and extrinsic motivation

Motivation as a theoretical construct has been studied extensively in two social science disciplines, economics and psychology. Theories were developed independently in each discipline, but the increasing compatibility and convergence of these two separate approaches can be noted in literature from the late 1990s onwards. Motivators can be broadly divided into *intrinsic* (those which stem from the task itself) and *extrinsic* (the outcomes of an activity) (Amabile et al. 1994). In the context of participatory archives, examples of intrinsic factors might include subject interest and curiosity, competence in the participation task, and an enjoyment derived from taking part. Intrinsic motivational factors are increasingly identified as being important in a variety of online settings (Benkler 2006). To the extent that many participatory platforms operated by formal archive organisations are alleged to be online replications of offline communities of practice, these examples appear to rely upon intrinsic, social systems of recognition and reputation to motivate contributions. The Living the Poor Life project at The National Archives is a prime example, where participants met in pre-existing, real-life social circles in order to complete work mounted online.

Perhaps, like museum professionals, archivists 'do not want to be in show business; we want to be in academia' (Gurian 1991, p. 182): an internalised preference for text-based learning and the concept of archives as a place of study restricts the imaginative development of tools to attract genuinely new users and contributors who do not fit the mould of traditional historical researchers. Extrinsic rewards are, however, attracting increasing research attention, particularly in the context of gamification and the search for motivational features which can be easily operationalised through competition and target-setting (Flanagan & Carini 2012; Ridge 2011), or by providing a forum to encourage discussion and interaction around project tasks. Even so, the focus remains more on sustaining rather than attracting participants (Iacovides et al. 2013). In a museums context, Ridge (2011) advocates short

rounds and frequent closure points to encourage 'players' to carry on to 'just one more' object identification task, although she also acknowledges the importance of low barrier entry points to getting participants involved in the first place.

The relevance of extrinsic reward mechanisms to online participation is predicated upon the most basic of all economic laws which predicts that supply (in this case, participant productivity) will increase when the rewards or incentives are also raised. Under this simplistic model, certain behaviours can be promoted, or conversely prevented, by the application of some external force, respectively positive or negative. These motivational forces are said to be cumulative (a large sum of money or a severe punishment will have a greater effect than a token amount or a light ticking-off), and can be translated into any convenient universal medium of exchange — usually money. Contributors to Ancestry's World Archives Project (<http://community.ancestry.co.uk/awap>), for example, are offered free access to images in the project's database and a discount on subscription renewal. Similarly, Amsterdam City Archives offers a quasi-monetary reward to contributors to their VeleHanden projects which can be used to download digitised documents at a discount.

Crowding theory

Psychological theories are more nuanced than economics with regard to the interplay of underlying extrinsic versus intrinsic sources of motivation. Extrinsic motivations are said to 'crowd out' intrinsic motivations if individuals perceive the external force to be controlling and diminishing to their self-esteem or freedom of action. This motivation 'crowding theory' is supported by extensive empirical evidence from both laboratory and field studies which have demonstrated that, in certain circumstances, offering external rewards can actually reduce the effort an individual is prepared to make to cooperate along the desired lines (Deci

& Ryan 1985). This does not mean that financial-type incentives have no effect. However, while the size of the rewards may induce more individuals to participate, this must be traded off against loss of effort caused by payment crowding out intrinsic motivation (Frey & Jegen 2001; Frey & Oberholzer-Gee 1997).

An important rider to motivation crowding theory is that, whilst tangible rewards have been shown to have a significant negative effect upon intrinsic motivation, this can be true only where the task itself is perceived to be interesting. For dull and boring tasks, a crowding out effect cannot occur since participants have no intrinsic motivation to begin with. The balance of extrinsic and intrinsic factors may also vary according to context, and the disposition of the individual concerned. Massung et al. (2013) additionally suggest that contextual facilitators or enablers of participation (such as lifestyle) need to be considered alongside motivating factors. To complicate still further, external motivations might sometimes 'crowd in', or boost, intrinsic motivation if individuals perceive the force as supportive. Unexpected and verbal rewards, for instance, have both been shown to have a positive effects upon motivation (Frey & Jegen 2001), giving a rationale for the introduction of award schemes such as the National Archive Volunteering Project of the Year (Ray 2009).

Social rewards: feedback, reputation and community benefit

These rewards for participation need not be tangible. Dunn & Hedges (2013, p. 153) note the importance of a 'feedback loop' as a motivating factor in online participation, as a means of improving contributors' quality of work (Causer et al. 2012), but also for building a sense of community ownership, or to provide personal benefits, such as learning (von Hippel & von Krogh 2003). Wasko & Faraj (2005) in the context of an online community of professional lawyers concluded that contributions were contingent upon both participants' common

interests (shared cognitive capital) and upon people perceiving that participation would enhance their own reputation, although they were surprised to observe that in such circumstances contributions could occur without any expectation of direct reciprocity. Similarly, Lambert (1995, p. 153), describes a reputational reward for participation in genealogical research; a social prestige and recognition within the family as an authority and keeper of records. These culturally contingent social capital aspects of motivation offer an avenue to analyse why some traditional groupings of archive users (academics, say) may be more reluctant to share their expertise online than others (such as local or family historians (Duff & Johnson 2003)).

Social and personal motivations to contribute also converge in the context of user innovation, as users begin to customise resources or develop new ones to suit their own requirements, or for the wider benefit of their community of practice. Raymond's first lesson of collaborative software development 'starts by scratching a developer's personal itch' (Raymond 1998). Contributing information on under-represented subjects and descriptions has been reported as a motivation for contributing to Your Archives (Marsh 2008). Another archival equivalent might be deliberately highlighting errors or omissions in the catalogue (as The National Archives' Africa Through a Lens project on Flickr essentially sought to do) in order to encourage users to help fill in the gaps. Duff and Johnson (2003, p. 92), similarly, highlight the significance of specialist finding aids designed by and for the use of other family historians as 'a parallel system to help them retrieve records because the archival information system fails them'.

The social dynamics of participation

The evolution of group norms and, conversely, the risk of deliberate vandalism or simply lack of support in online knowledge communities can also be rationalised by the application of

crowding theory to concepts of reciprocity and trust. For example, lower levels of perceived organisational control might be expected to crowd in intrinsic motivations to participate and play fair, whereas a contributory framework implying a fundamental distrust of participants and seeking to monitor and correct their contributions might undermine the support that users are prepared to give to the enterprise (derived from studies of civic design (Frey & Jegen 2001)). Benkler (2006) proposes a peer-produced model of relevance and accreditation judgements (citing Google's PageRank algorithm) for online communities, in place of traditional organisational authority and control systems. Thus an active and committed user community can help propel a dynamic and well-maintained site to the top of the search engine rankings, or establish a site as a trusted source, in a virtuous circle of increasing visitor traffic to the site (Terras 2010). An active contributor base is also acknowledged as the best line of defence against attack by vandals or breaches of terms and conditions in a wiki community (L. Parry 2006).

In a study of contributions to the film recommendation site, MovieLens, Cosley et al. (2005) found that oversight improved both the quality and quantity of participation whilst reducing anti-social behaviour, and moreover that peers were as effective in this moderation as experts. These findings are noteworthy given the significant organisational overhead of expert review (Causer et al. 2012; Causer & Wallace 2012) and the bottlenecks which may result before contributions can be released or feedback given to participants (Ridge 2011). They are also testimony to the kinds of social barriers which may act to preclude poor quality contributions, but might also prevent contribution altogether where the participant — although motivated to contribute — is intimidated by the perceived superior cognitive expertise of other contributors (Wasko & Faraj 2005), or by the perceived authority of an institution (Looseley & Roberto 2009).

Accepting participants as moderators is also a necessary step towards ceding control of archival spaces, giving participants the ‘freedom to “describe the world in which they see it”’ (Samouelian 2009, p. 48 citing Krystyna Matusiak), and developing the potential for digital technologies to ‘enable the coexistence of different perspectives in shared, networked spaces in which all parties are considered co-creators of records’ (McKemmish 2011, p. 133). In some instances, this respect for participants’ culture or point of view may perhaps, somewhat counter-intuitively, involve enabling contributions to be made in a closed space private to the community in question (Christen 2011; Ridolfo et al. 2010). Potential participants may fear not being able to control how their contributions are used, or their willingness to share may fluctuate anyway according to the type of information and who might have access to it (Olson et al. 2005).

Collaborative trust

Mutual trust is vital for launching and maintaining participatory initiatives, a ‘key element in fostering the voluntary online cooperation between strangers’ (Ridings et al. 2002, p. 271) and across several different dimensions: for the participant, trust in the organisation’s purposes in encouraging participation and trust in what will become of their contributions; for the archives, trust in the abilities, integrity and benevolence of the participants (often grouped together in the literature on trust as dimensions of trustworthiness, and seen as antecedents to general trust (Ridings et al. 2002)), and trust in the veracity and reliability of the contributed content. This section of the literature review relates to trust in participation, i.e. building conditions of trust which facilitate participation, including ties between participants, and between the participant and the institution, or other project co-ordinators. Causer et al. (2012) observe that such mutual respect and trust is vital if projects are to avoid exploiting participants who give freely of their skills or knowledge, and time. (Trust is

discussed again in the users section, relating to the trustworthiness of the contributions made, and the relationship between user and institution.)

Corritore et al. (2003, p. 738) describe trust as the 'lubricant for cooperative behaviour'. According to Wasko and Faraj (2005), trust develops when a history of favourable past interactions leads to expectations about positive future interactions. Development of this trust is widely viewed as an ongoing and iterative slow process: starting from minor transactions involving minimal risk (hence little trust is required) and built up gradually in repeated interactions between individuals over time (Ali & Birley 1998; Ridings et al. 2002). Here then is another justification for facilitating peripheral participation or lurking, especially since 'giving information generally involves exposing oneself to a greater degree than just inquiring' (Ridings et al. 2002, p. 279), and in the expectation that progress in establishing trusting relations will be particularly slow in online contexts where interactions are mostly based upon written communications (Ridings et al. 2002).

Techniques used in archives' collaborative projects to establish trust have mostly attempted to demonstrate the trustworthiness of the participant by exposing their credentials; for example, by providing access to user statistics or user profiles, or even shifting the burden of proof in establishing the authenticity of contributed content to the participant. The Polar Bear Digital Collections, for instance, offered to make corrections to organisational finding aids 'upon receipt of appropriate documentation'. 'Users', it is reported, 'respected the need for documentation to make an *authorized* change to the finding aid' (Krause & Yakel 2007, p. 298 — my italics). However, enabling registered users to establish their credentials through user profiles met with more of a mixed response. Similar features for users to present background information on their expertise were available on Your Archives, but again, few participants used them, except for the staff of The National Archives. User profiles also

proved unpopular on Transcribe Bentham, apparently due to an absence of social interaction on the site, as highlighted in a comment from one respondent who had 'added minimal information because I don't know enough about the community ... to want to make my information available to others' (Causer & Wallace 2012, p. 68).

Raul Espejo (1999) helpfully differentiates between what he calls 'contextual trust', which he sees as a means to reduce complexity in the environment, and 'responsible trust', which he defines as 'a means of creating beneficial uncertainty and unpredictability in our lives'.

Importantly, it is this responsible trust which, Espejo asserts, 'allows us to create true relations of collaboration':

Trust in this case is built as an outcome of recurrent processes of interaction in which we assess the competence and sincerity of the others. Trust emerges from stable relations and not from the predictability of behaviours. This kind of responsible trust is the one we need to achieve in order to build up common tasks with the autonomous participation of all contributors (Espejo 1999, p. 652).

This enables a distinction to be made between a contextual trust in the participants (or indeed in the archives organisation) based upon their credentials alone, and the responsible trust which is built up over time through participants' (professionals and users) reciprocity of information exchange. Reputation, which Ali and Birley (1998, p. 754) characterise as 'a symbolic representation of past exchange history', appears to be closely associated with this latter form of trust, and Lankes (2007, p. 30) speaks of community membership according to a 'sliding scale of trust'. Through discussion amongst participants in an online community, this responsible or social contract trust might also become a key element in fostering participant contributions as well as facilitating re-use. As participatory cultures mature in the archival sphere, this form of trust might function as a proxy or even a replacement for archival authority and control.

Users

Reaching out to (new) users?

According to Andrea Johnson, 'unlocking the potential of the archive is inextricably bound up in unleashing the potential of users' (Johnson 2008, p. 161). To this end, digitisation and online access generally have long been portrayed as a promising means of making 'archives available to great crowds of people on the Internet who want content, who are gratified by the common discovery tools available there for all kinds of content, not just archives, and who wouldn't dream of using a recordkeeping system to find it' (Hurley 2011, p. 6; Rosenbusch 2001). But the claim of reaching out to users, especially to 'new' or 'non-expert' users, is a particularly strong feature of the rhetoric which surrounds user participation and the implementation of Web 2.0 tools into practice in cultural heritage contexts (Nogueira 2010; Ridolfo et al. 2010; Theimer 2011b). Ian Anderson (2008) and Terry Baxter (2011) both contrast the enhanced potential of online 'Interactive User Communities' to promote information sharing and social navigation of archive resources, with a previous generation of largely static websites. Baxter asserts that existing archive web services are 'mostly preaching to the choir' in that 'the people using these services already understand and value archives and culture', whereas the key to audience development lies with user participation: 'If archivists want to expand and diversify their user bases, however, they need to start thinking of new ways to interact with people' (Baxter 2011, p. 293). Likewise Theimer (2011b) portrays Archives 2.0 as characterised by a shift towards user-centred (rather than record-centred) practice, taking archives outside of the institution into familiar user spaces (Sherratt 2009), such as Flickr, YouTube and Facebook.

In the archival literature, as in practice, the lines between participation and use are (unavoidably) blurred. The most extreme or radical statement of this 'user orientation' comes

from Isto Huvila's (2008, 2010) conception of the participatory archive, which dissolves completely any boundary between the two:

In a participatory archive, the usability does not denote use alone, but also denotes a deeper level of involvement in the sense of actual participation in the archive and in the archival process. Radical user orientation means that the archive is oriented and reoriented to its users all the time (Huvila 2008, p. 25).

Meanwhile, Max Evans' (2007) memorable slogan 'Archives of the People, by the People, for the People' encapsulates the confusion between participation and use. Are the People 'who contribute and add value' the same, or different, to those People 'who now can actually use them'? Elsewhere in his article, Evans identifies active contributors as those who stand to gain the most from an archival 'peer-production system': 'Each volunteer as information user enjoys the benefits, often more quickly' (p. 399). But notably, Evans does not describe these benefits as resulting directly from the user's involvement or participation (although the building of an informed participant community is acknowledged as a potentially valuable side-effect). Rather, the advantages derive to the user-as-information-seeker from the newly enhanced findability of archival materials: 'the results: archives whose holdings are much easier to discover, access, and use. And the bonus is a community of highly intelligent men and women who will come to understand and appreciate archives' (M. J. Evans 2007, p. 400; see also Mayer 2013). Duff (2010, pp. 131–132) appears to make a subtle distinction between users-who-participate and *other* users who seek information from archives, seeing the latter as the main beneficiaries: 'allowing users to comment on [archives'] holdings, add annotations, and even point out biases or errors in records could provide invaluable information to other users'. Similarly, Anderson & Allen's (2009, p. 395) seminal article on the Archival Commons envisages a mechanism 'for an archives "to listen to users" and leverage what they learn and experience *on behalf of future users*' (my italics).

Far from the radical reorientation proposed by Huvila, however, these user-seekers in the participatory archives seem not so much 'new' as digitally savvy versions of traditional archives researchers. For instance, Evans (2007, p. 399, footnote 32) explains how 'a scholar researching a collection of historical records could organize (using students or other scholars) a project to transcribe the records to make them easier to use.' Another claim often made (for the 'folksonomy' of tagging, for example) is that user-contributed terms and expressions will balance professional descriptive jargon with common language terms which users are more likely to use as search terms, thus promoting serendipitous discovery or encouraging user exploration into collections at greater depth (S. R. Anderson & Allen 2009; Chan 2007; Clayton et al. 2008). Anderson & Allen (in rather patronising tone) argue 'that a flat folksonomic implementation will be more useful and accessible [than official name authorities] to a larger group of moderately interested people and more likely to effectively capture the local nuance', since in any case, 'contributing authority records to official registries is likely to exceed the abilities or interests of most people making a contribution or clarification about a name or place' (S. R. Anderson & Allen 2009, p. 393, footnote 48).

Users in the archival literature

These somewhat narrow ideas of what might constitute use, and who might be the users, of participatory archives reflects a more general preoccupation in the literature towards purposive information seeking. Although research into access and users of archives has certainly been increasing (I. G. Anderson 2004; Huvila 2008; Yeo 2005), these studies have mostly focused on users' behaviour and expectations in *searching* for archival material, in contrast to how sources are understood or interpreted post-discovery (Duff et al. 2012; Huvila 2008). Unsurprisingly but unimaginatively, much of the interest has also been directed towards the search behaviours of historians, particularly academic historians (I. G. Anderson 2004; Chassanoff 2013; Duff et al. 2004; Duff & Johnson 2002; Rutner & Sconfeld 2012; Tibbo

2003). Even where leisure users of archives, such as genealogists, have been the subjects of research, those studied have tended to be relatively experienced in their field (Duff & Johnson 2003; Yakel & Torres 2007). In consequence, there is still something of:

an implicit assumption ... that the people who come to an archive know what they want, are knowledgeable enough to be able to express their needs in archival terms, and, even better, are able to help themselves as much as possible both in practical matters and in analysing and interpreting the records (Huvila 2008, p. 2).

Thus Yakel and Torres (2003) have presented a model, which they call Archival Intelligence, outlining the traits of an expert user of archives, but as Fear (2010, p. 27) points out, 'little exploration has been done of what searchers with less experience or expertise find appropriate and meaningful.' This is especially significant in the context of the 'new' users which participatory practice hopes to attract, with Duff (2010, p. 128), for example, warning that although 'virtual services attract a much more diverse group of users ... new users may not have an accurate mental model of archival descriptive systems.'

One of the few authors to have attempted to study novice or so-called 'non-users' is Andrea Johnson (2008). She found that non-users viewed tools which would enable them to contribute content and support 'their active construction of meaning' as important facilitators to access, and argued that this can be seen as indicative of a paradigm shift in user behaviour — parallel to Huvila's radical reorientation — from passive consumers to active participants. If this is the case, it suggests that there is a need to re-assess what constitutes 'use' in the context of online participatory archives, and to consider how the needs and expectations of users-as-participants might perhaps differ from those of the more traditional or more experienced archives researcher (Lack 2007).

In the dis-intermediated environment of the Internet, where those interacting with archives may do so 'completely unaware that they are users at all' (Hill 2004, p. 139), we might

anyway anticipate the experience of use to differ from in-person research encounters with an archivist (Cox 1998; Sexton, Turner, et al. 2004). The call for information technology to be harnessed not merely to give access, but also to create tools and devices for studying and interpreting archives (Cox 1998) pre-dates the rise of Web 2.0 technologies, but providing a framework for users 'to make meaningful use of descriptions of archival materials or to enhance their understanding of archival materials' (Krause & Yakel 2007, p. 288) is a specific objective of much participatory practice. Sexton, Turner, et al. (2004) point out that understanding users should be a basic prerequisite for developing all new technologies. Yet all too few empirical user studies relate to the use of archives in the digital sphere (Duff et al. 2008; Prom 2011), or indeed to any environment outside of the archival repository (Sundqvist 2009), or to descriptive representation systems other than those designed by professional archivists (Sexton, Yeo, et al. 2004). Consequently, although limited to the academic context in the United States, Chassanoff's (2013) updating for the digital age of the study methodology devised by Tibbo (2003) and I. G. Anderson (2004) for investigating how historians search for, access and use primary source materials, is a significant recent development which demonstrates that 'the growth in online research tools and increased access to digitized primary source materials has changed the ways in which scholars work in archives' (Chassanoff 2013, p. 471). As Chassanoff herself concludes, the focus of studies of online archives use now needs to move beyond information search and retrieval to investigate 'the impact digital technologies have had on historical methodologies and scholarly workflow', and *how* historians (and other users of archives) go about evaluating and interpreting source materials 'as new knowledge is acquired' (Chassanoff 2013, p. 472).

Meanwhile, evaluating the claim that participatory practice reaches out to 'new' users is especially challenging then, given the first-step failure to define *existing* users of archives, particularly users in the digital sphere. The common perception that the Web offers archives

and other cultural heritage organisations an opportunity 'to present more of their collections and context to a larger, more geographically-dispersed audience than ever before' (Chun et al. 2006) assumes a segmentation of users along demographic lines, and can be assessed relatively simply using a combination of ordinary web analytics and survey approaches. For example, in the U.K., the Department for Culture, Media and Sport (DCMS) periodically publishes statistics from the *Taking Part* household survey of participation in cultural activities and sport, enabling trend tracking according to geographic region, socio-economic group, age, sex, employment status, ethnicity, perceived disability, and so forth (<https://www.gov.uk/government/collections/taking-part/>). But this is merely mapping an extension of reach facilitated by the Internet, not the transformation of users' engagement with archives as promoted by advocates of participatory practice. Yeo (2005) discusses a range of alternative approaches for profiling archives users, including by role, purposes of use, motivation, discipline, domain and system knowledge (this last being similar to Yake & Torres' (2003) Archival Intelligence model; the implications of the prior experiences which users draw upon in their use of archives is also briefly raised by Fear (2010)). However, with the partial exception of the U.K.'s PSQG *Survey of Visitors to U.K. Archives*, which includes one question about the purpose of a user's (onsite) visit (and another delineating family historians from all other users), profiling studies which actually implement such alternative means of defining users on a cross-repository basis or archives sector level are lacking. As Blais & Enns (1990) comment, measuring or evaluating 'patterns of use and how individuals actually use archival documents' is much more complex than simply 'analysing user groups'. Individual case studies, notably Sexton, Yeo, et al.'s (2004) exploratory user research to inform the development of the LEADERS project, have applied rather more nuanced criteria in categorising users. But in general, simple demographic variables are the only means by which users are categorised in published user statistics and even in the academic literature on archives, probably simply because these are the data most readily available.

Another reason for this gap in the published literature may be that where any such market research has been undertaken, it has been externally commissioned from consultants working to a confidential client brief. One useful example is the investigation of online information seeking behaviour carried out by consultants working for The National Archives, which constructed personas to illustrate different patterns and strategies for using the records section of The National Archives website. The methodology is briefly explained on The National Archives blog (<http://blog.nationalarchives.gov.uk/blog/design-through-research-the-concepts-behind-discovery/>), but the full report is not publicly accessible (TNA42).

With the possible exceptions of the PSQG *Survey of Visitors to U.K. Archives* and the DCMS *Taking Part* statistics, the archives sector also lacks the kind of longitudinal data which might facilitate the mapping over time of changing user attitudes and expectations. For instance, Adams (2007, p. 27) perceives the changing profile of users of electronic data records at the U.S. National Archives and Records Administration, and contends that fact seeking users (predominantly genealogists) now ‘dwarf’ the number of research users. Whereas research users are indeed pursuing defined search objectives across a range of different primary source materials (which are later interpreted or brought together to produce a ‘new knowledge’ narrative), information-seeking users are said to ‘employ facts directly as recorded’. Their support needs differ accordingly: research users primarily demand information *about* records, whereas fact seeking users request information *from* records, something which user participation would claim to help deliver, for instance, by increasing the quantity of transcribed or tagged records, or by promoting discoverability of archives outside of the straitjacket of formal, hierarchically-structured finding aids. Yaker (2004, pp. 3–5) would agree that genealogists search for discrete facts and dates in archive records, but argues that this behaviour can be distinguished from the broader information needs of a

different group, family historians, who look for narrative, connections and meaning from this disparate information.

Users on Users

Another lacuna in the literature on use, and particularly from the debates about online participation (in cultural heritage contexts generally), concerns users' and participants' own views. Whilst new participation opportunities generally elicit a diffusion of announcements via social, print and broadcast media, these are rarely reflective pieces, most generally simply repeating the publicity issued by the project itself and receiving few by way of follow-up comments. Occasionally participatory projects evidently strike a personal chord, and participants are motivated to speak or blog about their connection to a particular initiative (for instance, ral104 2014), or about their experience of taking part (unhmuseumgrad 2014). The blogger J. 'Bonny' Bonafilla (2014), for instance, presents a fairly typical example of participation blending into use and learning, her completion of four pages on the Zooniverse 'citizen historians' project Operation War Diary (<http://www.operationwardiary.org/>) having prompted her to undertake background research on the movements of a division of the British Expeditionary Force in the summer of 1914.

More general analytical comment on online user participation is hard to trace, the jargon terms adopted by professionals (even crowdsourcing) seemingly not having translated well into the user domain. A comprehensive search is frustrated too by a rapid turnover of popular periodical titles, the commercial paywall, and by poor indexing and search tools. Even where indexes are available, systematic searches across a selection of family, local and popular history titles on the terms 'user-generated [content]', 'user participation', 'user-contributed', 'user contribution', and 'crowdsourcing' resulted in few returns (a further search on 'History 2.0' was abandoned when it became clear that the search tools could not

distinguish 2.0 from 2-0 (a page number), 20% (discount) and so forth); the majority of these being either introductions to the topic of crowdsourcing or features on specific projects. A 2010 series in *History Today* entitled 'Digital History' is a rare example of a journalistic analysis of this subject, and two of these articles consider the possibilities offered to historians of the burgeoning quantities of user-generated content available on the Internet (Poyntz 2010a, 2010b). For the most part, the author, an early modern historian himself, is an enthusiastic advocate of this 'quiet revolution in historical research', emphasising the opportunities presented to 'open up sources ... to brand new audiences' and enabling 'history enthusiasts across the world to connect and talk to each other in a way that has never before been possible' (Poyntz 2010a, p. 53), although in the later article he does also acknowledge that user contributions might 'also create new difficulties' for searching and analysing large databases of material, or in assessing the reliability of web-based resources (Poyntz 2010b, p. 53).

Searching for user opinions on (mostly genealogical) forum and blog threads surfaces more of a debate, and a lack of consensus amongst researchers as to the practical research benefit of user participation. In these more informal arenas, discussion often centres around the accuracy and reliability (or otherwise) of user contributions, with opinions divided between those who find corrections and alternative interpretations generally helpful to their own research (for instance, Pettit 2011; scwbcm 2011), and those who question the value of increasing quantities of user-contributed information which may often be inaccurate or unchecked (Fisher 2014), or even entertaining the possibility that 'allowing even more user comments can paradoxically make them even more inaccurate' (mikef333 2011). Some forum postings seem implacably antagonistic towards 'technobabble like "crowdsourcing," which implies that if enough people recite the same thing, it must be true' (McComberdescendant 2013), setting up a contrast between "'crowd-sourcing" vs. "document sourcing" ... this

philosophical struggle between traditional “genealogy” and the perceived necessities of the “bottom line” (BrklynBridge 2013b), or ‘junk user-generated content instead of real sources’ (mikef333 2011). Suggestions for resolving these quandaries direct responsibility in opposite directions: those who hold the user accountable for checking or following up all sources of information (ksouthall 2014) whereby ‘users would take [user-contributed] information at face value and their own risk’ (P. Evans 2012), versus those who hope site owners will implement some automated mechanism ‘to validate input’ (Fisher 2014), or a means for participants to rank or rate other users’ contributions (damara84 2013). It is suggested that it would be constructive to ‘differentiate between correction of transcription errors and any other information supplied’ (ggjuk 2011), possibly due to a presumption of the relative ease of implementing some form of expert review of transcription or catalogue corrections (P. Evans 2012). Indeed, posting on The National Archives Community Forum, ‘Martina’ is of the definite opinion ‘that to be useful, user-generated content should be moderated and organized by a knowledgeable archivist’ (Martina 2012). But whilst some users assume that website operators will want to see at least obvious errors corrected (wblindmj 2013), others argue that this is ‘not their business’, either from a libertarian perspective where ‘any individual is free to utilize it [Ancestry] as they see fit ... [including] the freedom to be wrong’ (BrklynBridge 2013a), or in one case attributing this diminished responsibility to the profit motive behind many genealogical sites of participation (ColinB 2014).

Postings by family historians also reveal something of the emotive and ethical connotations for contributors and users of public sites of participation:

I recently had someone... a distant relative come into my tree and without so much as a greeting, took all the research I had compiled. She downloaded the entire thing, facts, documentation, pictures, even little personal family nicknames, stories, memories. Things that would have had no meaning to her. Even these things for my family, that were not members of her family. She did not choose the information to compile her own family members tree, just took it all, one fell swoop. I tried contacting

her, thinking we could at least make a family connection. She has ignored all overtures to communicate. She has repeatedly taken any new research I find and post on my trees. And refused to share any family information she has. Seems she is regularly checking my tree for any new information. I find this a violation. She is doing none of the work, and getting all of the hard earned rewards (queenc723 2013a).

With increasing numbers of genealogy forum members indicating that they are changing the security settings on their once public family tree to 'private', it appears that, in addition to attribution expectations, there is a link here between a presumption of user responsibility for verifying their source material and other users' willingness to share their own research:

Sharing information is a wonderful thing, and I don't mind whether I'm 'credited' or not — but for someone to just toss the information around and deliberately neglect to verify they attached it to the correct person is uncalled for (bls_217 2013).

Nor is the decision to expose new knowledge itself always ethically straightforward. Proponents of an egalitarian knowledge exchange about the past are perhaps guilty of overlooking the emotional toll this might take upon both contributor and recipient, particularly where the data or information to be shared has the potential to cause upset or distress (for an example, see the *Who Do You Think You Are* magazine forum thread entitled 'a family history dilemma' — <http://www.whodoyouthinkyouaremagazine.com/forum/topic10829.html> — where a researcher agonises over whether or not to reveal to another 'tree owner' that he has recorded the wrong paternity details for a common ancestor).

Use and learning through participation

A more recent turn in the literature considers use not so much as a means to an end, the seeking of static information, but conceives it in more metaphorical terms as a journey, conversation, or performance — i.e. some ongoing *process* of interpretation or subjective sense-making. This is in line with the growing popularity of user-centred over system-centred

(or specifically in an archives context, record-centred) views of practice (Savolainen 2006; Theimer 2011b). For example, Chun et al. (2006) assert that tagging of art works ‘represents a dialogue between the viewer and the work’: the tag functioning as a direct connection between the user and the image, an association which is personally memorable, thus also aiding later re-discovery of the item. Yeo (2007, p. 328) and Huvila (2008) also suggest that interactions with information or records can be interpreted as a form of conversation, ‘the process itself rather than as a tangible or intangible instrument that the process employs’ (Yeo 2007, p. 328). Huvila refers explicitly to Lankes et al.’s (2007) application of conversation theory to libraries, which equates conversation with the creation of knowledge. For Lankes et al., as for Huvila, existing professional systems, such as the catalogue, are one-way conversations; Web 2.0 tools, such as blogs, can help connect community expertise to professional knowledge, but sit around the periphery of the library or archive; whereas ‘true change’ must happen at the core, whereby participation becomes the foundation of practice. In an argument reminiscent of, but slightly divergent from, Adams’ (2007) division of users according to their reference support needs, Huvila then distinguishes two types of online archive-related conversation: (a) a limited conversation ‘*about* a record’, facilitated by Web 2.0 technologies such as blogs, podcasts, tagging, and commenting, ‘situated ... at the interface between archival materials and their users’, and (b) ‘*using* a record and its description *as* a conversation and an arena for participation’ (Huvila 2008 — italics in original). Once again then, participation and use are fused in Huvila’s conception of the participatory archive (i.e. (b) above) as something above and beyond the mere introduction of Web 2.0 technologies into established archival practice.

Fyrst (2008, p. 202) suggests that a new focus on the interpretative processes involved in information use may be related to the diminishing effort required to track down and gather data in the online world. Use becomes less about information seeking, and more about

respecting or facilitating the ability of users to make or 'reconstruct' meanings from the archives they can access (Menne-Haritz 2001). Yakel (2004), for example, argues that family historians' information searches can be related as much to seeking meaning or personal identity, as to finding facts. Where meaning 'is increasingly viewed as something made, not found' (Duff et al. 2012, p. 72), users too might be re-cast 'not as seekers and users of information but rather as information "designers"' (Savolainen 2006, p. 1118, referencing Brenda Dervin). Interpretative use might then be reconceptualised as conversation or the act of communicating about or around archives. Kickert (1993, p. 267, in reference to Luhmann) describes communication as 'a synthesis of information, utterance, and understanding', which is 'recursively produced and reproduced' through participation in the network. Another similar metaphor applied to illustrate these constructive processes of sense or meaning making is that of the journey, in which the progression is not necessarily linear but may involve repetitive steps, or turning back to draw upon previous understandings (Savolainen 2006, p. 1119). New information discoveries are both incorporated into, and help to reshape, existing frames of reference. But different users, and different communities of users, (or users' encounters with archives at different points in time) will each approach the archives with a different set of understandings around which new interpretations are then constructed (Duff et al. 2012; Lankes et al. 2007; Savolainen 2006). Archival meaning is not static, nor will encounters with archives result in only one outcome. Rather archives or 'information should be conceived of as something malleable, designable, and flexible, like clay to be molded according to situational needs' (Savolainen 2006, p. 1118).

Another metaphor put forward for this performative construction of meaning is that of 'gap-bridging' for the processes which link situated information seeking with use (Savolainen 2006). Meaning is said to be shaped both by internal behaviours (such as personal preferences or comparisons) and external elements (including (dis)agreeing, ignoring,

listening — the social context of knowledge-creation), and draws upon both cognitive and affective components (such as beliefs, emotions, memories and stories). Hartel (2003) is critical of this ‘gappy’ concept in the context of serious leisure use in the library, where participants willingly make significant efforts to acquire knowledge systematically, and indeed may possess more domain expertise than professionals. But significantly for the context of participatory use, sense-making and gap-bridging is ‘not always deliberate, instrumental, purposive, and goal-oriented’, but may include use which is ‘entirely capricious’, and which does not privilege traditional channels of authority and expertise: “‘people first rely on their own cognitive resources. If these are not sufficient, they reach out first to sources closest to them or those contacted on their habit paths. When they find useful information, they judge it not on its expertise or credibility, but rather in terms [of] how it helped them’” (Savolainen 2006, p. 1122, quoting Brenda Dervin). Consequently, ‘the logic of constructing an individual bridge is hard to predict; much depends on situational cues’ (Savolainen 2006, p. 1122). This situational contingency is significant since it suggests that it would be possible to some limited degree to influence the use (and users) of archives through the considered design of sites of participation and discovery.

The interpretative and affective aspects of information use have, however, proved difficult to investigate empirically, and research attention in the archival literature therefore continues to focus upon more concrete issues (Duff et al. 2012; Savolainen 2006), such as the use of web analytics data to improve website usability (Prom 2011). Duff et al’s (2012) exploratory pilot study of how students in book history construct meanings from archival records is therefore unusual in concentrating on ‘*interpreting* rather than *finding*’ (italics in original), although their use context is not participatory. However, in concluding that ‘meaning-making is thus highly contextual’, they highlight a combination of personal and collaborative contexts which shape understanding:

On the one hand, [meaning making is] a fundamentally individual process in that no set of factors can ever be entirely replicated from one researcher to the next. On the other hand, meaning-making is nevertheless also a social process, as a great number of factors that influence meaning exist beyond the researcher herself or himself: the sources and nature of background knowledge; the research tools, such as secondary sources and reference aids; the arrangement and description of the records; and of course the records themselves, which spring from a wide influence and provenance (Duff et al. 2012, p. 87).

One might easily add peer-participants to this list of background influences on the ways in which archives can be used and understood.

Individual and community models of knowledge

This focus on the processes of use, and on the 'network of influence' which surrounds archival meaning making, offers 'new venues for research on the ways knowledge-formation occurs' (Duff et al. 2012, p. 87). The heightened awareness of the social elements involved in interpretation and meaning making seems particularly promising in the context of participatory practice, given that participation is often equated with network models of learning and knowledge creation (Brown & Duguid 2000; Surowiecki 2005; Wenger 1998). It is not though an entirely new point of view: writing of the expectations of users in 1998, for instance, Craig (1998, p. 122) described archives as resources which are 'fundamental to social well-being'. The common assumption of these community models is that 'knowledge construction is best achieved in a collaborative environment where multiple perspectives can be brought to bear on a problem and where meaning can be socially negotiated' (J. Waters 2008, p. 1).

Such community theories of use, however, stand at odds with the stereotype of the lone humanities scholar which continues to cast a shadow over the literature in terms of the way use is understood in archival contexts. 'History', states Rosenzweig (2006, p. 117), 'is a deeply individualistic craft.' Numerous recent accounts submit that this is a misleading view (Bulger

et al. 2011; Rockwell 2012; Rutner & Sconfeld 2012), and indeed alternative paradigms of history (particularly public history) as a collective process, a 'social form of knowledge' (Samuel 1994, p. 8), are available which refute the solo archetype. But still archives users are often perceived and portrayed (by themselves as much as by archivists) as 'spending a lot of time working on their own and collaborating only informally through highly dispersed networks', and as "'depth" rather than "breadth" researchers, preferring to spend significant amounts of time with a few items, rather than working across a broader frame' (Bulger et al. 2011, p. 6). This individualism curtails the vision of user participation as a potentially revolutionary influence upon archival practice, due to the perceived reluctance of these scholars — archives' most longstanding and stalwart supporters — to contribute 'their' expertise and knowledge: 'Historical scholarship is also characterized by *possessive individualism*' (Rosenzweig 2006, p. 117). Individualism and a reluctance to share also constrains the extent to which participatory practice might lead to transformation in use itself, or in the research practices and outcomes of these traditional disciplines.

A similar point is made in reverse by Suri (2011), who comments that new knowledge, skills, and modes of communication are also required if potentially disruptive technologies are to be successfully embedded within a resilient traditional research culture in the professionalised, academic field of history. This is particularly the case where technological potential conflicts with well-established scholarly practice; for instance, the sharing ideal behind participatory archives may run counter to an academic historian's career progression obligations and performance assessment criteria (such as the Research Excellence Framework in the U.K. — <http://www.ref.ac.uk/>). In an investigation of the assimilation and use of Geographical Information Systems (GIS) technology by historians, Suri observed that 'having proprietary control over their data [was] still important for many respondents as it was directly related to their career growth', and concluded that 'technologies by themselves

cannot be powerful forces of change. They have to be accompanied by changes in institutional policies & procedures' (Suri 2011, p. 183). Just as achieving the promised potential of participatory practice will require a redistribution of established power relationships in the professionalised archival domain (Duff & Harris 2002), then, so its successful acceptance by archive users will be similarly dependent upon changes of mindset and practice within established disciplines. Indeed, Rockwell (2012, p. 149) comments that perhaps the only 'real limitation to the adoption of crowdsourcing is our imagination about what research is in the humanities'.

Not all archival users hold this reputation as individualists: the reciprocal, communal characteristics of the genealogical research community are well documented (Lambert 1996), and perhaps it is no accident that some of the most successful examples of online user participation in archives have been run by, or pitched at, family historians. Questioning whether the old distinction between amateur (such as genealogists) and professional (primarily academic) practitioners is still useful in the modern 'knowledge society', Barnett (2005, pp. 264–265) makes an alternative distinction between 'enquiry' (which he views as having a personal, perhaps casual character), and 'inquiry' (which he sees as communal and systematic in nature), but concludes that there is no evidence to support a mapping between the two sets of classifications: 'formal/informal; systematic/non-systematic; collective/individual — are to be found *both* in the academy and beyond it'. Similarly, Rockwell (2012, p. 150) believes that the distinction between amateur and professional is blurring, aided by participatory technology which can both 'extend the cognition of individuals and co-ordinate cognition of groups'. In the field of management science, Nonaka & Takeuchi (1995) also recognise this mutual dependency between the individual and the group: they see knowledge as created dynamically in interaction amongst members of a group, but at the same time, recognise that knowledge cannot be created without individuals.

Tacit and explicit knowledge

Timmins (2013, p. 315) remarks that one of the difficulties with individualism is that ‘such an account leaves out that theories have to be either accepted or rejected by the [scientific] community.’ An extreme emphasis on individualism can be seen as impeding the development of new paradigms of use in two main ways: firstly, by obstructing the transfer of existing knowledge to newcomers (Duguid 2005), and secondly, by obstructing the creation of new knowledge or innovation (Hildrum 2009; Justesen 2004; Nonaka & Takeuchi 1995). For those who would situate use within a community model of knowledge generation and learning, both of these challenges are linked to the concept of tacit knowledge — the idea that we know more than we can say (Polanyi 1983).

Nonaka & Takeuchi (1995) demonstrate how the dominant Western epistemological position presumes that knowledge can be expressed in formal, explicit language, and can therefore be assumed to be easily transmitted between individuals. A similar idea equates this codification to a means of making knowledge economically tractable, by reducing knowledge to mere information. ‘If [this] is right, innovation, learning, and knowledge diffusion are no more problematic than the production and distribution of widgets’ (Duguid 2005, p. 110), or, let us say, the interpretation of history would be no more problematic than providing access to records and archives. Indeed, many of the prevailing models of archival use owe a substantial debt to Shannon and Weaver’s (1949) ‘mathematical theory of communication’ (Bunn 2011; Yeo 2007, 2010b). The Open Archival Information System model, or OAIS, is a recent example which has been particularly influential in fashioning archivists’ perceptions of use in the digital sphere (British Standards Institution 2012). But as Shannon and Weaver themselves acknowledge, their model (and hence those subsequently shaped in its wake) treats communication as a simplified syntactic problem, rather than a semantic one of creating or disseminating meaning (Shannon & Weaver 1949, p. 379).

Advocates of more constructivist approaches to information use, in contrast, emphasise how 'no text is able to determine the principles of its own interpretation' (Duguid 2005, p. 112), or, as Carolyn Heald (1996, p. 101) would have it, 'the records do exist in fact; they just need to be deconstructed/read, not through objective lenses, but through subjective ones.' Meaning then is contingent upon tacit rubrics which influence how information is interpreted. This tacit knowledge is (by definition) hard to articulate, but includes intangible elements such as personal beliefs and values, insights and intuitions, as well as cognitive ability. Cognitive ability in turn includes what Nonaka & Takeuchi (1995, p. 60) label 'technical' knowledge: know-how and skills. Thus Rosenzweig (2006, p. 129) argues that 'good historical writing requires not just factual accuracy but also a command of the scholarly literature, persuasive analysis and interpretations, and clear and engaging prose.' Duguid (2005, p. 111) explains, 'explicit knowledge ... is not a self-sufficient base, but a dependent superstructure.' According to this viewpoint, archives alone are no longer considered the raw ingredients of history; rather the interpretation of these material traces of the past is contingent upon largely unseen (and often contested) contextual factors.

There is an increasing acknowledgement throughout the literature on both participation and use that 'much *bona fide* knowledge is held tacitly as "process knowledge" and "personal knowledge"' (Barnett 2005, p. 274), knowledge which is often local or ephemeral in nature (or both). Duff et al. (2012, p. 77) discuss how 'meaning is mediated by a person's mental model or knowledge structures — the filters of individual experience', in which archival finding aids (and by extension, other users' contributions) may or may not feature. Whilst some study participants were receptive to the uses of archival finding aids in establishing meaning, others viewed 'such detail ... as intrusive, guiding them away from what they thought of as their own questions and interpretations'.

Individuals are said to acquire these tacit 'ground rules for interpretation' through a combination of experience and practice, expressed through behaviour (Duguid 2005; Hinton 2009). Hence *participation* in a community of *practice* (Wenger 1998) can be said to lead to the acquisition of what Brown and Duguid (2000, p. 205) dub 'social conventions of interpretation': collective agreement on the ways in which information should or might be interpreted. Herman Paul (2011, p. 11) writes of the shaping of the academic historian, and how 'epistemic virtues are taught, learned, and exercised in *practices* rather than in disciplines' (italics in original). In the archives literature, Ketelaar (2005, p. 48) invokes Bastian's notion of a 'community of records' in support of the idea that records are as much constructive as they are reflective of the past, mediating 'tacit narratives [which] are constantly reactivated and reshaped'. The implicit interpretative contexts here are both collective *and* contested: 'Memory texts do not speak for themselves but only in communication with other agents; networked or distributed remembering', for 'there is no single collective memory. Even if members of a group have experienced what they remember, they do not remember the same or in the same way' (Ketelaar 2005, p. 47).

Boundaries of participatory knowledge

Accepting that the meaning(s) of archival texts are not constant, emanating from the text, but instead are implicit within the social context through which an interpretation is made (Duguid 2005, p. 113; Ketelaar 2001) has important consequences for understanding the limits of participatory paradigms of knowledge diffusion or knowledge creation. The same knowledge source may be interpreted or used in multiple ways by different interpretative communities (Duguid 2005, p. 113), but these different interpretations may not all be equally acceptable, or even intelligible, to users approaching the archive from another disciplinary angle or community context. Yeo has discussed in detail the 'fuzziness' of archival 'boundary objects' as being 'entities shared by different communities of practice' but interpreted and used in

different ways by each community (Yeo 2008, p. 131). Furthermore, users' information needs and expectations may change over time and space (Duff 2001; Paul 2011). It cannot therefore be assumed that the expertise of individuals 'on different aspects of the documents and their contexts' (Huvila 2008, p. 20), expressed (either explicitly or according to a tacit interpretative framework) through participatory practice will inevitably prove either accessible or acceptable to other users.

These interpretative barriers are particularly problematic in the case of newcomers, who lack experience of a discipline or community of practice — all the more so in the apparently attenuated social environment of web-mediated interaction (Hildrum 2009) since 'transferring knowledge, particularly to newcomers, involves more than transferring codified knowledge' (Duguid 2005, p. 112). This is recognised in the archival literature on description and use, although primarily in respect of a binary distinction between a 'professional' (insider) perspective — those already inducted into an archival understanding of the world — and outsiders — who are not (Craig 2003; Ketelaar 2001; MacNeil 2012; Yeo 2008). Ketelaar (2001, p. 135), for instance, writes of 'numerous tacit narratives ... hidden in categorization, codification and labeling', although he carries on to explicate multiple 'social, cultural, political, economic and religious contexts [which] determine the tacit narratives of an archive' (2001, p. 137), contexts extending much wider than the professional purview of the archivist. Craig (2003, p. 99) urges the 'critical importance of knowing the nature of community borders' and calls for improved 'border management' from archivists, but it is MacNeil (2012, p. 497) who overtly shifts the theoretical discussion towards a consideration of the 'multiple, disparate, and overlapping' genre systems emergent with the rise of web-based participatory culture, and how 'conflict and consensus' might be negotiated within (and presumably also between) these groups.

For it is these same social conventions which enable members of one community to communicate efficiently amongst themselves which also serve to limit the exchange of knowledge beyond that group (Brown & Duguid 2000; Craig 2003). Duguid (2005, p. 113) points out that information may ‘appear to have global reach’, but only where different communities already share common ground and can therefore attempt to parse each others’ articulations. The options then are either (a) to try to convert tacit community knowledge to an explicit form in order to make it understandable for outsiders (Hurley 2005; Ketelaar 2005) — except that the extent to which it is possible to formalise or codify tacit knowledge is much disputed (Hildrum 2009, p. 198); alternatively (b), would-be users must themselves learn the appropriate interpretative conventions from the perspective of the community they wish to join: here participation functions as an apprenticeship for use.

User innovation: the participatory knowledge spiral

The Japanese management theorists Nonaka & Takeuchi (1995, p. 14) regard these difficulties in interpreting information between groups as a justification for redundancy and even ambiguity in communication, a viewpoint in marked contrast to the more usually expressed concerns about information overload and precision in the digital information age. Nonaka & Takeuchi favour redundancy because it promotes discussion and therefore facilitates the transfer of tacit, procedural knowledge; ambiguity, meanwhile, ‘can prove useful at times not only as a source of a new sense of direction, but also as a source of alternate meanings and a fresh way of thinking about things. In this respect, new knowledge is born out of chaos.’ Despite the corporate focus of their work, Nonaka & Takeuchi’s theories are relevant here because of their focus on new knowledge creation or innovation, something which is regularly anticipated to emerge from participatory practice (for example, Barnett 2005; Flanagan & Carini 2012; Rockwell 2012) but has rarely been defined in the literature.

Innovation, coupled with diversity, is also the subject of Susanne Justesen's (2004) research. Like Nonaka & Takeuchi, Justesen sites the process of new knowledge creation in the interaction of individuals within a social group, but Justesen additionally draws upon social network concepts to claim that the homogeneity of a tightly-bonded community helps to facilitate more complex learning or innovation, whereas weakly-connected individuals are better placed in their diversity to diffuse less specialised knowledge or more widely appealing content into a range of different external contexts or by novel means. Both of these outcomes can be considered to be innovation, however, since innovative practice is 'not merely about getting new ideas and the generation of an invention, but equally about the successful exploitation and diffusion of that invention' (Justesen 2004, p. 81). Together, these two innovation models (Justesen's model of 'innoversity' and Nonaka & Takeuchi's 'knowledge spiral') can be used to navigate the promises and claims of new knowledge creation arising from participatory practice.

Justesen also distinguishes between learning and innovation. In all cases of learning, the host sphere of practice ('competence regime') remains strong, absorbing new knowledge into the established domain rather than being challenged by it. On the few occasions where 'new types of knowledge' are referred to in the existing literature on participatory archives, these seem better classed as examples of learning than of innovation: for instance, Flanagan & Carini (2012, p. 514) promise that 'mass participation ... opens the door for archivists, researchers, and the public to unearth new knowledge that could radically enhance scholarship across the disciplines', but the examples they provide ('new classifications, observations, descriptions, narratives, and practices' (2012, p. 520)) seem mostly (with the possible exception of 'practices') to be about gathering 'diverse bits of data and information' or 'learning from others or acquiring knowledge from the outside' (Nonaka & Takeuchi 1995, p. 10) rather than the iterative, creative process of innovation modelled by either Justesen, or Nonaka & Takeuchi.

That said, learning is a pre-requisite for innovation and *vice versa*, so this process is cyclical and iterative (Justesen 2004, pp. 82–85). Nonaka & Takeuchi, similarly, model learning (or internalisation, converting explicit knowledge to tacit) as one of the four phases of the knowledge spiral which feeds innovation (Nonaka & Takeuchi 1995, p. 69). This ties in too with the constructive process of meaning making described by Duff et al. (2012, p. 83): ‘the process of identifying barriers, re-framing research questions and incorporating new elements of domain knowledge based on secondary or reference aids enabled the [study] participants to move toward generating a holistic understanding of the records collections.’

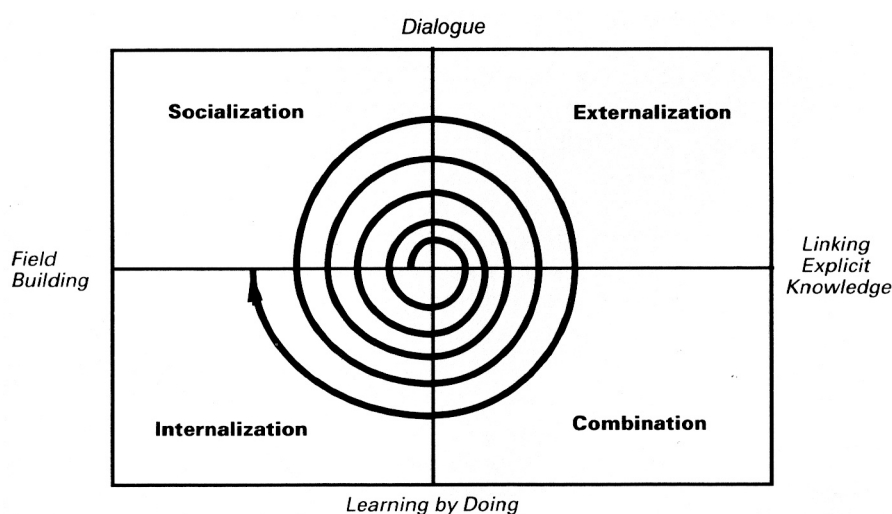


Figure 2.2 **The knowledge spiral.**

Reproduced with permission from Nonaka & Takeuchi (1995) p. 71.
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Using the lens of the Knowledge Spiral model (Figure 2.2), we might posit that, at present, most participatory projects in archives realise at best the ‘limited form[s] of knowledge creation’ (Nonaka & Takeuchi 1995, p. 70) associated with individual phases of the spiral. For example, practice in palaeographical transcription might match the definition of socialisation, or tacit-to-tacit knowledge transfer of technical skills acquired through experience, ‘observation, imitation and practice’ (p.63); reflection and dialogue, or externalisation (tacit

to explicit conversion) might be triggered by the comment threads associated with historical images on platforms such as Flickr, or on the discussion pages of archives wikis or Wikipedia history articles; many participatory indexing projects fit the description of the combination phase, or explicit to explicit exchange — ‘reconfiguration of existing information through sorting, adding, combining, and categorising of explicit knowledge’ which ‘can lead to new knowledge’ (p.67); whilst the compilation of Frequently Asked Questions guidance by project participants is an illustration of individuals internalising their experience and knowledge (p.69). But for the most part, these examples of learning or knowledge conversion occur in isolation — both from each other, and with participants’ experiences having little impact upon the general practices and cultures of use.

More radical innovations occur when a complete new knowledge domain is created (Justesen 2004, p. 84) through the ‘continuous and dynamic interaction between tacit and explicit knowledge’ combining the different modes of knowledge conversion (Nonaka & Takeuchi 1995, p. 70). Such outcomes are often the aspiration of participatory projects established with an adaptive, organic orientation, aiming to achieve much more than simply extending conventional research and knowledge-exchange practices (Huvila 2008). The museum designer Nina Simon (2010, p. 8), for instance, observes that ‘people who create content represent a narrow slice of the participatory landscape, which also includes people who consume user-generated content, comment on it, organize it, remix it, and redistribute it to other consumers.’ Several other authors hint too at the possibility of user-led innovations in the display and navigation of archival records, such as data mashups and visualisation techniques (Duff 2010; Landis 2002; Sherratt 2009; Whitelaw 2009). Hurley (2011, p. 8) predicts that ‘archival resources, once they are released in cyberspace, will be used in ways that we cannot anticipate and cannot determine. Our materials can be combined with other resources to produce quite unforeseen results.’

'Archives thus become a part not only of the information economy, but of the knowledge and creative economy' (M. J. Evans 2007, p. 400). There has been little empirical research into these more creative forms of use which might potentially fashion whole new output systems, as opposed to participation defined as contributing to descriptive input at a micro-level. Eschenfelder & Caswell (2010) discuss at length the legal and ethical issues surrounding the re-use and re-mixing of digital cultural content, but approach the subject from the perspective of the professionals involved, and the circumstances under which archives and other cultural institutions might seek to control access or use. There are many more implications here: for instance, regarding the depth and types of archival metadata that might be made available, concerning archival user communities — who might expect access to archival descriptive metadata and for what purposes (Riley & Shepherd 2009) — and even around what constitutes 'an archive' in the digital information environment.

Personalisation of knowledge

Individualism is not the same as the personalisation of knowledge. Abbott (writing in 1999) argued that the very openness and freedom of the Internet intensified the need to extract personal meaning from impersonal, often formalised, information. In a postmodern world, where it is no longer possible to build any definitive structure of information, the increased efficiency of global communication means that every information structure (such as an archive) is open to — is indeed a provocation towards — discussion, conflict and debate. Abbott suggests that only users can reconcile these discrepancies, and that each individual must establish his or her own interpretation of the significance of individual pieces of data: 'what we can do is build our own structure, that personalised thread through impersonal space that reflects our own peculiar interests and concerns' (Abbott 1999, p. 139). Craven (2008, p. 17) neatly summarises this argument within an explicitly archival context: 'In the archive then, an individual finds meaning in an archival document because the document

means something to him and, at the same time, because of that individual's cultural or community identity the individual finds other meaning, other things to identify with. Over time then, identity as meaning making is perpetually constructed and reconstructed through the experience of archival documents.'

User participation can also be read as the application of this idea of personalisation to archives, as a creative but personal form of use. Anderson's argument in *The Long Tail* follows a similar trajectory: where authority is 'in the eye of the beholder' and nothing on the Web is authoritative, 'this encourages us to think for ourselves' (C. Anderson 2009, p. 188; 191).

Breakell (2011, p. 26) too views personalisation of use as an antithesis, in this case to professional standardisation: 'the pull of the general user is in the opposite direction entirely, towards creating customised structures and meanings, through which archives are continually becoming different things to different people.' And where the customisations of other users are exposed (for example, in the link paths or trails of previous visitors captured by the Polar Bear Expedition next generation finding aid (Krause & Yakel 2007)), participation can also function as a social, collaborative filter, a means of directing users 'from the world they know ("hits") to the world they don't ("niches") via a route that is both comfortable and tailored to their tastes' (C. Anderson 2009, p. 109). Fashioning these customised knowledge spaces also requires being able to *exclude* information that isn't personally relevant. Use in this participatory environment is again then not merely about seeking and (hopefully) finding, but also about being able to 'conceptualize, mediate and tailor the information provided' (I. G. Anderson 2004, p. 114). Or alternatively, in explicitly archival terms, 'Archives cannot be read. They have to be understood. Archives provide information potentials, not the information itself' (Menne-Haritz 2001, p. 61).

Vying for attention or information overload — participating in use

Ian Anderson (2004, p. 106) suggests that the popularity of informal methods of information seeking and use (including social filtering via colleagues' recommendations, together with browsing and serendipitous discovery) which his research identified amongst U.K. academic historians might be related to information overload. Indeed, as long ago as 1999, Abbott (1999) argued that what was needed in a world of information overload was more 'intelligence', more understanding of the available information. But a decade later, in a considered critique of certain online elements of Archives 2.0, Kennedy (2009) warned of his fear that 'we are in danger of providing all of the information and none of the understanding of that information.'

It is not difficult to see why user participation, simply by adding to the quantity of available descriptive or interpretative information about archives, might be 'more likely to increase uncertainty than reduce it' (Duguid 2005, p. 112). Huberman (2008, p. 103) remarks that whereas previously a 'relatively few people and organizations produced content for consumption by everyone else', now that pattern has been reversed and whilst millions of people create information resources via blogs, wikis, and other participatory platforms, few can (or perhaps wish to) attend to it. He argues that this upsurge in user-generated content (for which he uses 'crowdsourcing' as a generic term) has also devalued information: 'People value what's scarce, not plentiful, and the precious entity they now seek is attention, which is finite and simultaneously claimed by many online sources.'

Hurley (2011, p. 6) also acknowledges this 'jostle with other information providers for attention'. But his anxiety runs deeper than users becoming overwhelmed by the ever-increasing volume of archives-related information available online. Although Hurley's context is online archives generally, rather than participatory archives specifically, he comments that

'the Internet moves the power to shape information away from the provider and into the hands of the user', and appears to view this shift as something of a threat — to professional archival practice evidently, but also to traditional notions of use, or to the 'legitimate needs of research'. His concern is that in striving to grab the attention of potentially large numbers of new users through discovery systems designed to facilitate the 'ransacking' of archival information sources (something which user transcription and indexing, for example, helps to support), the more exploratory kind of research 'into the unknown', based upon provenance and contextual connections (or 'rummaging'), is put in jeopardy. Kennedy's criticism in fact follows a similar line, cautioning against 'plac[ing] our reliance on online archives where users have control' and arguing that Archives 2.0 should 'work alongside, but surely never replace, more traditional strands of research' (Kennedy 2009).

At one level, this is simply a contest between content and context, or specifically between [content] indexing and provenance as methods of locating archival information (Duff 2010). Expert users tend to rely more upon provenance to structure their enquiry (Johnson 2008), whereas indexing methods may be familiar even to novice users of archives from library and online search (Duff 2010; Fear 2010) — although there are also divisions along disciplinary lines (provenance-based retrieval methods are of limited use for genealogy research, for example). Kennedy and Hurley both worry, however, that online search raises users' expectations of an 'instant response' (Hurley 2011, p. 6): 'if unwittingly they get their search terms wrong for some reason, they may not try to look for the material in question again' (Kennedy 2009). And they are both concerned too about contextualisation (or lack of it) online:

By placing material online and lauding the online archive to the detriment of the original, we are in danger of diluting the documents, placing them out of context, removing or altering critical physical metadata that help the researcher understand the ethos and zeitgeist of the period in which they are working (Kennedy 2009).

None of these issues (information overload, gaining users' attention, search and retrieval methods, contextualisation) are particularly unique to the use of online participatory archives — although they are all put under greater strain by the infinite diversity of users' interests in archives, and by the prospect of users adding to the volume and variety of information available on archives. But perhaps counter-intuitively, participation might provide some potential solutions. Huberman (2008) argues that social networks play an important role not only in the generation of new information and new ideas, but also in the dissemination and validation of knowledge. This has long been the case in the offline world too, but the connective nature of Web technology has boosted the importance of *ad hoc* social structures, through which information flows at a much faster pace than through traditional mediation systems (such as peer review). Huberman suggests that this social mediation can act as a counter-weight to the more 'objective' criteria (such as novelty, page rank, popularity, saliency) which information providers must choose between in deciding how to present search results to users. Scale (2008, p. 545) goes further in suggesting that 'social search emerged out of the context of dissatisfaction with algorithmic search engines'. Alternatively, social search can be seen as a horizontal form of peer mediation, which supports users' interpretation and construction of identity, either as a challenge or as a complement to more traditional (vertical) forms of mediation supplied by the archivist (Yakel 2006). And addressing Hurley's concerns that online search tools should be designed to help 'find ... stuff you don't know you're looking for until you find it' and those who wish to delve into archives in depth (Hurley 2011, p. 6), Chan (2007) emphasises how user participation can help both to encourage exploration and to retain users' attention in the digital sphere. This relates both to participation-through-contribution, which enables an 'augmented serendipity' through which users can discover material which would otherwise be difficult to track down; and to

participation-in-use, or the 'frictionless serendipity' of recommendations based upon user tracking.⁸

Trusting (trustworthy) participation

Trust is a central theoretical concept in the archival literature, conventionally most often debated in regard to the use of archival sources themselves (for example, MacNeil 2001). More recent work by Heather MacNeil has extended this debate into the realm of trust in archival description (MacNeil 2009). Trust is also mooted in the context of archives organisations as trusted places of custody (and archive systems, as in the example of the Trusted Repositories Audit and Certification (RLG-NARA Task Force on Digital Repository Certification 2007)), and in relation to the role of archivists as professionals (MacNeil 2011). These discussions are all relevant on the use side of user participation: for users themselves in assessing the reliability and authenticity of participants' contributions (and, by extension, the trustworthiness of systems into which these contributions are submitted); and in considering users' expectations of archivists' and archive organisations' potential role in assuring the quality of contributions.

Yeo has reasoned that trust is a concept of singular importance in the context of user contributions:

Arguably, when 'provenance statements can be made by anyone, at any time', there may be a particular need to consider how far we feel able to trust their creators. If the details provided to us are the 'wisdom of the crowd', we may want to know how many people have contributed to this wisdom, and what kind of people they were. If only one or two people have contributed, it may be even more critical to discern their identities, if we want to assess our confidence in the contributions they made. Are they people we know? Are they people whose reputation is known to us? Do we have other evidence that prompts us to trust them? (Yeo 2013, p. 226)

⁸ Hurley would object that neither of these examples, in fact, represent serendipity, 'which is the unexpected find of something where it shouldn't be'. In which case they are both, surely, examples of 'rummaging': 'finding stuff you don't know you're looking for until you find it' (Hurley 2011, p. 6 and footnote 25).

Uncertainty (amongst both users and archivists) over whether participants' contributions can be trusted may indeed be one reason why online participatory initiatives in archives contexts have tended to be 'add-ons' rather than integrated into core archival systems (Palmer 2009). Your Archives, for example, was initially, and deliberately, branded a 'beta' service. Additionally, all content was 'post-moderated', that is, all contributions and links were immediately live, but retrospectively checked by The National Archives' staff. Three years after the service's launch, the Your Archives Manager could still report internal 'issues surrounding trust and the accuracy of content, and questions on whether it is appropriate for a government department and trusted archive to more-or-less relinquish editorial authority to the user' (Grannum 2011, pp. 120–121). But such a cautious attitude seems unlikely to help encourage either participation in, or use of, such resources. What kinds of contextual support might promote the re-use of contributed information about archives?

There is a long tradition of studying the trustworthiness of archives through the discipline of the diplomatic analysis of documents, which developed from the seventeenth century as a systematic method for evaluating the reliability and authenticity (or otherwise) of documents (Duranti 1989; Williams 2005). Items are put to the test against a range of detailed criteria — relating to authorship, procedure, content, and context — understood to underpin their trustworthiness as records. More recently, these techniques have been applied to records and record-keeping systems in the electronic environment (for example, Duranti 1989; Duranti & Thibodeau 2006; MacNeil 2000), and a similar approach is now also taken by some researchers exploring the credibility and trustworthiness of user-generated content on the Internet. Meanwhile, another central principle in archival theory, provenance, evaluates records on the basis of their origins, custody, ownership (Pearce-Moses 2005b) or wider contextual factors (the boundaries of the archival concept of provenance are much disputed — see Hurley (1995)). Provenance is also recognised as one of the main factors influencing

trust decisions relating to web content, particularly where the information available may be contradictory or disputed (Gil & Artz 2007; Groth et al. 2012); or rather, 'what users seem to need most in the web environment is the context to assess trustworthiness of information' (Rosenbusch 2001, p. 45).

Thus the framework for Savolainen's (2011) study of peer judgements of contributions made to Internet discussion forums focuses around features of the *message content* (currency, specificity, accuracy, novelty, validity etc. — akin to diplomatic analysis) to examine quality, and attributes of the *message source* to investigate credibility (author identification, reputation, expertise, plausibility of argument and presentation, reference to external sources etc. — these are contextual or provenancial (broadly defined) aspects). Following a similar line of argument, Kittur et al. (2008) suggest that a distrust of material on Wikipedia may be due not 'to the inherently mutable nature of the system but instead to the lack of available information for assessing trustworthiness'. They again propose that this distrust 'may be reduced by providing users with transparency into the stability of *content* and the history of *contributors*' (my italics), according to a checklist of metrics useful for assessing the trustworthiness of user-generated information.

However, the results of these various studies of trust in user contribution settings are not clear-cut. In direct contrast to Savolainen's (2011, p. 12) finding that peer users evaluating the credibility of contributions to an Internet forum 'strongly drew on author reputation', Lim & Simon (2011) — in a study of Wikipedia — claim that 'the literature shows that Internet users rarely use the traditional checklist method, whereby users scrutinise the author, source or currency in evaluating Web information.' Yet they then proceed to outline just such a checklist of 'peripheral cues', albeit ones relating to content and presentation context rather than authorial provenance — including information structure and website design features.

Another Wikipedia study by Lucassen & Schraagen (2011, p. 5) suggests that such heuristics are an inevitable part of trust evaluations, whereby 'instead of *actively* assessing content or surface features, the user may *passively* rely on earlier experiences with the source of the information.' They point out that assessing features of the information itself may be the only realistic option for trust evaluations in user contribution contexts where there are multiple authors, particularly where the author(s) are unknown to the user, such that 'the assessment of characteristics of the author(s) may become overly complex or even impossible' (Lucassen & Schraagen 2011, p. 2).

This would appear to place at least some of the onus of responsibility in establishing, maintaining or reinforcing trust in user-contributed data back onto site owners and designers (i.e. onto archivists), in spite of cautions about the apparent waning of trust in professional experts and institutions, and issues of dis-intermediation which mean that 'online users cannot interact with archivists or sense the physical institution in the way that traditional users could' (Yeo 2013, p. 218). This professional bolstering of trust in user-contributed content may be particularly important for novice users, who, lacking domain expertise, are forced to rely to a greater extent upon proxy indicators of quality in deciding whether or not to trust the information they encounter (Lucassen & Schraagen 2011). Tantalisingly, Oomen et al. (2010) also cite work which suggests that the inverse of a stamp of archival authority upon user contributions might be that 'users can deal with some "fuzzyness" [sic] as long as the interface states that tags are generated by non-experts.'

Much of the recent literature on trust is sited within a postmodern frame of reference whereby responsibility for the evaluation and verification of information is shifted away from the professional and onto the user (Lucassen & Schraagen 2011; MacNeil & Mak 2007).

Although the terms 'trust' and 'credibility' are often used interchangeably in the literature,

Lucassen & Schraagen refer to “trust” as a property of the information user’, whilst credibility is seen as the quality of the information being assessed when judging trust (Lucassen & Schraagen 2011). Yeo (2013) and Corritore (2003) both represent trust as a personal assessment of risk (‘the likelihood of an undesirable outcome’ (Corritore et al. 2003, p. 751)), which is similar to the theory of bounded rationality or ‘satisficing’ referred to by Lim & Simon (2011) whereby users may not look for the best information available, but instead make ‘good enough’ choices according to the situation. Lim & Simon further suggest that users seeking ‘serious’ information may make more effort to evaluate and verify information than those looking for entertainment. This is to say that trust, and the degree to which trust decisions are or are not made systematically, may be relative to the type of information sought, and to motivation or the intended purpose of use. ‘When the user is not motivated, no evaluation is done at all or a heuristic evaluation is done. When the user is motivated to evaluate, however, the type of evaluation depends on the ability of the user’ (Lucassen & Schraagen 2011, p. 3). This is perhaps one reason why academic historians, for instance, whose reputation rests upon their use of archives, may be wary of using contributed information.

But this is not to say that domain experts may not also sometimes substitute the reputation of the institution, or call upon the knowledge of the archivist, or use other heuristic shortcuts to evaluating the trustworthiness of information (Corritore et al. 2003; Lucassen & Schraagen 2011). In Lim & Simon’s study of Wikipedia, for example, articles with a larger number of citations in the health genre were rated more credible than those with a low citation count, although this did not apply to less ‘serious’ articles on comics. In Lucassen & Schraagen’s 3S model of information trust (Figure 2.3), judgements depend upon both information characteristics and the characteristics of the user, in different concentrations according to the context of use and a user’s personal abilities in making trust assessments. That is, ‘peripheral

cues affect the credibility judgments of information when people do not have either high motivation or the necessary cognitive ability to evaluate information' (Lim & Simon 2011), whereas a systematic evaluation of accuracy, completeness or objectivity is more likely to be carried out by domain experts than by novice users, especially in situations of high motivation or risk (Lucassen & Schraagen 2011).

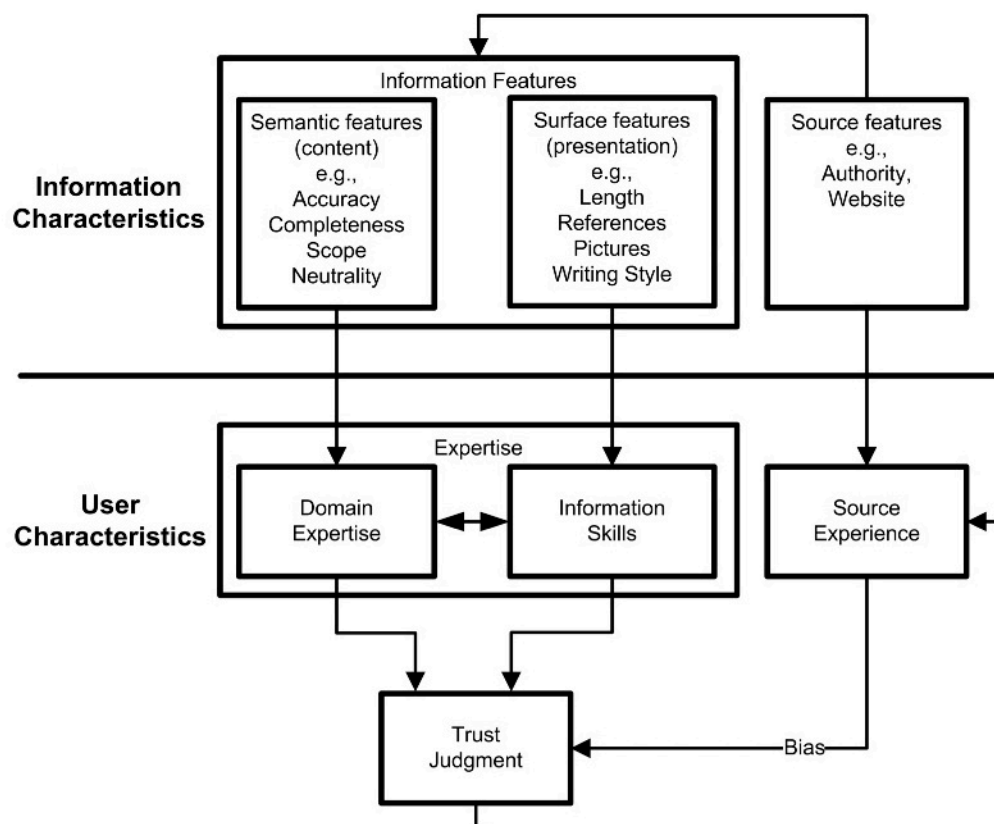


Figure 2.3 The 3S model of information trust.

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Lim & Simon's work also highlights the importance of peer endorsement in a web-based collaborative environment, and they suggest that 'social endorsement through peers may be more important than formal authorities, such as professors, for user-generated information sources.' Anderson (2004, p. 106) demonstrates how traditional knowledge communities have also operated on a basis of trust amongst peers: 'the historian may not agree with the

analysis and interpretation provided, but they can have reasonable expectations that the research will have been undertaken to professional standards and in many instances subjected to the rigours of peer review.’ Not only then is trust a necessary conduit for tacit knowledge flow, learning and innovation (Justesen 2004), but the opposite is also true, where ‘uncodified knowledge provides background context and warrants for assessing the codified’ (Duguid 2005, p. 112); that is, tacit knowledge affords the grounds for trust in others’ knowledge or interpretation of the archival record.

Chapter 3: Professionals

Social computing technologies in archives challenge the fundamental social contract under which archivists have operated for millennia.

(Yakel 2011a, p. 78)

Online user participation in archives can be a controversial, even emotive, subject for the professionals involved. Recent essays in the archival literature about the 'opening up' of the archive profession 'for the people' (M. J. Evans 2007; Yakel 2011a) have emphasised the transformative aspects of Web 2.0 technologies for archival practice and professionalism; celebrating the interactive potential of the postmodern archive, but warning simultaneously of a 'fear ... that we are facing a change in the relationships between the records and the researchers that leaves out archivists' (Yakel 2011a, p. 77). Practising professionals interviewed at The National Archives for this research similarly expressed a variety of responses to a perceived 'participatory turn' in archives, ranging from excitement:

The technology, I think, could be absolutely phenomenal, and it could change the archival world. (P6)

through technologically determined inevitability:

It's like a *zeitgeist* isn't it? You know, its what the Internet's about, isn't it? The wisdom of the crowd and all that. So I think, yeah [...] this is the world's... the way the world is. But everywhere you look, if you look at the BBC website or the *Daily Telegraph* or whatever, it's full of user comments. (P23)

to weary resignation:

We are in the year of 2012 and we cannot fight the tide of that war, we have to go with it. (P136)

Responding to such professional anxieties (Flinn 2010), and to the disappointment of some early experiments in online user participation, which succeeded in attracting only nominal levels of engagement (Palmer 2009; Sedgwick 2008), many commentators' tendencies have

been to push further still this agenda of anticipated professional revolution assisted by Internet technology, chiding archivists for clinging to an archive-centred worldview and their reluctance to share control and build equitable partnerships with user communities (Yakel 2011b). Yet for all this anticipation of a professional metamorphosis, and the assertions that 'this is absolutely the beginning of the transformation of the [archives], and what we want to do' (P28), or 'I think there's a big cultural shift *coming along*' (P148 — my italics), what perhaps was most striking in interviews with professionals involved in participatory initiatives was how rarely evidence was proffered of actual, present changes to archival practice or thinking. In the first round of interviews conducted at The National Archives, opinions varied as to the ultimate value of the participatory archive, but the *expectation* was still that it would *inevitably* bring radical 'change [to] some working practices or procedures' (P10), to such universal functions as description, appraisal and access, or to put claims to certain distinctive professional attributes (such as archival authority) under considerable strain. But a year and a half later, the reality of any shift seemed rather more constrained, even disappointing:

Will it transform professional practice? I think no to that. For all our emphasis on the online side of our work, people here are very much focused around the physical assets that we hold. Although they'll use the catalogue and other online resources as a tool to connect people with the record, what they're passionate about is the record; they're motivated by the record itself, and so they'll always default to traditional mechanisms to draw people to the record. (P135)

Another member of staff expressed frustration with the directions taken in the User Participation Strategy, apparently because of the deliberate conflation under this framework of online or 'remote' (as opposed to onsite) user contribution (which she viewed as inventive and pioneering) with traditions of onsite volunteering rooted within the established professional perspective on archival description:

I was expecting user participation to do other, more innovative things, rather than just traditional cataloguing. (P136)

Of course in practice, ‘as a professional group, archivists are not autonomous and experience the conflicting demands of the profession and those of the employer’ (Shepherd 2004, p. 13).

Firstly, then, organisational reality may act as a restraint or deflection, to differing degrees, upon the potential for any transformation in the role of the professional archivist:

The problem is when those fears constrain us from doing things which we should otherwise have done, and we miss so many opportunities I think by being too cautious or by congratulating ourselves for being very progressive when we’re not very progressive in the grand scheme of things. People here actually talk about innovation a lot but don’t like being first. (P139)

Secondly, archive services also vary significantly according to size, target audiences, available resources, cultural backgrounds, and the roles and responsibilities of archivists. In the Netherlands, for instance, the common interpretation of public archival law limits the depth of description expected of a professional archivist to an inventory list, with the folder (*archiefbestandeel*) as the individually numbered unit of delivery (*inventarisnummer*) (roughly equivalent to the term ‘file’ as used in the international standard, ISAD(G)) (Fleurbaey 2014; International Council on Archives 2000). User participation beyond this basic unit of description (for instance, in detailed document transcription) is not therefore perceived as a threat to archival professionalism, particularly since there is also a precedent for local volunteer involvement in indexing work (P9). For another example of the way in which different *professional* cultures can influence how user participation is conceived and understood by archivists, compare the language used in the following quotations; the first — emphasising separation and distinction, and where participatory description ranks lower than archival metadata — representing an archivist trained in the hierarchical, *fonds* based tradition of archival description in the U.K.:

We can have nice little disclaimer... ‘cos it’s a separate space, it’s not embedded within our official... we’re able to keep our authoritative part, our official metadata separate from the user-generated material and put a distinction on there. (P12)

Whereas the second, from an Australian influenced by the more inclusive worldview of the records continuum, envelops both archival and participatory description on a par with each other:

So you get a sense of, you know, the onion layers where you've got like your managed data in the middle, and then you've got layers of interpretation wrapped around it. And so some of those layers will be us, and some of them will be other people. (P41)

This diversity of context and organisational tolerance for professional autonomy is reflected in the multiplicity of ways in which different archives have sought to encourage (or sometimes to check) user involvement online — through wikis, social tagging, indexing, transcription, and data hacks, to name but a few. 'I think of it as a constellation [...] of ways to communicate out. It's important to keep it diverse, it's important to understand why we're doing each one of them and how they're interconnected, because they reverberate off each other' (P28). Online social computing technologies are also put into play alongside a real world context of user engagement and marketing initiatives, and draw upon long traditions of antiquarian involvement (which over a protracted period helped to shape description itself 'before the advent of archives as a profession' (Bateson & Leonard 1999, p. 83)) and of volunteering in archives:

I think we've been doing [...] very well on that front, but suddenly, it's like it is a new thing. Like we haven't done it before. Or perhaps [...] we are only doing it well when we do it on the Internet. (P10)

The techno-centric ideology which has fuelled much of the theoretical debate about online participation in archives can, therefore, be distinctly unhelpful when it comes to evaluating practical initiatives and planning future ventures in this area. If user participation is an opportunity to democratise professional archival practice and to promote the active involvement of the general public in co-creating historical meaning, how should a project be judged which fails to attract large numbers of new users, or where the interaction is brief,

serendipitous or ephemeral (for example, Affleck & Kvan 2008)? Simultaneously, the bandying about of neologisms such as 'crowdsourcing' and 'Archives 2.0' may also be limiting the potential of some participatory projects, promoting an impression of transience and hence contributing to an organisational reluctance to support and sustain their development beyond the pilot testing, experimental stage, and later, to a tendency to move on quickly to the next technological platform without a proper review of what worked or what did not: 'an element of wanting to be seen as at the cutting edge and leading the archives sector [...] I'm not saying it's a fad, but there's an element of fad-ism' (P19).

Furthermore, online user participation in archives *is* sometimes viewed simply as a pragmatic solution to a lack of financial and labour resource: 'crowdsourcing may help institutions faced with dwindling budgets address resource constraints by involving interested participants in the process of contributing metadata ... If the experience engages participants and they value it, the "labor" involved in the exchange can be considered a voluntary, in-kind contribution' (Flanagan & Carini 2012, p. 536). One local archivist interviewed commented:

Again, knowing we had limited capacity ourselves to do any indexing, it seemed like a good idea to, basically, crowdsource it. (P132)

Again, this circumstance is poorly served by existing conceptualisations of online participation, since it involves neither innovation in, nor in-depth engagement with, existing professional practice, but rather the reallocation of some of the more tedious or repetitive parts of the descriptive process to unpaid human-computational effort.

Mapping the participatory landscape

This chapter seeks to analyse the diversity of online participation in practice and understanding through four lenses or frames:

- A. Outreach and Engagement
- B. Collaborative Communities
- C. The Archival Commons
- D. Transcription Machines



Figure 3.1 An evaluation framework.

These four frames, or quadrants, come together to form a proposed evaluation matrix for interpreting the interaction between online user participation and archival professionalism (Figure 3.1). The borders between the frames are fluid, but together the quadrants provide a conceptual map to help make sense of the ambiguities and contradictions, ideological inclinations, and variety of configurations observed in contemporary user participation initiatives in archives. The aim of the matrix then is not to provide a definitive classification of online participation in archives, but rather to set out a framework through which existing practical initiatives can be reviewed, particularly in terms of their influence on archival

professionalism (or conversely, the ways in which professionals have sought to shape online user participation). Should success in archival 'crowdsourcing' be gauged in the same terms as outreach or volunteering? Or if crowd initiatives can be distinguished within a broader concept of participatory practice, how might this insight affect the design of future ventures which seek to reach out to the widest range of participants?

Any single project may exhibit characteristics from more than one frame simultaneously. For instance, many transcription projects combine a directed primary task structure (the Transcription Machine) with a participant-managed forum to boost intrinsic engagement and to facilitate learning amongst the members of the participant group (a Collaborative Community). Therefore, the model is proposed as a tool to extrapolate patterns from interview and documentary data about user participation practice, at the intersection between project configuration (the upper and lower halves of the framework) and the participants' social interaction (the left and right hand sides of the matrix), which can then be analysed for impact at the more abstract level of the archival profession. This analysis questions the extent to which online user participation should be viewed as inevitably threatening or calling into question more traditional conceptions of an archivist's role and expertise, but also exposes some fundamental contradictions in the way user participation is perceived from a professional standpoint which may be restricting the imaginative development of a more radical vision for user involvement in archival practice online.

The upper and lower halves of the user participation framework represent contrasting approaches to the structure and management of online user participation projects, using Burns and Stalker's classic distinction between 'mechanistic' and 'organic' styles of organisation (Burns & Stalker 1961). Here, this spectrum pertains to the structural

coordination of user participation, whether underpinned by specific goals and objectives (mechanistic) or taking a more flexible and open-ended approach (organic).

It is important to note that whilst a mechanistic structure might be assumed to represent directed management by a formal institution, there are examples in participatory practice where a mechanistic approach has been designed and implemented by the participants themselves. Many programmes with a genealogical focus, for example, are entirely volunteer-initiated and run, but many of these are configured with a formalised command and control structure. For instance, the long-running FreeBMD project (<http://www.freebmd.org.uk/>) uses a syndicate system, with appointed local coordinators and separate data teams for checking accuracy. The Crew List Indexing Project (<http://www.crewlist.org.uk/>) is another such project which featured amongst the interviews conducted for this PhD research (P33, P42). Other projects operate as consortia led by external (non-archival) professionals and subject specialists, but have similar tiers of responsibility for separate parts of the processing of contributions. In association with the Old Weather project, for example, a specialist in naval history coordinates the extraction of chronological ships' histories from the log data transcribed. The role of the custodial institution in such partnerships varies greatly; in some instances, the organisation is a formal project partner, and archivists and other heritage professionals are involved in the design or testing of the participation interface or in supplying expert contextual knowledge on archival sources (Operation War Diary, for example — <http://www.operationwardiary.org/>); in other projects, the archives organisation may be merely a supplier of source material or digitised content. Clearly the impact of online user participation upon professional practice will vary according to the specifics of such partnership arrangements, and also with the individual employer's appetite for risk or tolerance of professional autonomy. A risk-averse organisation may restrict the capacity for changes to the professional archivist's role, perhaps

unintentionally endorsing an overly cautious approach in order to maintain the organisation's reputation or traditional position of authority.

The left and right sides of the participation matrix are created from Haythornthwaite's (2009a) 'crowds and communities' peer production spectrum, representing the motivations and behaviours of online participants. 'Crowd' in this model does not necessarily refer to large numbers of people, but instead relates to the relative strength of the social ties between participants, being strong within a community, but becoming weaker as the continuum line moves towards the crowd. In a series of blog posts (later worked up into an article) discussing crowdsourcing in the context of cultural heritage organisations, Trevor Owens contends that most successful projects in libraries, archives and museums in fact are 'not about crowds' but merely continue the volunteering tradition by 'inviting participation from interested and engaged members of the public' (Owens 2012, 2013). This may perhaps be true of specific projects taken in isolation, but interview evidence suggests that a wider ambition to 'reach out to as many people as we can' (P127), the hope of tapping into diverse new audiences on a scale unimaginable without the Internet, making niche areas of history and research accessible, and capturing the interest of a wider public — all these remain the inspiration, if not always the reality, for many online participation ventures in a wide range of archives, including local record offices as well as The National Archives. Haythornthwaite's conception of a crowd retains this all-embracing sense of scale, as well as the potential for 'ephemeral interactions' (P135) and comments of a more serendipitous nature from participants with no previous connection to a particular organisation 'just flitting around, doing it fairly randomly, so it's not structured in any way' (P132).

A similar distinction to Haythornthwaite's between community and crowd is made by Amy Sample Ward in the wider context of engagement strategies for non-profit organisations

(Sample Ward 2011). This model uses the idea of the network (the ‘community of the community’) as a linking device between the two concepts and locates the organisation within an engaged, often local community (Figure 3.2). Superimposing this model on the evaluation framework in Figure 3.1 gives a starting or tethering point for the archives organisation in the bottom left-hand quadrant (Outreach and Engagement). As the word ‘outreach’ suggests, participation in this mode emanates outwards from the organisation, moving outwards from archives’ traditional onsite and local audiences towards the more loosely connected or perhaps less well defined or understood communities and interest groups at a greater distance from this core.

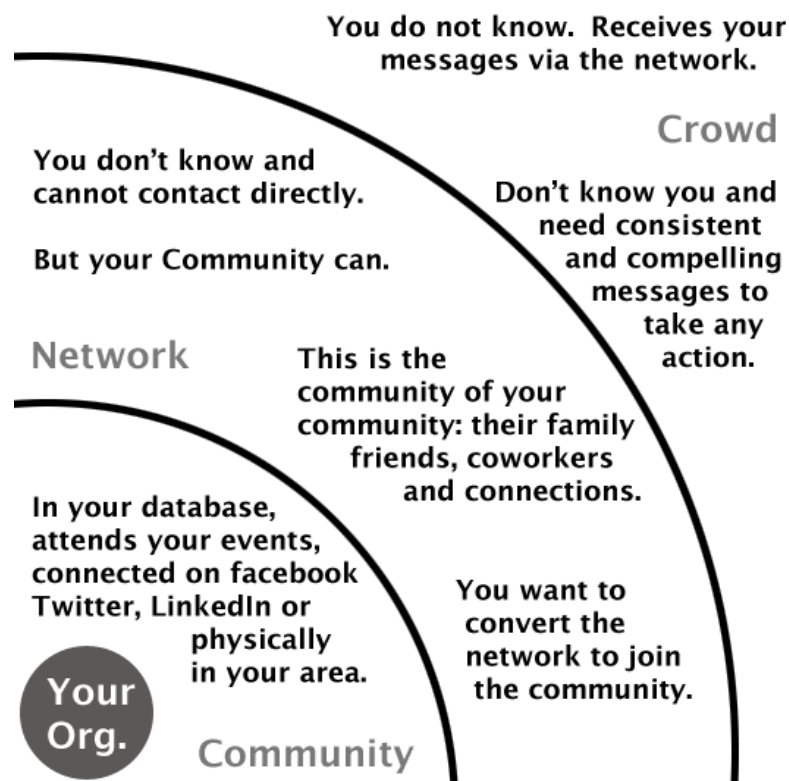


Figure 3.2 **Community.Network.Crowd.**

Reproduced from Sample Ward (2011) CC:BY-NC

A. Outreach and Engagement

In the bottom left hand frame, Outreach and Engagement, online participation focuses on specific groupings of users and has much in common with traditional audience engagement and marketing initiatives, extended in reach and ambition by means of the Internet. As an alternative to building bespoke platforms, and perhaps frustrated by the conservatism of acceptable professional practice or a lack of success in attracting participants to venture within the online boundaries of the archives organisation, some archivists have turned to external social media services, such as Flickr and HistoryPin, to provide a space for user participation:

Social media sites that are not on the [organisational domain], we figure they're more out in the wild, and so [...] for example, Flickr tags, we don't... those go live immediately [...] But when its on the [organisational domain] we're a little more careful about making sure, you know, that it's appropriate before it goes up on our site. (P28)

Yakel suggests that engaging with these third-party services functions as 'the initiation into and understanding of social norms in these peer production systems' as staff in archives institutions learn the 'social conventions [necessary] in order to participate' (Yakel 2011a, p. 86). Professionals interviewed also rationalised this involvement with social media as an exercise in taking archive material out beyond individual archives' immediate, local audience boundaries to a place where an interested audience is hoped or believed already to exist:

I think we should be working in the spaces where people are [...] Why spend all that effort community building when you could go out to communities that already did this? And that's why I'm interested in using other third party websites, because rather than building something online and waiting for an audience to come to you, you take the material to where the audience is, and you encourage them to work with you. (P139)

Yet although community engagement initiatives may aspire to a 'two-way opening up' (P31), the boundaries between 'us' (archivists and archives organisations) and 'them' (users or participants) remain substantially intact. Approaching a tightly-knit community of interest

with a mechanistic approach to project planning and management of user participation can lead to some structural friction. The strategy has still to be sufficiently flexible to handle the inherent unpredictability of user participation, but behind this lies a propensity towards bureaucratic control. Participants are invited to contribute content but are not involved in design decisions around the process of knowledge creation:

We were very careful to frame that interaction, to be clear that this was an exercise in gathering information from that community, and not an exercise in the community making decisions. We reserved the decision-making to ourselves, but what we did commit to was to acknowledging all of that input and giving a view of the timeline when aspects of that input might or might not be implemented, even though we might not be implementing it immediately. (P11)

And as a strategy begins to crystallise around the use of third party social platforms, further organisationally-defined, time-bound objectives may begin to emerge:

[This project] is really well thought through about how it can be timed in with key events, how we can work with marketing and press to provide leverage on the content, how we can feed into academic papers. So those ones seem to, they're setting a benchmark as to what we should be aiming for, rather than, let's just do another volunteering activity, or let's just, you know, tag content, or provide catalogue descriptions on the web or whichever, which are far more generic, and far more, you know, un-event related or un-time constrained. (P135)

The impact of user participation in this outreach frame is therefore constrained into the confines of discrete projects and target user communities:

Within my department, we're looking at managed programmes. So we will look at what projects do we think need doing, through consultation with academics and leisure historians and staff; how big a group of contributors do we think we need; where will we get them from; how long will the project take — so in other words, a planned programme. (P6)

Or controlled through the careful selection of 'appropriate' archival content:

We are being selective and choosing things we think merit most attention and giving people a variety of things to do. (Archivist quoted in the *Shropshire Star* 2014)

Supplementing professional description

User participation in this conception is envisaged as ‘something like the public helping or *adding to what is known* as our Catalogue with their ideas of *additional information* to the *descriptions that are already there*’ (P25 — my italics), and seems to require a bedrock structure of professional description onto which users are invited to add embellishments:

I think the idea was to try to encourage user-generated content, to engage with users, because we’re offering them the opportunity to search across a range of databases [...] So the idea was for people to leave comments about ‘I know something about that building’ or ‘I know something about that person’, which added to the store of knowledge that we already had. (P26)

However, the impact of this exchange upon the professional function of description is limited almost by design, since user contributions are treated as supplemental rather than fundamental (‘it’s been a nice-to-have rather than a business critical activity’ (P148)):

So if users are just contributing information, either not terribly structured or in a way that’s being reused, that’s not actually that collaborative is it? It’s not necessarily a proper dialogue going on there. (P139)

Since participation in this outreach mode (and subsequent access to the contributed content) is generally staged in spaces apart from the main archive service website (either on third party hosts such as Flickr, or sometimes on specially designed user participation micro-sites) the results of such projects are often poorly integrated with finding aids and other organisational web resources (for example, user tags are not returned in Discovery search results — see p. 208). This severely restricts the impact that the interaction with new users might otherwise have had upon professional practice (or upon established researchers who have no reason to encounter the contributed information in the course of their habitual work routines):

Interviewer: And so, where you get contributions to this website, are they harvested and incorporated in your finding aids in any way?

Interviewee: Yeah, they just sit there really. (P132)

Community advocacy

Nevertheless, success in this style of user participation is still contingent upon professional sensitivity to the external user environment, and a new degree of empathy for the participants' points of view in order that community participants can feel fully involved:

So [an employee]'s taking the [...] images and she's going to spend a good couple of years doing proper outreach with them, so, kind of, really going to the communities and *asking what they want to do with the pictures*, as much as us just putting them on Flickr. (P31 — my italics)

And for archivists to be able to reach out to and negotiate relationships of trust with new groupings:

We're kind of preaching to the people who already want to be there and one of our challenges is to widen that out as much as we can to people who don't know about us but would be interested anyway. (P41)

The purpose of user participation in this frame of reference is thus understood to be 'widening the community for the activities we do, so there's a wider buy-in to our reasons for being here' (P22), and is closely linked, in an evolutionary sense, to issues of organisational sustainability. Participant 'energy' is sought to promote the sustainability of the archival enterprise by widening the pool of advocates for the activities of archives, and also as a response to turbulence and complexity in the external operating environment, to economic pressures and to public policy and legislative shifts which challenge archivists to show strong leadership in shaping the future of the profession towards greater openness and flexibility (Morgan 2006):⁹

Interviewer: Why do you think that TNA has decided upon a strategy of user participation?

Interviewee: Now we have the Big Society thingy, and the recruitment freeze, and spending cuts. These are reality. So any manager will say 'If I don't have staff resources to do something, can the user, can the customer do this for me?' [...] And I think that user participation and wikis may be flavour of the month and then they may be here for some time, and then they go. And hopefully we will survive. (P10)

⁹ A useful summary of relevant recent developments towards greater openness and accountability relating to the U.K. archives sector can be found in Dacre (2009).

The archivist as intermediary

Such an injection of user energy also appears to be what Tom Nesmith has in mind when he describes how ‘archivists could draw more deeply on historical information and interests in order to perform better their distinctive archival work and to meet the challenges they face as a distinct profession.’ Importantly, ‘this is not hankering after an archivist *cum* historian, but for an archivist to be ... inspired and renewed by history’ (Nesmith 2004, p. 4). Currall et al. (2006, p. 117) warn, of information available through Google which is of high quality but has not been authenticated by information professionals, that ‘if custodians refuse to engage with this agenda, they will be presiding over the marginalisation of their professions and by extension the resources they are responsible for.’ Similarly, the outreach form of participatory practice represents a professional renewal if not a professional re-birth (‘if you stay with only what we do now, you know, we’ll become irrelevant’ (P28)). The role of the archivist here is ‘probably some sort of an intermediary between the archives and all sorts of users’ (P37), or an active broker or educator between organisation and target user communities (Duff et al. 2004; Hedstrom 2002), and calls for a deeper involvement from the archivist in interpreting and presenting the archival record to those users:

As far as I’m concerned that is our role. You know, just to accumulate within a catalogue more and more information about the records in the collection, that is not [...] the be-all-and-end-all of an archive. And if you don’t go out and tell people what’s in your collections, why they’re important and take people by the hand to understand them, then you might as well not bother. (P139)

Cognitive authority

But this is also a boundary gatekeeper position, which keeps in place much of the traditional structure of archival authority. Editorial control in these outreach enterprises is usually reserved to a staff moderator, and contributions may be modified or rejected according to

professional judgements about suitability and pertinence. This gatekeeping function may encompass a genuine need to keep offensive or derogatory contributions at bay:

We keep those comments up, unless we feel that the language used has been inappropriate or there are legal issues in what they're saying. And [in one case] we tactfully wrote back to the member of the public and said your contribution is very welcome, but there are words there that we don't have on our website. So we've re-written it, and this is what we've said, and we hope that it's reflected what you mean to say, but in a different way. (P127)

But at times extends even to the extent of leaving open a professional right to refuse user participation as a desirable *modus operandi* altogether in certain circumstances (Kennedy 2009):

I think if we had focused this as just a way to catalogue things, and give guidance to things that relate to our material then, you know, half the stuff, we would turn around and say, look, it's very nice, it's very interesting, but sorry, no. (P148)

Yakel argues, following Patrick Wilson, that the authority claimed here is a kind of cognitive influence — the archives institution and the archivist acting in concert as a proxy for personal knowledge of the accuracy of archival finding aids and the authenticity of the records described therein (Wilson 1983; Yakel 2011a):

There is provenance and authenticity in those descriptions. And of course there will be errors that we are very happy to correct [...] little errors, typos and so on. There will be errors, but we need to put our money where our data is, and back its authenticity and its quality. (P136)

It is an authority which users may be willing to recognise in the archivist (Krause & Yakel 2007), since it implies no right to command, and also lessens the filtering and verification burden on the research user, as this interviewee — who played a dual role as both participant and experienced archives researcher — acknowledged:

Well, it would not have the same quality certification, so to speak. If anyone [who] was interested in the history of, I don't know what, cars, started a site and anyone could contribute, it would not have the same authority, I think. (P37)

But it is also an authority vulnerable to allegations of censorship, as well as to false or offensive user representations, even where the archive service operates a relaxed moderation policy — ‘I’ve been surprised by the amount of openness in the comments. One individual is convinced that records are being withheld’ (P26). The tension here is apparently unresolvable within this frame of reference, however, especially since the instinct to control may stem as much from defence of the organisation (or a pro-active branding exercise) as from professional inflexibility or genuine sensitivity over content: ‘I think there is a reputational and authoritative risk [...] We are a government agency — there’s a risk to our reputation’ (P21).

B. Collaborative Communities

More rarely, a more thoroughgoing remodelling of archival practice is sought which aims to break down, or at least to redraw, the boundaries between ‘us’ and ‘them’; boundaries which outreach and engagement techniques seek only to navigate.

Evolution and flux

To achieve this shift, both archives organisations and the archival profession actively seek to embrace uncertainty in the environment, as a catalyst towards new ways of working; challenging the archival status quo, and scanning the horizon for arising opportunities:

What’s happening is that, internally, the culture’s changing, and a lot of that has to do with what’s been changing in the outside culture. So the types of people who are now merging the disciplines of technology and the humanities, the digital humanities, how that has become a very popular pursuit, and possibly a target audience that we wouldn’t have had a number of years ago. So everything’s in a kind of a state of evolution, at the moment. We went through a bit of a period of experimentation and exploration of the landscape a year ago. Now we’re consolidating a few of those ideas and those learnings. (P41)

This frame sees archival practice in a state of evolution and flux, indicating a greater depth of change than the professional renewal brought about through the outreach and engagement frame.

In particular, before archivists can participate equitably in a collaborative community with participants, they must first address any 'cultural issue over sharing knowledge' (P12) within their own domain. The literature is critical of the high visibility of archivists, rather than users, on some public participation sites (Palmer 2009; Yakel 2011a). But an alternative reading might see this as an important staging post in the transformation of archival practice, in learning to share archival descriptive knowledge more openly and in new and more adaptable ways:

A lot of the time, it's actually our own staff which are developing benefit out of [user participation platforms] ... in terms of staff being able to talk about the records in the way that they want to talk about them, make their own connections and so on, I think that the value in that sense is in people getting comfortable with publishing stuff which is public reasonably quickly. (P41)

In this way, archivists can learn to identify areas where current professional processes and services fail to meet user needs. The next step is to entrust specific user communities to help resolve these issues by reorienting participation opportunities around the intrinsic interests of the diverse communities of practice which already surround the archival record (for instance, family historians, geographers and economic historians might use the same source, but in different ways):

So what we're trying to work with our volunteers or other interested community groups to do is to create shortcuts between, you know, a [catalogue] system which we have to sort of keep as it is, and the information people actually want out of it. (P41)

Collaborative community coordination

When user communities are invited to input into the *processes* of participation in this way, to help establish the aims and objectives of the collaboration as well as to contribute content, the results are no longer restricted by the established structures of acceptable professional archival practice: 'I mean, you don't want to define it too narrowly or you can kill something that, you know, you wanted to be able to kind of grow organically' (P28). The professional role is reoriented away from a mechanistic focus on strong archival leadership and hierarchically determined goals towards a new emphasis upon facilitation, dispersed community coordination and progressive design.

Where you open it up and let people, you know, you might have some confines but you allow them to just do what they want to do and you trust them to do it properly, and you accept the fact that there might be issues with it. (P14)

Tolerance and patience is required here to give time for pattern and order to emerge from within the collaborative community, but participation can then begin to move beyond a channelled supply or exchange of supplementary descriptive information towards a deeper understanding of historical sources:

User collaboration is not just the catalogue, it's also the stories, and I think that's what's going to sell it. A record's a record's a record, but until you can bring it out — what it is, how you use it, as a historian how you've used it, at that point that record becomes something living. It's not just a catalogue entry. It's actually... this can tell stories of something. (P12 — an archivist at The National Archives)

And through sustained participation, a basis for genuinely new knowledge creation and un-anticipated discoveries arises out of the network of (redundant) connections:

Our history with community has come from completely ignoring it [...] and realising, first of all, that we couldn't cope with the flood of interest [...] but also that seeing all sorts of useful extra things coming out of having a community. The sustained and meta-users [...] exist partly because there's a community, that's a good tool for getting people to get more involved. And so we've often found that a lot of research has come out [...] A lot of these things come about through collaboration amongst the community, who are able to go a long way without our input, once we've provided a space. (P18)

The greater freedom granted to participants within a collaborative community may also lead to the creation of new descriptive services, such as visual finding aids or ‘mash ups’ using archival data — for example, *The Guardian’s* visualisation of data from the Old Weather project mapping the movements of Royal Navy ships during the First World War (Rogers 2012):

You know the things that users come up with, of course in all these projects, what’s the point? It’s to increase the knowledge base beyond your own, the ideas that the users contribute are bound to be more interesting than the ones you’ve had yourself. (P139)

Shared authority & debated meaning

Online collaborative communities thus resolve the tension of cognitive authority seen in the outreach and engagement frame by sharing control and distributing domain intelligence and responsibility for coordination, moderation and site sustainability throughout the whole community (Wasko & Teigland 2004; Yakel 2011a):

I wanted to introduce actually giving oversight to the users [...] We need to try and get the users involved as well, give them some sort of ownership, because they will then feel that they belong to it. (P12)

This may demand unaccustomed levels of professional humility: recognising that archivists ‘make errors just like anyone else’ (P42), and welcoming dispute and debate around the contents of a ‘catalogue [which] is evolving all the time’ (P25): ‘if you don’t agree with the reading, put us in your own one, it’ll be indexed, people can take their pick of it. So nobody’s overwriting anybody else’s but they can add their own one’ (P132).

C. The Archival Commons

The Archival Commons metaphor characterises user participation in archives with a strong ideological bent which presupposes radical changes to the professional role and function.

This is an understanding shaped significantly by a popular rhetoric which promises a relentlessly positive social transformation on a dispersed, global scale through user engagement with Web 2.0 technologies. Consequently, it is sometimes dismissed as a utopian and overly romantic vision (Schafer 2011): 'I think the picture of success is like, you build it and everybody comes flocking, and it all takes off, which is more like a fantasy of success' (P41). Nevertheless, it is a vision that continues to be influential in shaping the user participation field in archives and within the cultural heritage sector more generally (for example, Fleurbaay (2009); Smith-Yoshimura & Shein (2011); Zarro & Allen (2010)).

A global strategy

In the scholarly literature, the idea of the Archival Commons has been put forward in some detail in two articles in the *American Archivist* (S. R. Anderson & Allen 2009; M. J. Evans 2007). In essence, the concept could be summarised as an all-encompassing, postmodern, archival ecology where 'archives are not singular destinations for research and inquiry, but are integrated into the daily fabric of activities'. In a further illustration of how prominent national cultural tropes colour the notion of user participation, Anderson & Allen further envisage 'a decentralised market-based approach to archival representation' (seemingly recognising no potential inconsistency with references elsewhere in the article to 'a democratic culture') within 'an archival postmodern frame of reference where peer-based functionalities can improve contextual positioning of materials within the traditional delineation of a collection but also within the global view of a universe of cultural artifacts and human knowledge'. They anticipate a shift away from a professionally regulated,

'singular arrangement' of archives towards a malleable, continually evolving descriptive practice reflecting the 'constantly changing views and meanings' of archives. This is a vision of archives for an (Americanised) global, interactive society; an emergent, organic orientation representing 'a sea change in how users engage' with archives online (S. R. Anderson & Allen 2009, pp. 384–390; M. J. Evans 2007; Pockley 2005).

As its crowd position in the user participation framework indicates, this 'distributed but integrated' (S. R. Anderson & Allen 2009, p. 389) mode of user participation is envisaged to operate at a cross-repository, cross-domain, network magnitude, reaching 'thousands of potential volunteers' (M. J. Evans 2007, p. 395). A sense of global scale is also expressed in the promotional texts prepared for archives participation initiatives: an ambition to reach as many people as possible, particularly the elusive new users, using an inclusive, welcoming vocabulary: explore, share, collaborate, contribute; and an awareness of archives' position as part of a wider cultural heritage information network (P4, P26, P138, P148). An archivist from a local record office commented:

It takes us out of the archive environment and puts us into the 3D world rather than the 2D world. And I think that makes... it certainly makes me think more carefully how archives fit into the general heritage framework. (P127)

The strategy here is holistic:

So it's not a series of individual projects, but there is a sort of philosophy running, a standard running through all of them. (P41)

And intended to deliver more than 'simply transferring the representational products and the current archival norms of descriptive practices from the repository to the web' (Yakel 2011b, p. 259). For The National Archives too this is a vision which is potentially transformative for both the institution and for the professional functions carried out within it:

For sure you don't need really to stop and think about it for very long before you can start to come up models or mechanisms or ways in which the distributed value creation, network benefits, ease of re-use,

commercial exploitation around public, open and free yield you very different ways of operating. (P138)

Indeed, taken further still, this 'democratic' Commons vision disperses any conception of the archives organisation as the exclusive, authoritative fount of knowledge, but rather moves towards a new notion of the institution as simply one node in a network of creativity surrounding archival material held in trust for current and future global generations:

Providing public access to the material, that suddenly becomes not from one place but from many places, so it naturally takes you towards a multi-channel strategy. It reduces the burden of innovation and delivery on the archives because we wouldn't have to build the iPhone app and the iPad app and the whatever it is [...] We would provide a core offering but we would then see flourishing around us all sorts of other types of delivery channel and all sorts of other types of innovation. (P138)

Flexible, linked description

Anderson & Allen (2009, p. 391) too anticipate a shift away from a 'singular arrangement' based upon *respect des fonds*, towards 'the ability to virtually sequence, resequence, and interleave the materials ... based on other criteria such as chronology/timeline, themes (subject or genre), folksonomies, or persons (real or corporate)', which they liken as akin to the Australian series system (although even this method of description does not seem quite up to the object-oriented flexibility that is apparently envisaged). In the five years since the publication of Anderson & Allen's article, new technologies have continued to develop into a plausible practical underpinning for the Commons ecosystem (Boley & Chang 2007), enabling the envisaged 'interoperability with the world' (P138) elasticity of 'a new, decentralized, access-oriented' (S. R. Anderson & Allen 2009, p. 384) style of archival description; for instance, the use of the Linked Data¹⁰ and annotation tools in archives (see <http://trenchestotriples.blogspot.co.uk/> and <http://archiveshub.ac.uk/locah/>), libraries and

¹⁰ 'A set of best practices for publishing and connecting structured data on the Web' (Bizer et al. 2009).

museums (<http://lodlam.net/>), together with the development of new overarching ontological approaches which support the integration of information across cultural heritage domains, such as CIDOC-CRM (see <http://www.cidoc-crm.org/>). Such semantic infrastructure models meet Anderson & Allen's requirement that the requisite technological components of the Archival Commons should be scalable and 'supported by entities or practices *beyond and outside* the archival world' (S. R. Anderson & Allen 2009, p. 399 — italics in original), and also extend the shareable, extensible, flexible 'web of connectivity' principles of the Commons (S. R. Anderson & Allen 2009, p. 389) into the realm of open data reuse (Stevenson 2011). But we may have to reconsider here Anderson & Allen's forecast of the 'simplicity, openness, and low technical complexity' of the Commons, and question anew the technological skills required of archives professionals and users wishing to interact in the Commons environment (I. G. Anderson 2008).

Expertise, serendipity and the role of the archivist

For the most part, however, it seems the Archival Commons remains a future strategic aspiration rather than a practical instantiation of user participation in current practice. This may perhaps be because the Commons concept relies substantially upon users being willing and able 'to contribute what they have discovered or know' (S. R. Anderson & Allen 2009, p. 395) *and* on archivists being willing to accept their contributions:

I guess you can just put things up and you will get a certain amount back, but it might not be kind of what you want, or what you expect, or what would kind of enhance your catalogue. (P128)

This would appear to imply too that the envisaged contributors to the Commons (researchers, historical society members and students are specifically mentioned) have, like Owens' (2013) crowdsourcing volunteers, some prior experience of archives, and feel motivated to impart their knowledge in a public space. Unfortunately, the dispersed, global nature of the Commons may militate against both of these characteristics.

Firstly, by increasing the likelihood of incidental participation from inexperienced users or individuals who have encountered archives by chance online, who may not contribute what archives organisations expect to hear or express themselves in ways in which archivists want to hear it:

We're not necessarily particularly good at seeing how our requirements of others influences the likelihood of them doing what we want. We tend to expect [...] our stakeholders to do what we want them to do, because we want it. (P11)

Archivists therefore become caught between the conflicting trajectories of an imagined radical professional transformation and the defence of their employer's reputation. This is not merely a matter of inappropriate language or even the pedalling of historical myths and falsehoods, so much as a misalignment between a professional understanding of archival processes of description and access and users' often more emotive and personal responses to archives:

Someone will find that catalogue on our list, and the comments on it will be nothing to do with the catalogue. It will say, 'I was there between the ages of 7 and 14 and I absolutely loved it', or alternatively, 'I had a horrible time and Mr So-and-So beat me savagely'. But they're not commenting, they're not providing information that we can add to the list, but sometimes they will provide information that just enhances our understanding of it, but its very hard, given the way that they've described it, to incorporate that in the catalogue. (P127)

Where contributions do not fit the professional worldview, they may be dismissed as 'diluting the catalogue' or 'filling the catalogue with junk' (P2), or at best providing passing amusement:

A lot of the comments are not terribly kind of profound or detailed [...] But quite funny things actually, it amused me [...] So just a completely different angle, I suppose, that made you look at things in a different way (P128).

Secondly, it appears that the very openness of the Commons — the weakness of social connections amongst the crowd and the consequent fragility of trust between them — may

act as a barrier to sharing by precisely those more expert users whom archivists had most hoped to attract:

Some academics seem to have a sniffy attitude, saying it has a lack of rigour. They don't think it's for them. They're happy to share, but not with 'just anyone'. (P8)

Furthermore, for all the avowed intent to create an open, inclusive space, the *American Archivist* concept of the Archival Commons still reserves a certain centrality for the archives repository as a memory institution. Although acknowledging a theoretical possibility that a person (or presumably, persons) with sufficient power could alter the established relationship between archives and their users, Anderson & Allen are generally curiously unquestioning about the implications of the Commons for archival authority and expertise. Admitting that the 'ratio of hands-on archival expertise to content' may be in decline 'given the abundance of materials' (p. 392), they nevertheless assume without doubt that 'an archives is a "long-lived entity" that will be around to support [a reputation¹¹] service', and further suggest that 'recommendations can be based on extant relationships established by professional archivists' (p. 396). But it is not made clear to what extent this continuation of a privileged archival authority and control over the norms of access and use would be acceptable to users and participants within a Commons-based, peer-production environment:

A researcher in a particular field is so involved in their own work that they probably wouldn't listen to any suggestions from the archivist, shall we say — you know — being rather dogmatic in what they wanted recorded. (P122)

¹¹ 'A "reputation system collects, distributes, and aggregates feedback about particular participants' past behavior"' (S. R. Anderson & Allen 2009, p. 396, quoting Resnick & Varian).

Evans, in contrast, does view the Commons as an opportunity for archives to re-invent themselves according to user and participant demand, and foresees changes to the archivist's professional role in description (becoming organising agents), and also touches on potential access implications in respect of user-contributed descriptions and pay-for-access digitisation models (M. J. Evans 2007). Both articles, however, seem to assume a ready supply of a 'natural pool of volunteers' (M. J. Evans 2007, p. 398) to add value to the archival descriptive process, and relative stability in the way the public encounter archives via a deliberate, mediated encounter with an archivist or the published finding aids of an archives institution. Yet certainly practical experience of participatory initiatives inspired by the Commons ideal is already suggesting that 'if we build it', we cannot assume that 'they' will come (Palmer 2009):

It's never really taken off. When we talked about it initially, the worry was always, how are we going to moderate all this material [...] The exact reverse is the issue. That it's much harder to get people to contribute than we thought it would be. (P94)

D. Transcription Machines

If Outreach and Engagement-style participation is to defend the professional boundary, Collaborative Communities seek to redraw it, and the Archival Commons to dissolve it, a fourth option is to reinforce it.

The metadata mechanism

Within the Transcription Machine frame, the emphasis is upon bureaucratic or administrative control over participant input, which is characterised by the 'less is more' (P11) reductive nature of both the participative task, and of contributors' commonly fleeting commitment to that task and to each other:

We need to make tasks simple and [...] self-contained. Quick to complete as individual tasks. That's not to say there aren't many thousands of them which would take ages, but make the atomic unit of task small, so that

people can do one, go away, and have a cup of tea, do another one....
There's something important about how small the atomic unit of work is,
so that people don't have to commit mentally or physically or in any way
to a long engagement. (P11)

Participants' commitment need extend no further than a passing interest in the overall goal of the project, and they may shun opportunities to contribute beyond the basic data input task (for instance, only a small proportion of registered members of Old Weather are regular contributors to the project forum):

We did try interesting [transcribers] in managing themselves in small groups, but we got some very dusty replies to that one! You know, if we wanted to do that we wouldn't be transcribing for you, we'd be setting up our own project! [...] And they carried on transcribing happily, and still are. (P42)

The issues of attracting participants and of motivating and rewarding performance may even be implemented as a competitive game (Eveleigh et al. 2013; Flanagan & Carini 2012):

If you think about how a computer game is structured, they know how to do this really well [...] Think about things like the way that the levels build across a game [...] you know, there's always something that gets you, and then the idea that you have a rank and you want to improve, even though its only a set of pixels, you really want that badge or whatever it is. (P18)

This mechanical image of user participation can even be extended, metaphorically and also literally, into the ways in which contributed metadata can be released for use through the structured delivery mechanisms of APIs (application programming interfaces) and Linked Data.

Imposed authority and reinforced control

In a Transcription Machine, the type of task necessitates rules and structure be imposed from above to ensure consistent, standardised input (and output):

I think there has to be someone or a group of people who make the rules. Because otherwise it gets [to be] chaos. (P35)

Unlike the outreach and engagement frame, where a mechanistic focus on goals and operational efficiency can lead to tension and conflict, here a top-down style of management is in keeping with the motivations and expectations of the participating crowd:

What they are looking to us to do is to make it easy for them to do the work. They want it so that we give them proper structures or guidelines to work to, because they don't want to create rubbish, so they want that, and they want some feedback. (P6)

And to ensure accuracy, where project success is defined largely as a technical issue of system design:

Well, its not enough to just crowdsource, you have to, like, we have a data reduction step [...] and there's a lot of work that goes into that. Like you've got to design so that it's possible [...] well, experiment design, I'd call it, yeah. (P18)

Quality control becomes a matter of consecutive processing up through a hierarchical chain of command, combined with double (or sometimes triple) entry, statistical sampling and automated error detection:

We do use double-keying [...] then the completed batch is passed to another transcriber who goes through and checks [...] then, at some stage I [...] will look at a fairly random set, sample of that, and check them again against the original and look for an error rate of less than about 5%. At the input end, the database system is set up so that each input is checked, each individual field is checked against a range of parameters, just to make sure that it's in range. (P42)

Since there is no objective here to inspire a creative response from the encounter with archives, the impact upon the professional role too is not transformation so much as extension or translation of function, enabling the archivist to maintain, or even to strengthen, control over both the process of description and its product. The enforced consistency can be viewed as a continuation of the international standardisation of archival descriptive practice, reinforcing control over input standards in order to enable this type of 'crowd' project to operate across consortia of different organisations and subject disciplines (for example, the Velehanden partnership of Dutch local archives, or the Zooniverse archive partnerships, Old

Weather and Operation War Diary). This highlights further a need to revise current descriptive standards, such as ISAD(G), to incorporate user contributions, and to devise consistent citation formats for different layers of descriptive metadata (Sherratt 2009). Meanwhile, responsibility for the actual process of data input transfers to the users, the archivist taking on more of a coordinating role, released from the drudgery of the routine and freed up to concentrate on tasks demanding a greater degree of professional skill.

I'm sure they don't see their role as sitting in front of computers doing data entry, or whatever, they'll be cataloging and classifying and so on and so forth. So I wouldn't see it as a threat, I would have thought they would want to outsource that boring task to people like me. (P33)

The Transcription Machine is therefore perhaps a particularly suitable user participation model for those archival institutions where the professional workflow is similarly 'organised around hierarchical models' (Yakel 2011a, p. 83):

I can see archival work moving from actually doing the work to overseeing a lot of the work, and then to kind of having that depth of understanding of content, being able to exploit that more [...] So that it kind of lifts the profession from that first level work to maybe a second level and third level of work. (P28)

Outsourcing strategy

It was very kind of factory type work. (P28)

But this shift might also harbour a hidden threat to professionalism. The bureaucratic nature of the authority wielded here is not relative to a particular sphere of interest or expertise (Wilson 1983), and hence does not of necessity have to be exercised by professional *archivists*, and the reductive nature of the transcription task is easily dismissed as being beneath the professional dignity of an archivist. Archives organisations have therefore been tempted to outsource responsibility for many such projects to a range of external delivery partners, ranging from the entirely volunteer led and managed (such as the U.K. based Crew

List Indexing Project), to subject-specialist consortia (for instance, Old Weather), to commercial enterprises such as Ancestry. So whereas one benefit of the more community-focused forms of user participation is the advocacy role that such projects can play in raising the profile of professionalised archives services, participants in outsourced transcription machine projects may be disinterested or simply unaware of any link to a formal repository or any input of expertise made to the project by professional archivists:

I mean, as far as I know, the information we transcribe is certainly available on family history sites. I thought The National Archives did have something to do with it, the Kew people, but I'm not sure. No, it doesn't matter to me. (P33)

Furthermore, restrictive licensing deals or simply a lack of foresight over intellectual property rights can also lead to a loss of *archival* control over the extensive quantities of descriptive metadata generated by such projects.

In the archival world [...] there's a commercial digitisation conversation that works like this, around licensing and generates us income, and there's a user participation approach that feels like volunteering and works like this, which is something that people benefit from. And there's naturally then some resistance to sort of like conflating one thing with another. (P138)

This is a particular issue in the context of the increasing prominence of open data releases and the potential for 'big data' computational research in cultural heritage domains (for examples, see Williford & Henry 2012). As the role of the archivist shifts away from the sole authorship of description, a new opportunity or imperative opens up in respect of descriptive information retrieval: linking together the multiple representations and contexts of each archival asset, and devising new tools for filtering, searching and understanding the historical world. Yet reconciling an archival concern for access with economic responsibility at the organisational level is an unresolved problem for user participation, perhaps of all types, but particularly within this Transcription Machines frame:

I have nothing against people taking our data and doing something outside, it just would be nice to have it here as well, and not to lose it, if its good, particularly if it's good. (P136)

Redrawing professional boundaries

Writing about the relationship between museum computing practice and the emergent theory of digital heritage, Ross Parry (2005, p. 343) has observed that ‘commentators ... have too easily adopted the posture of either advocate or sceptic’. He identifies a need to find ‘more nuanced ways of thinking and communicating’ which resolves this polarity between the advocate’s enthusiasm for professional revolution on the one hand, and the sceptic’s fear of professional demise on the other. Similarly, the impact of online user participation upon archival professionalism has been conceived and discussed as a straight line, a tug of war between greater openness towards users in one direction and the forces of professional traditionalism in the other. Archivists’ own conflicting attitudes towards user participation can also preclude open and honest learning from experimentation, and especially from failures, in participatory practice. On the one hand, archivists are drawn towards online participation by a desire to be (or to be seen to be) pioneering and involved at the cutting edge of modern practice, in the (often false) expectation of the ready availability of an ‘online volunteer army’ (*Shropshire Star* 2014). But this innovative outlook is heavily tempered by a long-standing professional defensiveness (or insecurity) concerning an archivist’s specialist knowledge, skills, and employability (Archives and Records Association 2011). This is not in itself a new professional predicament: fifteen years ago, for instance, the authors of an article reflecting ‘on the proper role of volunteers in record offices’ could write of common sympathy for the ‘view that volunteer cataloguing, if extended and normalised, risks consolidating an imbalance in our professional work and hindering the development of our document skills’ (Bateson & Leonard 1999, p. 76). The association of volunteering with the virtual world has moved the professional front line well beyond the doors to the record office. But the new border is not (or not yet) straight or static, rather it is flexible, contingent, and regularly redrawn.

The pattern of professional change is not necessarily then one of incessant progress towards a grand, participatory goal: rather spurts of change are clearly intermingled with episodes of consolidation or continuity (the decommissioning of Your Archives considered in the wider context of the User Participation workstream at The National Archives, for example), or sometimes periods of what the management academic Henry Mintzberg labels *limbo* (indecision) or *flux* (no evident pattern). Mintzberg views the development of strategy within organisations 'as the interplay between a dynamic environment and bureaucratic momentum, with leadership mediating between the two' (Mintzberg 1978). Many of Mintzberg's observations about the dynamic, fluctuating nature of strategy formation are illuminating in reference to the unevenness seen in contemporary participatory archives practice. When a participatory strategy emerges from a stream of rather *ad hoc* decisions, the impact upon archival practice may not be as consistently innovative as promotional materials and the professional archival literature suggest. Additionally, not all online user participation initiatives in archives are necessarily purposeful; indeed it seems that many are evoked simply by the ready availability of third party resources such as Flickr, examples of emergent 'strategy in action' (Moncrieff 1999) which are only later formalised as part of a strategic shift towards participatory practice:

Interviewer: So what would you do differently if you were starting again?

Interviewee: I'd probably do the strategy first! (P135)

This chapter has proposed a framework to support a more 'nuanced' analysis of online user participation in the archives domain, given the broad landscape of participatory practice which has already developed out of the intersection of theory and practical experimentation. Using the matrix to reflect on the strengths and weaknesses of current practice, it becomes evident that a revolutionary transformation of professional practice is not always either the objective nor the outcome of user participation initiatives in archives, and that a more

circumscribed evolution is equally legitimate and justified in certain contexts. Also, the depth and pace of professional change may be bounded by the reluctance of one archival user community to accept or engage with another community:

Archives, I think, have a much better understanding of the non-academic community, and actually a lot more respect for the non-academic community [...] And that's a different hurdle that's got to be got over, that [academic historians] have to accept, or should be encouraged to accept that [participation by non-academic historians] can be useful. It may always be different in nature, but it can be useful. (P94)

Table 3.1 below attempts to summarise the various differences of perspective highlighted in the matrix analysis in regard to certain practical functions — description, co-ordination of participation (the building of trust) between professionals and participants, and 'reconstructability' (an extension of access and use to support learning and innovation) — and in relation to variations of strategic perspective which influence participatory practice, and the type of authority claimed for the archivist's professional role:

	The Archival Commons	Outreach & Engagement	Collaborative Communities	Transcription Machines
Descriptive Practice	Linked	Exchanged	Shared; Debated	Extended; Standardised
Co-ordination / Trust	Fragile	Contingent	Collaborative; Responsible	Attenuated
Reconstructability	Innovative / Serendipitous	Designed learning	Debated	Separated
Strategic Perspective	Global	Emergent 'strategy in action'	Collaborative; Evolution & Flux	Outsourced
Authority (Type)	Dispersed	Cognitive	Shared	Bureaucratic

Table 3.1 Implications of online user participation for the professional role.

Blurring the boundaries between the four different approaches highlighted by the matrix is some inevitable degree of reorientation of the archivist's role away from input into description (writing catalogue descriptions and authoring definitive guides to records),

towards output and the creation of more flexible and open-ended tools for structuring, filtering and understanding the abundant richness of metadata about archives. Menne-Haritz (2001, p. 77) terms this service 'reconstructability' — 'a method of providing the possibility to create new knowledge and to learn from the past'. Archival description in the context of user participation becomes more than merely a means-to-an-end, a process that leads to the production of stewardship documentation and finding aids, and more an end in itself; i.e. a way of helping users to make sense of archives in the complex, hyperlinked environment of the Internet (Bunn 2011), or a 'knowledge environment' open to, and enriched by, multiple and sometimes conflicting contexts and interpretations (Cameron 2003). This is perhaps most plainly evident perhaps in the challenge of how to integrate the more discursive — narrative, thematic, or visceral — sorts of user contributions (which are the most likely outcome of community engagement, or of the debate and discussion encouraged under a collaborative community framing) with established descriptive information architectures based upon the archival principle of *respect des fonds*:

And even if we say we're not going to... we don't care about the quality, we've still got to ensure that it's appropriate. That it feels relevant, that it's in the right space. You know, 'this is my grandfather' in a catalogue is not good enough. In a story, fine, but not in a catalogue! (P12)

Your Archives was so narrative and so idiosyncratic, it was very difficult to re-use it. (P12)

But it is equally an issue with regard to (for instance) normalising the variant readings of a document transcribed or indexed by a crowd participating in a transcription machine project, or in distilling the essence of a long comments thread to facilitate later re-use of the contributed content (Hansen 2007) or in establishing the provenance and accuracy of descriptive information sources linked together in the Archival Commons (Groth et al. 2012; Stevenson 2012).

The encounter between profession and participants might still be productive even where it is not professionally transformative. For Justesen (2004, p. 84, citing Katz & Lazer 2003), learning entails gaining 'more knowledge about an existing domain', whereas innovation 'is about the exploration and creation of new domains'. Hence an Outreach and Engagement project is intended to prompt an exchange of knowledge surrounding chosen archival sources, whilst a basic Transcription Machine is designed to extend professional description with additional layers of standardised or normalised detail which cannot (currently at least) be extracted from manuscript source material algorithmically by computer.¹² These are both examples of learning, but both may leave professional descriptive practice itself relatively unscathed, since participation is channelled towards a pre-determined output or an outcome designed to complement rather than change established professional work methods (a mechanistic framing). In the context of citizen science, Bonney et al. (2009) have termed such initiatives *contributory* projects, as contrasted with collaborative or co-created projects where participants have more input into the design of the work they undertake (here regarded as a community framing). In some instances, particularly in Transcription Machine projects, outsourcing a task to the crowd may even substitute for paid labour, courting ethical controversy, but this is generally justified as freeing up professional time to focus on more expert phases of the overall process. In the Transcribe Bentham project, for instance, participants carry out the initial transcription work which might previously have been undertaken by an editorial assistant, enabling staff to concentrate on the more detailed work of preparing the transcriptions for formal publication (Causer et al. 2012).

Such contributory projects are often conceived and understood as enriching a pre-existing barebones informational structure about a particular set of historical sources, whereby

¹² Quinn and Bederson (2011) would site the task of transcribing handwritten data in the intersection between crowdsourcing and human computation, allowing for some work to be undertaken by a single person in isolation as well as in the context of a group.

supplementary knowledge is ‘pulled’ from the participant and embedded within the professional domain of practice. In such cases, the host sphere of practice (‘competence regime’) remains strong, absorbing new knowledge into the established domain rather than being challenged by it (Justesen 2004, pp. 83–84, 89). But a transfer of knowledge (learning) still occurs in the opposite direction, relating to participants’ initiation into professional norms of practice — such as learning the expert language used to describe a medieval charter, perhaps, or the terminology of the nineteenth-century Poor Law. Consequently, there may also be modifications to the professional role, but here directed more into the realm of reconstructability — towards a greater emphasis on providing packaged interpretative materials in the case of an Outreach and Engagement style project, for example, or in the case of a Transcription Machine, supplying expert collections knowledge to external consortia, or helping to design novel research tools to promote use of the newly transcribed details (Fleurbaey & Eveleigh 2012).

More innovative outcomes are achieved when the participants’ outsider perspective is able to influence an established specialist or professional domain to shift in new directions — although learning is also a pre-requisite for innovation, and vice versa, so this process is also always cyclical and iterative. One example of this might be the committed community moderators and super-contributors in a Transcription Machine who make suggestions for project enhancements and adaptations. Other participants may wish to use the transcribed information in their own research, or to explore and experiment with new ways of presenting and understanding the data. Many of these innovations will be in themselves just small-scale redefinitions of practice on the boundary between professional and participant communities, but together they can contribute towards some broader shifts of perspective. Justesen (2004, p. 84) labels this process ‘incremental innovation’. Included here might be the growing appreciation amongst archival professionals of the sustained effort required to motivate and

support contributors, moving well beyond a simple understanding of participatory practice as simply 'a means of designing a better and more user-friendly finding aid or of crowd-sourcing metadata in an era of diminishing resources' (Yakel 2011b, p. 258).

Justesen additionally connects the complexity of the knowledge exchange which takes place to the strength of the ties between participants. In the case of the Outreach and Engagement framing, the trusting environment necessary for knowledge exchange rests upon professionals' sensitivity towards a target participant community which is already closely bonded:

I don't think we will create a community from nothing. I think something will have to exist before we get there, as of nature. (P11)

And consequently this negotiated trust will probably be limited to the specific confines of a particular project, and contributions may be 'written mainly for their importance to the individual as opposed to having significance' in a wider historical or archival (institutional) context (Affleck & Kvan 2008, p. 275). In the case of archival Collaborative Communities, the community framing enables the building of responsible trust (Espejo 1999, p. 652) and thus perhaps benefits discussion around sensitive topics or issues of some historical or technical intricacy. In contrast, the diversity of weakly connected individuals who make up the Archival Commons crowd are well placed to diffuse less specialised knowledge or more widely appealing content into a range of different external contexts or in ways novel to the archival and related professions. An example might be the participant-curated PhotosNormandie Flickr project which deliberately replicated (described as 'liberated') out-of-copyright images outside of the professional custodial context in order to boost access and interaction with the photographs (Peccatte 2011). However the fragility of trust across the dispersed Commons network also calls for new approaches to establishing the provenance of contributed information, and for professionals to take responsibility for the development of new tools to

help users scrutinise and evaluate the reliability of sources of such information encountered outside of the archival context (Groth et al. 2012; J. Simon 2010, p. 354).

Radical innovation, on the scale perhaps of the Archival Commons' vision for the global networked environment 'where archives are not singular destinations for research and inquiry, but are integrated into the daily fabric of activities' (S. R. Anderson & Allen 2009, p. 400) is hard to pinpoint whilst in progress, but might it be detected in the convergence of traditional cultural heritage disciplines (archives, museums, special collections and so forth) and the emergence of the digital humanities as a creative influence upon the future development of the professional role within this much broader landscape? User participation (or collaboration) is ultimately all about making connections — in different guises these may be connections between traces of the past or between people in the present. Perhaps its enduring legacy will be in fostering the participants' perspective of the digitised cultural heritage realm, encouraging professionals in established fields too to transcend their own view of the world — to focus then not inwardly on narrowly defined disciplinary goals, but to look outwards, embracing complexity and uncertainty, but also opportunity.

Chapter 4: Participants

Success is down to the participants. (P24)

Understanding the participants' perspective is important, since the success of online participation initiatives depends upon their voluntary contributions. In spite of the 'triumphal rhetoric' (Palmer 2009) which permeates much of the theoretical writing on the subject, the results of practical experiments with online participatory archives and archives-related projects have been mixed. Whilst some (particularly transcription) projects have reported apparently runaway success (Old Weather: 685,000 log pages transcribed in a year), others have struggled to attract and maintain the anticipated stores of user knowledge. Several projects (including Your Archives) have, during the course of this PhD research, quietly closed or transferred their content onto read-only websites. Analysis of the Your Archives logs revealed that over 92% of registrations for the wiki were not followed up by even a single edit, and that around 95% of registered participants made fewer than 50 edits each (see Table 4.1).¹³

	Number of users	Of registered users	Of editing users
Registered but did not edit	28,498	92.66%	Not applicable
Edited once only	1,417	4.61%	62.81%
2 - 49 edits	740	2.41%	32.80%
50 - 99 edits	27	0.09%	1.20%
100 - 499 edits	40	0.13%	1.77%
500 - 999 edits	12	0.04%	0.53%
1000 - 9999 edits	18	0.06%	0.80%
Over 10000 edits	2	0.01%	0.09%

Table 4.1 Percentages of registered participants who contributed edits to Your Archives.

¹³ Although note that this calculation must over-represent the total number of *genuine* registered participants of Your Archives, since `UserIDs` were not routinely deleted when spam registrations were detected. These edit count statistics also do not distinguish between edits to the wiki that corrected a single-letter spelling error, and edits that saved an entire article. Nevertheless, the overall pattern is clear: a large proportion of registered participants did not contribute.

And it is not merely that the archives sites conform loosely to the 90-9-1 principle of participation inequality common to all Internet communities (which posits that 90% of users are lurkers who may read contributions but do not interact, 9% make occasional contributions, and the remaining 1% account for almost all of activity on the site (Nielsen 2006)); there is variation too in the depth of participation between committed 'super-volunteers' (Causer & Wallace 2012; Holley 2009) and more casual visitors.

When this study began, the available literature on online participatory archives was primarily theory-driven, with few empirical investigations of participants' motivations and contribution behaviours having appeared in print. Archivists had instead concentrated their attention on outlining the desired effect of participatory practice upon archival processes, such as description and access; or in discussing the impact upon archivists themselves as professionals (M. J. Evans 2007; Huvila 2008; Yakel 2011a). Additionally, most of the published research into digital participation initiatives in libraries, archives, and museums more generally was based upon initiatives supported by large, often national, institutions, such as The National Archives (Your Archives), The Library of Congress (Flickr Commons), and The National Library of Australia (Trove) (Grannum 2011; Hagon 2013; Holley 2009; Kalfatovic et al. 2008; Springer et al. n.d.). To an extent, such organisations could expect to attract a certain mass of interest simply as a result of their (inter)national profiles, at least in the initial launch phases of new projects. Another tendency had been to think of the benefits of participation from the perspective of the institution as beneficiary (described as a 'common misconception' in Noordegraaf et al. (2014)) rather than the contributors, or only to consider pre-existing groups of research users. In the case of the experimental Polar Bear Expedition Digital Collections finding aid research, for instance, the backing organisation (The Bentley Library at the University of Michigan) was small, but the study had the advantage of an established audience of both academics and family history enthusiasts (Krause & Yakel 2007).

The few available specifically archival case studies had also mostly taken a qualitative approach, often based upon interviews or the analysis of open-ended survey questions (Causer & Wallace 2012; Krause & Yakel 2007).

As a consequence, the state of understanding of online participation in archive contexts was founded upon interactions with fairly small samples, with a bias towards the more committed contributors. There had been minimal consideration, for instance, of why (or indeed, whether) members of the public unfamiliar with archives might want to contribute descriptive information in an archival context; what personal benefits might be available to participants, and how might these be repackaged to encourage involvement in archival tasks (although the motivations and experiences of tag contributors in an art museum had been studied as part of the *steve.museum* project (Leason 2009)). Nor had there been much interest in how participation might be supported or steered over time: what incentives might be applied to promote collaborative behaviour (or minimise 'free riding') (von Hippel & von Krogh 2003), or consideration of any barriers to participation and the experiences of those who sign up to contribute but quickly drop out again. Turning to the outcomes of participation, the fears expressed that contributions might be of poor quality or of unreliable information (Lehane 2006; Marsh 2008; O'Neil 2010) seemed thus far to have proved largely unfounded in archives-related contexts ('Better than the Defence' 2011; Causer et al. 2012). But there had been little synthesis of why this was so, and consequently little was known about how best to promote and then verify the accuracy of contributed content.

Exploring the participation experience

Studying the participants' experience of online participation became a major focus of this PhD research as it became evident that although archivists were increasingly putting resources into experimenting with participatory tools and practices, many projects were being set up without any clear idea of who might contribute or to what personal end. Often archivists also lacked the means to collect and analyse evidence on actual contribution behaviour (despite its ready availability in an information technology-based environment):

What we haven't got is anybody who has collated the comments that have been made, so we've got no real statistics on what parts of the site have been done by volunteers or users. There's probably something, somewhere over in IT, people that could do it. But we haven't been told.
(P132)

In the concluding section of his seminal 'Archives of the People' article in the *American Archivist*, Evans (2007) asks the question 'Why would anyone participate?' He speculates that would-be volunteers have a choice in how to use their discretionary time: 'whether to watch television or be engaged in intellectually stimulating activities or socially important undertakings', and gives an example of the 'army of genealogists' signed up to online family tree sites and indexing projects (M. J. Evans 2007, p. 398). The insinuation is clearly that archives participation fits best with the latter, more lofty options. And yet interviewees often seemed to stress their enjoyment in taking part:

Primarily I enjoy it, which has got to be as good a reason as any, I suppose!
(P17)

And however worthy their motives for supporting a project, enthusiasm waned when participation stopped being fun. The following survey respondent, for example, selected a general interest in science, interest in meteorology, and a desire to contribute to research as the original reasons for joining Old Weather:

I do this kind of voluntary work just for interest and fun. If I get totally unintelligible writing then it stops being fun or even interesting. That's when I move on to something more interesting and do-able. (OW-S)

Research in neuropsychology suggests that experience is a product of both cognitive understanding and affective response:

A person's *cognitive system* interprets and represents the world internally in order to reason, understand, and interact with it. A person's *affective system* interprets external and internal stimuli relative to goals and needs. This affective system kicks in with an emotional and physiological reaction before a cognitive response is ready. Ideas, thoughts, memories, and knowledge are components of cognition; emotions, moods, sentiments, and other internal sensations comprise a person's affective response (Lazzaro 2008, p. 681 — italics in original).

Emotions and feelings then are 'an integral component of the machinery of reason' (Damasio 2000, p. xii), that is, affective responses not only contribute towards enjoyment but also have a significant effect upon cognitive understandings, such as memories, ideas and learning. Further, an individual's motivational disposition, created from the intersection of these cognitive and affective components, can vary not only from person to person, but also according to the social contexts in which they are engaged (Amabile et al. 1994, p. 950).

These intertwined concepts — cognition and affect, and a social versus an individual context of participation — are used as a framing device for the discussion in this chapter (Figure 4.1), seeking to distinguish (often within the same project) between the motivations of those who sought 'to feel part of history' (P37); from those who 'wanted to do something USEFUL' (OW-S) or were up for a challenge; from those just looking for the 'perfect late at night, alone, trying to chill out, kind of topic ... something I can do easily, it doesn't require a huge amount of brain power' (OW13); from those 'for whom the community side of it, belonging to a group, is very important' (OW1). The framing also aims to tease out motivations which

are predominantly intrinsic (indicated in light shading in Figure 4.1) from activities in which extrinsic incentives have proved effective (the cells shaded a darker hue).

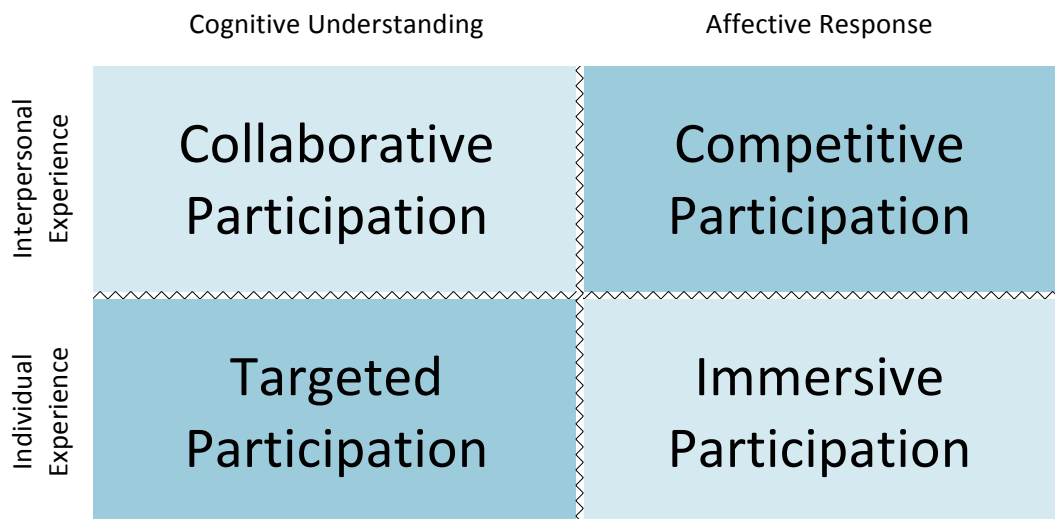


Figure 4.1 A participation framework.

This framework is not intended to imply that the experience of participation is necessarily either (i) static or (ii) relentlessly positive. One highlight of Rotman et al.'s (2012) work in citizen science is to demonstrate the dynamic nature of participants' motivations, even when the end goal remains constant. Similarly, Crowston and Fagnot's (2008) 'motivational arc' identifies separate motives at each stage of the progression from non-participant to committed contributor. At an early stage, the initial decision to participate may be motivated only by tangential curiosity, whereas later, participants are motivated to continue by a more complex set of factors:

I first just wanted to try it out and see whether I was able to cope with the tasks. And then I enjoyed it and depending on my other schedules I would try to do it regularly. (OW15)

Secondly, circumstances which are seen as motivating to one participant may be perceived as off-putting or daunting by another — or even experienced differently over time by the same individual:

I think that in the beginning it's quite fun, but when you don't keep up with your daily contributions [it is less fun] because you won't have a chance to become Captain. (OW15)

The same framing device is therefore used to begin to identify barriers to participation, as well as motivations.

A. Collaborative Participation

Participation in an open-ended cause that requires dedicated contributor cognitive effort, sustained by social interaction related to shared community interests:

I really enjoy the community in the forum as well. It's great to work as part of a team that's all interested in the same thing and more than happy to share experience, knowledge and research with each other. One of the things that keeps me coming back is how friendly and supportive everyone is. (OW-S)

Online participation is often assumed by both archivists and certain participants to be an extension of a traditional kind of volunteer involvement, translated in whole or in part onto the Internet. For example, The National Archives' Living the Poor Life project recruited over 200 local volunteers to catalogue nineteenth-century correspondence from Poor Law Unions. Documents were digitised and made available online, but the participants also met in person for training and to discuss project progress. The social aspects of the group were reportedly integral to maintaining progress on the project: volunteers gained a sense of accomplishment from discussing what others had found, contributing their individual expertise towards solving group problems, and grasping the opportunity to develop their own talents and skills (Whistance 2008).

Social interaction

Some contributors to purely online projects also testify to a sociable experience in describing their interactions with fellow participants, motivations, and sources of support in terms of

friendship or even family relationships, their participation online spilling over into offline social events:

It's more like a family to be honest. I've made lots of friends through the Whitby group, you know, and I've met some of them socially. (P5)

This kind of socially oriented, altruistic behaviour is perhaps more obviously associated with archives-related special interest groups, built organically by the participants themselves:

And the motivation is just to help my friends. And they are friends, because we've met ... the group normally meets up, or members of the group normally meet up every year in May. (P27)

But 'a core team of project members who are rather more dedicated and actually doing it because they love doing it, sort of thing' (P142) can exhibit kinship and camaraderie even in projects where the overall structure is more mechanistic because the basic participation task is itself relatively attenuated, or in Caroline Haythornthwaite's (2009a, p. 2) terms, lightweight, meaning that the 'peer production enterprise is oriented to independent contribution, and is not primarily designed to create or maintain relationships among contributors':

The gem, for me, of Old Weather, is the forum members, their mutual support, humour, consideration, tolerance, and kindness. I feel like I've dropped right into a welcome family home at Christmas or Thanksgiving. (OW-S)

It is also possible to promote collaborative participation directly through innovative design of the contribution task. Flanagan & Carini's (2012) archives-based Metadata Games included two 'real-time, networked collaboration' designs which required two players to match or specify descriptive tags with each other in order to improve the accuracy of the contributions. They observed that 'players enjoy giving each other accurate but arcane hints, thus raising the specificity of the vocabulary terms used. The game serves the goal of the project in two ways: it helps to collect new metadata on images that have none prior; and it helps verify existing terms by monitoring the frequency of use among players' (Flanagan &

Carini 2012, p. 523). An alternative approach to collaborative participation takes the form of teamwork challenges. For example, the Your Archives People and Places Challenge ('Your Archives: People and Places Challenge' 2013) attempted to steer participants into contributing articles to a glossary of commonly used local and family history terms, although it is questionable how popular this initiative proved to be (YA-R). The apparent success of local Wikipedia edit-a-thons ('Wikipedia: How to run an edit-a-thon' n.d.), including the women's history-themed Ada Lovelace Day ('Wikipedia:WikiProject Women's History/Ada Lovelace Day 2012' 2014), suggests that this team challenge approach may be most effective when run as a scheduled and time-limited event, to focus participants' interest and enthusiasm.

A tapestry of voices

For the most dedicated participants, their commitment to a particular project extends beyond merely completing a task or the subject matter in hand. Rather they are inspired and encouraged by a sense of belonging to a trusted participant community of people with similar interests to themselves:

I would probably contribute more to that, more than I would to the wider, more open ones, because I know that it's restricted to a certain number of people who have a particular type of interest. Also, I feel with those that I can trust them. I feel as if I know the people who are members. (P27)

This matches definitions in the literature which emphasise the systematic and sustained nature of 'serious leisure' pursuits and of volunteering, two separate research fields in which motivation to participate is understood to be predominantly intrinsic to the individual, bolstered by social recognition (Stebbins 2007; Stebbins & Graham 2004):

Well, I'd say the social aspect of it for me is probably about 25% and the other 75% is the actual activity of research and writing. The social aspect, in terms of connectivity to other people, the mutual support and sharing of research problems and research outcomes is essential to the vitality and longevity of these groups. (P144)

Like volunteering (Graham 2004), collaborative participation may often address the needs of a host organisation as much as those of the participants themselves. However, the outcomes of this style of participation are open-ended and emergent in a way that celebrates a ‘tapestry of voices’ (P28) around a theme or topic, with the community discussion revealing new perspectives or facilitating the sharing of tacit or latent contextual knowledge around archival sources that formal archival description cannot necessarily achieve — ‘constantly changing views and meanings without change to the items themselves’ (S. R. Anderson & Allen 2009, p. 387):

My background is historical linguistics, so I tend to think of [...] linguists and historians as people with differing interests in the same material. And there’s a lot to be said for working together in order to get something more out of things. (P145)

Collaborative participation also provides an environment conducive to rapid problem solving around a participatory practice (such as transcription):

Somehow I had several files where there were the names of these old-fashioned countries, that nobody knows any more. I mean, *Neder-Rijnland* [Lower Rhineland]. Nobody knows that it was a country in Germany. So I made it ‘Germany’, and then I thought — oh, and I doubted it. Then I put the question in the forum, and I only got answers from colleagues, but not from the coordinators of the project, and I think that some information is hard to find. (P96)

Social interaction then is understood to be vital to the building:

You can ask questions and there’s [an] almost immediate answer. So that’s very helpful. And its also a bit exciting to be the first to join and to be able to help build it, make it user-friendly. (P37)

And sustaining of an online collaborative community:

Such involvement requires engagement with others, encouraging contribution from all members, building internal structures and norms collectively and collaboratively. Learned norms of interaction, conversation and participation are highly important or signaling membership in the whole, and lack of proper behavior marks the contributor as an outsider or apprentice in the community (Haythornthwaite 2009a, p. 2).

Awareness of the activities of others acts as motivation, not in a competitive sense, but through the co-operation needed to resolve problems or progress project goals as a team:

It's interesting to talk online with other people that are involved in the same thing. To see what their problems are, or whether they found anything interesting. I especially like it when someone posts a handwriting problem. I think, 'Oh, let's have a go!' (OW8)

My wife and I would sometimes try to transcribe pages together. Working together on a tricky transcription page often made it more fun. (OW-S)

Dedicated cognitive effort

The cognitive effort expected of these participants is significant, and core members are respectful of each other's special knowledge, skills and expertise:

There's an awful lot of very knowledgeable people who are prepared to share their experience and knowledge with others. And I, you know — I just want to be able to give back as much as I take out. (P5)

Reciprocity is a key characteristic of collaborative participation. Community moderators are usually drawn from this core group of participants. Beyond their own personal motivations and contributions, such participants demonstrate a clear desire to help other people and to nurture newcomers to the community:

The transcribing motivates me to search out and learn the background history for the events my ships are participating in, and I love learning. Also, the community on the forum is great and allows me to explain/help others which I also love. (OW-S)

An individual's efforts may not even bring immediate personal benefits but contributions are made on behalf of the community at large. Interviewees described reading every incoming email or forum posting to see whether they might be able to help others, carrying out additional background research using personal resources, and constantly staying on the lookout for titbits of information which might interest fellow contributors or draw in new members:

I tend to have a look at what he's posted, and in many cases, I've drawn it to the attention of other people who are outside the Whitby group. And that's the ripple effect that you get from these communities. (P24)

Chatter: a bonded community or a distraction?

Since the more deeply involved, committed participants are also more likely to respond to survey and interview invitations, collaborative participation, with its motivational mix of personal, social and altruistic factors, is commonly reported as the dominant form of online participation in the humanities (for example, Dunn & Hedges 2013). As might be expected of a group who consider themselves to be friends as much as colleagues in a joint endeavour, sometimes this social interaction might extend beyond the immediate subject focus of the participation opportunity:

There's a topic called 'Introduce Yourself' and everybody puts a little paragraph in there about themselves, their background, what you're doing, kind of thing. And there's another one called 'Chat'. That's basically chat. And it's just been wonderful. I've met the neatest people and gotten involved in so many things, learned so much, just being part of that forum. (OW9)

However, this 'chatter' (OW1) can also seem distracting or irrelevant to those outside the core group: 'I became very disillusioned with the pages of banal and historical chat when trying to read and search the forum.' (OW-S). Deliberate efforts to further social interaction have been widely disregarded by participants in archives-related projects, perhaps particularly when centred on participants' personal profiles which would-be contributors may view as intrusive upon their privacy (P96). For example, of the approximately 31,000 registered members of Your Archives, only 191 profiles could be screen-scraped from the live site in February 2012, of which 74 were blank of text altogether and a number of others had clearly belonged to spammers before being blanked by a moderator (YA-R). Whilst some participants had used the profile page to post biographical details, including qualifications, perhaps as a personal assertion of competence or cognitive authority (Wilson 1983), the

most common purpose was to record a note of an individual's research interests, often family or military history oriented. A small number of participants had also used the wiki's 'User Talk' pages for similar purposes, with a subgroup of 14 (including the 3 staff moderators, and the personal account of a moderator, plus 10 'community' participants) exhibiting more extensive use of these discussion facilities. The editors of Transcribe Bentham, similarly, were disappointed by the low take-up of social functionality provided on their site (Causser & Wallace 2012, pp. 65–72), particularly, again, of user profiles but also in this case in the minimal interaction on the project forum. Similarly low forum engagement rates have also been noted in the context of citizen science (Romeo & Blaser 2011), where Raddick et al. (2013) speculate that posting in forums implies a deeper involvement which might be driven by different motivations to small-scale transcription contributions.

B. Targeted Participation

Directed participation for personal challenge, amusement or diversion; purposeful but often sporadic or intermittent:

The large proportion of participants who do not interact, or engage only rarely with other people involved in the same endeavour, are rarely acknowledged (for example, the VeleHanden participant who explained that 'I only use the forum if I have a problem' (P96)). But by no means all of these are project drop-outs or only occasional visitors; many indeed are dedicated contributors but according to their own terms:

Curiosity and a love of knowledge are my main motivations; knowing that one's work is of high caliber is a strong motivator as well, but there's no need for excessive external validation to get the enjoyment from that. I don't have enough time to make OW an important social community, so it's more a matter of contributing to something that happens to be enjoyable. (OW-S)

Personal challenge, amusement and diversion

Enjoyment in targeted participation derives from mastering a (series of) short-term, set challenge(s) or obstacles:

Since I work full-time and travel more than I might like, meeting goals set by someone else could be difficult. I was able to set my own goals, and that was enough for me. (OW-S)

Targeted participation involves having fun in pursuit of fixed goals (like competitive participation). But unlike collaborative or competitive participation, the motivation or challenge here is personal to the participant:

I find transcription quite a fun kind of thing to do, it's quite challenging. I mean you get something and you do feel quite proud of yourself, and it is kind of like doing a crossword puzzle or something like that. (P95)

Games researchers have adopted the Italian term *fiero* to describe this 'personal feeling of triumph over adversity' (Lazzaro 2008, p. 686). Participants view contribution as a puzzle to be solved (either provided or set for themselves), which both tests their skills:

I prefer the indexing — I enjoy the puzzle, working out so that must be an 'm' or an 'h' or whatever. (P35)

And also provides a means of marking their own progress. These challenges are conceived by partakers in targeted participation as a series of obstacles to overcome or as milestones 'not to brag about it, but just for themselves to see how many classifications or transcriptions they've done' (OW1); helping participants to pace themselves:

I found I did get competitive, especially about remaining Captain of ships that I had a sense of connection to (for example, one that my godfather had served on). I found it best to pace myself against myself only, rather than thinking in competitive terms. (OW-S)

For some, these challenges provide the mental focus required to keep them involved in a particular project:

The way I see it, it comes down to incentive. If the participants aren't gaining anything from the experience, they are unlikely to stay with the project after their initial curiosity and enthusiasm wears off. (OW10)

Dabbling: sporadic or intermittent participation

But other participants describe a process of ‘dabbling’ in a variety of different projects, with no real intention of making a regular commitment, until such time as they find a project which they feel suits them (Eveleigh et al. 2014):

I looked at one or two of the others, and I happened across Old Weather and thought, ‘oh, this is interesting, and I can do it!’ Whereas with some of the others I just didn’t have the aptitude. So, I started dabbling and it became rather compulsive. (OW3)

Indeed, one advantage of this style of participation, where the contribution task can be broken down into a series of smaller challenges, is its flexibility, which appeals both to busy people with short periods of time to spare between other activities:

I used to do it as a bit of a reward when I was taking a break during the day; I’d sit down and do a bit. And then tend to do some early evening, between midday and the evening. (OW3)

And to participants who wish to set themselves regular hours of the day to take part, or aim for a certain number of hours each day or week:

Our evening news finished at around 7 o’clock and I’m usually good to sit down for probably an hour shortly after that, and catch up on email and put an hour or so into the editing or whatever. Also, if I tend to wake up during the night, I’ll usually get up and put in an hour or two and then go back to sleep. (OW9)

This style of targeted participation then suits busy people: shift workers and travellers (to ‘stave off the middle-of-the-night jetlag boredom’ (OW-S)), even insomniacs. Even semi-regular participants take advantage of this flexibility to fit participation around their day-to-day life rather than it being an activity for which they make time specifically. Several also reported a strong seasonal fluctuation to their engagement:

I think pretty regularly. In the summer not so much, because I do play golf a lot. More in the winter, because you don’t have many hours of daylight! (P33)

In my paper published with Citizen Cyberlab researchers on dabblers and drop-outs in Old Weather, we found that dabblers might be less motivated compared to super-contributors,

but they still cared about the progress of the project overall and the quality of the work they submitted. We argued that instead of trying to encourage all participants into a sustained commitment, there is great potential value in designing interfaces to help dabblers feel that their small contribution is valuable and valued, and to keep them informed of overall project progress in the hope that they might re-kindle their active involvement at a later date (Eveleigh et al. 2014).

Feedback: monitoring progress

Since challenge-motivated participants are working alone, it is important however that their targets are both ‘personally meaningful’ (Malone 1981), and that participants can easily assess how their involvement contributes towards the progress of the project as a whole:

There were statistics for each ship’s completion so it felt like I was making more of an impact (OW-S).

There is a personal satisfaction to be derived when participants can observe how their contributions have made a difference, but this is directly related to the task and project objectives, rather than through peer interaction:

I mean the motivation as far as I’m concerned... I get a sort of personal satisfaction from being able to make a contribution... a useful contribution. (P5)

This requires being able to specify clear overall project objectives, in contrast to the open-ended, emergent outcomes of a collaborative community or immersive journey of discovery. Nevertheless, it is important to participants to feel that they are ‘part of something bigger’ (OW12):

It’s basically idle time that I would normally be spending checking my email or playing a Flash game, but I feel as if I’m contributing to something important. (OW7)

There is no expectation of individual acknowledgement for their contribution, but still an ongoing interest in the wider outcomes of the project which frequently endures beyond the participant's actual period of engagement:

All of us little people recognise how we are making a contribution. That I would be interested in. How do you, when you use this stuff, you know, post summaries of the research, give us progress reports. So one webpage of numbers, you know, of statistics, and then another webpage of more qualitative whatever. (OW12)

In addition to this generalised feedback on project progress, targeted participation also requires regular participant performance feedback to be provided so that individuals can assess whether they are meeting the challenge. This is important both to promote heightened levels of accuracy for the project itself, but also to boost participants' self-esteem and encourage them to continue with the challenge:

I was really frustrated that I never knew if I was doing the job correctly. No one ever commented on my work, and I felt somehow disconnected from the larger project. I like working on my own, but I need to know that I'm actually helping and not hindering the overall project. Feedback once in a while would be very encouraging. I just never knew whether I was doing anything correctly. (OW-S)

Malone also points out that 'an environment is not challenging if the person is either certain to reach the goal or certain not to reach the goal' (Malone 1981): 'I have learnt that work that everyone can do is not work that's good for everyone' (P35). Different levels of challenge are therefore required, firstly, such that beginners are not discouraged by attempting tasks which are far too difficult, and secondly, to enhance the participants' sense of progress through increasing layers of difficulty.

By matching participants' skills and abilities with tasks set at an appropriate level, the challenges can also meet the characteristics required for *flow* (Nakamura & Csikszentmihalyi 2002). Flow, being defined here as the optimal zone between boredom and anxiety, is

important for sustaining participation amongst target-driven contributors, since tasks which are too easy quickly become boring and repetitive:

More recently there were passenger liners from 1912-1913, which were quite interesting to do as a change. But there was no challenge in trying to interpret the handwriting. (P33)

C. Competitive Participation

Participation stimulated and rewarded by competition against others, towards the pursuit of extrinsic, fixed goal(s), possibly short-lived in duration:

And I would see, oh somebody's got this many more than me; I'm gonna work really hard and then I'll beat them! And oh, I'm really close to them! If I put in another half hour I'll beat them, kinda thing. So I think that helped really, putting in extra effort and getting more data transcribed. (OW4)

Gamification: purposeful fun

The idea that user interaction with archives might be turned into some kind of game where participants compete against each other to make the most (or perhaps the most accurate) contributions, and that participants' main motivation for taking part in this competition might simply be to have fun, tends to be an alien concept to archivists who are more accustomed to thinking of archives as places of scholarship and quiet personal reflection (Duff 2013). One archives professional interviewed, for example, spoke of 'a danger of people getting competitive' (P19), yet gamification, and the design of 'games with a purpose' (GWAP — games in which, as a side-effect, the players help solve a computational problem (von Ahn & Dabbish 2008)) are both emerging areas of Web 2.0 research, including in the contexts of archival image tagging (Flanagan & Carini 2012), museum metadata creation (Ridge 2011) and in online citizen science (Iacovides et al. 2013):

Well look, you know, if you're interested in and excited about history and also digital resources, then it's kind of like games but they add value, I think. (P145)

Competitive elements have however been used in a few archives-related transcription projects, including Transcribe Bentham (<http://blogs.ucl.ac.uk/transcribe-bentham/>) where participants transcribe the manuscript papers of the philosopher Jeremy Bentham; the archHIVE project at The National Archives of Australia (<http://transcribe.naa.gov.au/>), which began as a catalogue retro-conversion project but now also includes archival documents for transcription; as well as in VeleHanden and Old Weather (for which see Fleurbaay & Eveleigh 2012 and Eveleigh et al. 2013 respectively). In all of these cases, fairly simplistic competitive features based upon quantity of contributions have been introduced to create a ‘sort of a race to the finish’ (OW7) in an attempt to liven up the potentially rather tedious or repetitive basic transcription task. Similar scoring elements and a leader board showing the top ten contributors were also included in Flanagan & Carini’s (2012) suite of archives Metadata Games for tagging and describing images, although the design here is mostly collaborative rather than competitive.

Attention grabbing goals

The intended purpose of competition is to focus and maintain participants’ attention on a fixed goal, whereby contributors are spurred on to attain higher scores or the top position. Competition does appear to be quite effective at drawing in new participants, particularly in the early phases of a project when everybody can compete on a level playing field. For instance, some Old Weather interviewees reported feeling compelled to achieve the status of Captain of a ship, and, once this was achieved, to maintain that position:

I was Captain of a vessel and it felt rather good. Even though it doesn’t mean anything *per se*, to know that I had contributed more log pages than anyone else. (OW7)

Such competition might also act as an additional extrinsic reward for completing project tasks which are in themselves often mundane or trivial:

Well, people like to feel that their contribution has been validated, just as a psychological tool. The same reason that people try to get achievements in video games — it feels like your work has been validated in some way, even if it doesn't have any real world value. (OW7)

However, the emotional reaction to achieving promotion or a high score may only be fleeting:

I will admit to getting a little 'woo hoo!' on my first promotion. But then the difference to the next one was so huge. It was nice to have, but I don't think I would have missed it if it wasn't there. (OW13)

Whilst extrinsic rewards such as points and status badges may help to capture participants' attention in the short-term then, it appears that they are less effective than intrinsic motivation as an instigator of persistent engagement (Rigby & Ryan 2011). As participation moves beyond the initial phase, frustration may set in as participants find themselves unable or unwilling to keep up with the leading contributors.

Score-keeping approaches based simply on quantity of contribution can therefore prove something of a double-edged sword. Whilst high scoring participants are spurred on by vying for the top position, low scoring participants are simultaneously demotivated by a 'distant competition' they have no hope of reaching (Massung et al. 2013):

I thought it looked like fun. I also thought it looked out of reach, for someone like me that was having trouble doing one or two. But it looked like a lot of fun. (OW11)

More sophisticated scoring mechanisms, or at least a leader board which is regularly reset, might help to address some of these issues:

I find it frustrating that there are basically only two levels: L[ieutenant]t or Capt[ain]. I would like to have more levels to strive for, because if some eager beaver passes me for Capt[ain], then I fall back to L[ieutenant]t no matter how many more pages I've done than other L[ieutenant]ts. (OW-S)

For example, the default statistics offered by the VeleHanden platform show the leading contributors for the past two weeks, in addition to an 'all time' record, and contributors are ranked separately according to their performance as transcribers and as checkers:

I like the change, the switchover. Because if you do [just] the indexing, it gets boring, and then its nice to switch over to checking and do that for a while. (P39)

Archives participation sites employing competitive features might also seek to learn from citizen science sites such as Eyewire (<http://eyewire.org/>) and Foldit (<http://fold.it/>) which have implemented weighted points systems according to participants' engagement with different tasks, and the accuracy and speed with which these tasks are completed. Although more complex to implement initially than a simple list of leading volunteers, such mechanisms help to build the variety which is important for sustaining participant engagement (von Ahn & Dabbish 2008), as well as ensuring that the competition cannot be dominated by the longest-serving contributors.

Competition at a cost

Competitive participation may not be appropriate for all archives participation sites. The competitive environment can also be stressful or exhausting, even for those who admit that the rivalry helps to push them forward:

Yes, I did find it motivated me. I also found it quite stressful. I'm quite a competitive person, and when I got to be Captain of a ship, I wanted to stay there at any cost! And then someone else came along that had more spare time, and so I would get quite stressed trying to stay ahead! (OW8)

And not all participants agree anyway that competitive elements help to increase their contributions:

There seems to be some sort of competition with the champion with the most entries. And I think that's rather silly. It could almost be a reason not to do too much. I don't want to be on the top of the list, I just... like, some... you know, have you got any work or something?! Well, it looks as if you're someone who's... if you do a lot of entries and [are] high-up in the ranking, it's like you're not doing anything else all day. So you probably don't have a job or no friends. (P37)

Like archivists then, some participants may prefer or expect a more 'serious' interface. One Old Weather volunteer made the point that this 'was not an online game, this was a research project' (OW5). Competition may be viewed as running contrary to the serious objectives of a project, or trivialising and belittling of the volunteers' often considerable efforts:

I was not aware of any scoring in this project, but if there is, then I'm glad I discontinued it. Scoring is for kids. (OW-S)

Even where the basic participation task is itself relatively lightweight, as in Old Weather, some participants clearly find the race to the top irritating, and more occasional participants may either deliberately disregard a scoring system or even be completely unaware of its existence:

I did [try to keep up with the top of the leader board] the first two days that I was online, but no, it's driving me crazy to do that. So I set myself some goals, and I figure that's fine... At least one hour a day and at least 25 scans a day. (P39)

Prestopnik and Crowston (2011) warn that competition might have an adverse effect upon contribution quality, concerns which were reflected by the participants themselves, with some interviewees even harbouring suspicions that other volunteers were cheating to remain at the top of the rankings:

There were people who were... I don't want to say faking or doing wrong classifications, but they were going so fast that you had to say 'oh that can't be correct'. And just to be in the top 10 or number 1. (OW1)

Others felt that a competitive system undervalues smaller contributions:

For me it's not important, and I think it has a message of, when you don't contribute very much, that it's not as important as the people who contribute a lot, if you know what I mean. (P32)

There is also evidence that competition can discourage participants from engaging in a more open-ended exploration around a historical resource or from submitting more detailed contributions:

I think that it is no good that promotion to captain depends on transcribed weather reports. Events are not taken into account; people are interested only in how many weather reports they transcribe. (OW-S)

Or simply puts people off tackling the more difficult tasks:

The important thing is transcribing as much weather data as possible, so I regard a difficult piece of transcription as an impediment to the whole transcription effort. (OW-S)

Crowding theory would also indicate that extrinsic incentives might overshadow intrinsic motivations if individuals comprehend the explicit reward to be a threat to their own autonomy of action (Deci & Ryan 1985):

The rankings don't matter to me and I almost felt they were distracting at first — like a contest. (OW-S)

I've stopped with Old Weather because for me it was a competition to get the most transcriptions and took many hours each day. My life is busy now and I don't have that kind of time. I don't know when/if I'll be back, but I remember enjoying it greatly. (OW-S)

Although importantly, this 'crowding out' effect does not apply when the extrinsic rewards are unexpected or not directly linked to task behaviour (Frey & Jegen 2001):

But after I'd been doing it two years, at Christmas, they sent me an Amazon voucher! For £20! And I was totally amazed at that, I'd no idea. It was just a thank you for being a transcriber. And you know, it was only £20 but it felt like getting a £10,000 bonus at work. It was such a surprise. (P33)

This attribute provides a rationale for the use of time-limited competition to (re)invigorate interest in participation via prize draws. So far, implementation of this idea has been relatively limited in archival contexts, such as contests inviting people to submit photographic mashups to the image hosting sites HistoryPin and Flickr (for example 'See History in Your Reality: A New Flickr Photo Project!' 2010). But participants suggest that there is scope to extend the approach to other types of participation:

I like the idea of contests for small prizes like gift certificates to online stores such as Amazon.com. (OW-S)

D. Immersive Participation

A personal and emotive journey of exploration, impelled by curiosity and an empathy with

history:

I'm not a history buff, [but] sometimes you realise, like, this is almost like I'm touching history! (OW4)

Self-motivated exploration

Immersive participation shares with collaborative participation a sense of open-ended discovery, but is experienced as personal enjoyment and sustained by the individual participant's intrinsic fascination about personal or historical events encountered in the archival source material, rather than motivated by community or competitive interaction related to the contribution task:

I felt a strong connection to 'my ship'. I enjoyed finding out what was going to happen in the next day's log. I marvelled at having a connection to someone from so long ago, seeing the handwriting of a person that was there. That was cool. (OW-S)

Immersive participation is a self-motivating activity that captures the imagination and entices the participant to identify with and explore a 'living history':

Even some 90 years later, I went for a bit and I said, you know what, chum, I'm using your logbook you thought would never see the light of day again. And [its] actually got new life and [is] probably much more important than he ever thought they could ever be. And so in a sense that kept me motivated. (OW5)

Interviewees describe their sense of being 'privileged to have a detailed view of history. I'm probably the only one who will ever look at these logbooks page after page' (OW5). These participants extract a sheer enjoyment from 'Reading the thoughts and observations' of historical characters, which 'puts me as close as I can get into another time and place in human history' (OW-S).

Emotion and flow

Immersive participation is thus an emotional experience, invoking a range of positive sensations — curiosity, anticipation, wonder, surprise — a time-travelling adventure into a historical world to which participants may not otherwise have access:

It was so cool. I was looking at these observations and I was transported to this, you know, this world that had vanished and stuff, and I was getting to bring it back to the present. (OW14)

These emotions act as a hook which holds the participant's attention:

I do tend to get a bit carried away with it. You know, its like, I'll just do another line, and the next thing you know, it's an hour and a half later (P125).

This 'experience of complete absorption in the present moment', in which participants lose all sense of time, is known to psychologists as *flow* (Nakamura & Csikszentmihalyi 2002).

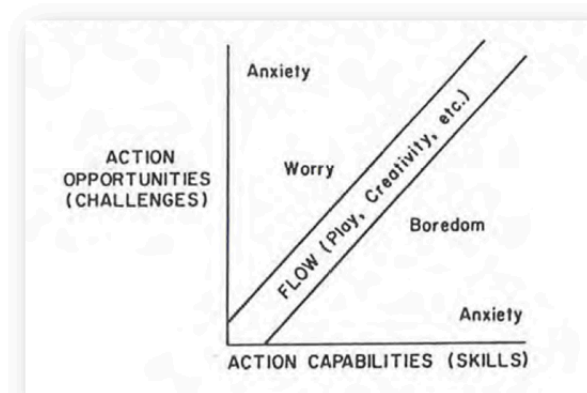


Figure 4.2 **The original model of the flow state.**

Flow is experienced when perceived opportunities for action are in balance with the actor's perceived capabilities.

Reproduced with permission from Csikszentmihalyi (2000).

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Concentration and focus are intense, with participants becoming completely involved in the activity for its own sake — known as autotelic (rewarding in and of itself) motivation:

I get very absorbed. It's a good distraction if you've got things on your mind you want to escape from, you can get completely immersed in Old Weather. (OW8)

This experience of flow is sometimes accompanied by feelings of serenity and relaxation:

It was really calming to sit out at night and there's some music playing and I'm really relaxing and trying to transcribe some weather records. (OW1)

Or understood in dream-like terms as an escape from reality:

I have a feeling a lot of people are in that position of not having... of not doing jobs that they particularly enjoy [...] And suddenly for them to discover something they really enjoy, that perhaps reflects an interest they may have had as a youngster, some dream or other.... I mean a lot of people dream of travelling, and of course with these ships you're actually travelling with them all over the world. (OW2)

Or even as a distraction for those who are ill or otherwise confined to the house:

It is a great displacement activity and has helped me through redundancy and bereavement. It is both gratifying and worrying to realise that you know more about the ship you are Captain of than anyone else alive. (OW-S)

This immersive state is sometimes also described by participants using the language of addiction or compulsion:

I would start off the engagement by thinking, I'll do maybe a handful of them and often it's not... I would catch myself saying, 'oh, I can get one more done before I go to bed. All right, I'll do one more.' You know, it's sort of like eating potato chips! (OW13)

It was quite addictive and I spent a lot of time thinking I'd finish and then just doing another one! (OW-S)

This motivational characteristic of immersive participation can be exploited in the design of participation sites, by feeding the habit:

When you've finished one scan, the next one automatically comes up. So that makes it very difficult to click away, to stop. You always want to do, oh, I can do this one. Or just one more. So that's a very good motivator. (P37)

Or perhaps by enabling participants more easily to choose their own narrative or journey through a project, keeping in mind that different people will find different histories appealing:

Keep things simple for people to do their own explorations. Don't force things on people. (P123)

For transcription or tagging sites, for instance, this might entail offering choices according to location, or time period, or enabling participants to read through or catch up on other volunteers' contributions relevant to their personal affiliation or interests:

Of course it's an extra motivation if you can choose to enter in information that is personally related to you. And that can be either the place where you live or the place you were born, or anything else, but it's an extra; it would be an extra motivation. (P37)

The emotional response involved here has similarities too to that evoked by storytelling entertainment forms such as literature, theatre, and film, except that here the experience can be even stronger since the participants build their own personal narrative through interaction with the source material (Lazzaro 2008):

The 'real' story that these logs imply is/was as hypnotically fascinating as any form of fiction or non-fiction, especially since they were written not for entertainment, but rather as a real record of the experiences by the crew. (OW-S)

Historical empathy: intrinsic fantasy

However, the interaction between participant and archival source material involved can intensify the learning outcomes beyond the experience of reading history or watching a historical dramatisation:

Whereas if you type in a scan, then you're the first one to look at it and you really read what's there, and you also internalise the information as you're typing. (P37)

Participants can become deeply engaged in this fantasy-but-real world, closely identifying with the historical characters they encounter on the way:

The ship and the crew became friends, and even the handwriting became clues as to whom had the watch (or bridge duties) for the day. (OW-S)

This is a good example of what Malone (1981, p. 361) calls *intrinsic fantasy*, where 'not only does the fantasy depend on the skill [of the participant], but the skill also depends on the fantasy. This usually means that problems are presented in terms of the elements of the

fantasy world, and players [participants] receive a natural kind of constructive feedback.'

Engaging in this narrative entices participants to explore further:

And then, once you do get involved, you know, it's like, how is your story going to end? Like, what's going to happen to them? (OW4)

Immersive participants enjoy the mystery, the journey towards a goal which is always emergent, developing out of the interaction between the participant and the archival context (Csikszentmihalyi 2000):

This is untangling mysteries; almost a little exercise in decryption. I love puzzles. (OW-S)

Thoroughness and detail are important to immersive participants: 'Curiosity, yes, well, its sort of a detective job, isn't it? Every tiny detail.' (P39) For challenge or competitive situations, it is recommended that randomness is introduced to maintain participants' interest and attention (Malone 1981; Ridge 2011; von Ahn & Dabbish 2008). In contrast, uncertainty is already inherent in the mystery or adventure of immersive participation, leaving the participants desiring instead narrative continuity in order to complete their (research) journey:

If I did a lot of pages in one go it was just because I didn't want to have missed anything when I logged on again. (OW-S)

Malone (1981, p. 361) observes that intrinsic fantasies can be used to reapply knowledge to the understanding of new things. In this sense, immersive participation has much in common with traditional historical research practice, and provides an intensive learning experience for novice participants:

It opens up your world and your mind. It allows you to be able to, you know, get different perspectives on something that you know you may not have understood or known about before. Or even things in your everyday life, it can open up in a new way where you can see it differently. You know, it allows you, takes you on different paths, and that, you know, gives you new adventures to do in your everyday life that otherwise you may not have even, you know, considered doing. (OW6)

There is always a sense in immersive participation of latent opportunity, 'The feeling that there might be something of interest there relevant to the subject that you are studying'

(P24); an opportunity to discover new historical avenues of personal relevance:

Getting a hands-on feeling for history, finding out about things that I would not otherwise have researched. (OW-S)

Targeted and immersive: experienced researchers

For participants with more extensive experience of historical research who are willing to contribute online, participation may be simply an extension of their existing research interests or application of their skills in a new area:

And the reason I do it is because I enjoy it and it provides a nexus for me of my interest in history, my interest in family history and my expertise of editing and writing which I honed over thirty years in tertiary education as a research officer. (P144)

Contributions from experienced historical researchers tend therefore to be made on the participant's own terms:

I did transcriptions of that for my own purposes... for research (P1)

As participants, these researchers could be interpreted as boundary spanners, combining together established experiences of immersive participation with the personally directed, cognitive goals of targeted participation:

I suppose really it's very intrinsic reasons. I needed something interesting to do. I enjoyed computer work, and I have enjoyed the research element of doing the family history, you know, trying to track people down, and reading records, and so on. And I thought, well ok, I can probably use my skills in computer-based research. (P33)

The design challenge here then perhaps lies in how to integrate existing individual research workflows with online participation tools and interfaces, such that a willingness to share can translate into actual contribution:

I would have to remember to get in the routine of doing that, or make a note at the time, put this little tag [in]. So its another level of work that is not directly concerning the one that I... the book thing that I'm producing.

But not because I don't want to do it, it would actually be remembering and being organised enough to do it. (P130)

Contextualising participation

Appraising the experience of *using* archives online, former archivist at The National Archives, Louise Craven comments on a 'shift of context, from the archive to the individual', claiming that:

It is clear that some users of archival documents are quite fascinated by archival context: they want to understand the archival context and provenance because it gives historical accuracy and authenticity to the document they have found. But many are *not* fascinated by archival context at all: they are concerned only with the document *itself*, with the information it provides about their own family and with the *meaning* it gives to their own lives ... *the content has become the context.*' (Craven 2008, pp. 19–20 — italics in original).

In similar fashion, the discussion in this chapter suggests that although *the* context of participation is critical to the experience of taking part, a specifically *archival* context is not necessarily a significant factor in either motivating contribution or inspiring a deep appreciation of archives. Here again, it seems, the archival content becomes the context, merged with the phases and pressures of participants' daily lives. Of the 373 respondents to a question about personal outcomes from participation in Old Weather, under 5% had subsequently visited The National Archives, although a quarter did claim to be better informed of research resources available at The National Archives; however, over 80% felt better informed about maritime history (a much higher figure than the 37% better informed about climate research) and more than a quarter of respondents said they had been inspired to find out more about the history of the period covered by the project.

For some participants, the encounter with archival content is experienced purely on a personal level; another shift from the archive to the individual. In targeted participation, this

may indeed be a constraint on the profundity of the experience gauged according to traditional usage outcomes of enhanced representational understanding and enriched meaning (Duff et al. 2012; Yakel & Torres 2003). But even a fleeting encounter may be personally satisfying or rewarding in the context of busy lives:

Mostly you know, I have a bit of free time here and there, and being able to put it towards something useful is kind of fun and enjoyable. (OW7)

Targeted participation then gives consequence to what would otherwise be the gaps and spaces in day-to-day life, but the meaning it gives is transitory not archival in the dual sense that it is neither richly contextual nor particularly enduring. Nevertheless, it is the purposeful, 'personally meaningful' nature of the challenge in targeted participation which also acts as an effective, self-regulated quality control mechanism, even where the participant's main motivation is simply to have fun. Discussing game designs for participation in a museum context, Ridge (2011) calls this 'the ability to "validate procrastination" — players feel ok about spending time with the games because they're helping a museum'. For instance, contributors and would-be contributors to both Old Weather and VeleHanden showed a striking concern towards providing accurate information, even before they had established a personal commitment to the project: this interviewee had signed up to Old Weather but had never actually contributed:

I really like the concept but I had trouble deciphering the handwriting. So I was afraid I was getting things wrong and if there were ones that I could be sure I was doing right then I would love to keep doing it, but I was afraid of screwing it up. (OW11)

In immersive participation (and in collaborative participation) participation blends into use. This is more familiar territory to archivists (and experienced users), rendering some of the experience of the archives reading room into an online space. From the examples discussed in this chapter, it is evident that immersive participation can and does occur even where the basic participation task is lightweight, as well as in self-evidently scholarly contexts

(Transcribe Bentham, for instance). The ‘fetish of the document’ is acknowledged in the sanctity of the archival physical space, where a fetish is defined as ‘a personal relationship between man and object’, which ‘takes it *out of context*, only focuses on part of the whole and can be a form of substitution for something absent’ (Wood 2000). Immersive participation, similarly, focuses on a relationship between the individual and the (digitised, usually) document, in which the experience of participation takes on an almost mystical quality. Consequently, it is set apart both from the archival workflow and from the diverse communities of practice which use archives. It is likely to remain a contradiction to try to force this inherently personal, immersive experience into the parameters of professional practice — within an online archives online catalogue, for instance. Contrary to anticipations, even Your Archives did not ‘reshap[e] our idea of the archives catalogue and with it our view of the archive itself’ (Prescott 2008, p. 49), perhaps not least because in its design it was couched within a traditional cognitive paradigm of archives as a place of study and learning. Consequently, contributions to Your Archives were more likely to conform to, or reinforce, traditions of professional practice than to challenge them.

Collaborative participation, in contrast, binds individual cognitive expertise into the social interactions of a group. The shift of context here aims towards the collective or team, but still privileges the voice of the expert, authoritative individual — although no longer (or not necessarily) the voice of the *archival* expert. There is a risk therefore of this style of participation degenerating into a clique of moderators who police rather than cultivate newcomers’ contributions which do not fit the sanctioned cognitive paradigm.

The difficulty is that the professional archival world (and those researchers at the top of the established hierarchy of trusted users of archives) is only just beginning to develop frameworks to comprehend, and hence value, the affective power of archival records. Whilst

such frameworks mature, the professional perspective continues to hold cognitive understanding in greater esteem than the sentimental, imaginative, or empathetic encounters which are characteristic of immersive participation. For the same reason, archivists have been slow too to appreciate the value of competitive participation, falsely equating having fun with capriciousness and thus more likely to result in contributions which are untrustworthy. This despite the fact that it is this affective periphery which is most likely to nurture the 'against the grain' readings (through immersive participation) and neophyte supporters (drawn in perhaps by the extrinsic stimuli of competition) which online participatory practice particularly seeks to attract.

Chapter 5: Users

Online user participation initiatives in archives are commonly justified on the basis that user input into description will help researchers to access and use archival resources: to ‘enrich the catalogues so that other people could find things’ (P28). Smith-Yoshimura and Shein (2011, p. 9) argue that ‘social metadata’ contributed by users of libraries, archives and museums both augments and re-contextualises, thus improving ‘the quality and relevancy of users’ search results and help[ing] people to understand and to evaluate the content’. To cite examples from archival practice, The National Archives’ terms and conditions of use for user participation states confidently in the opening paragraph that TNA’s website ‘provides user contribution spaces where users can participate online and contribute text, images and files (*‘content’*) to *improve descriptions* to The National Archives’ online catalogues and other resources’ (<http://www.nationalarchives.gov.uk/legal/user-participation.htm/> — my italics); but the draft Terms went further still, suggesting that users’ contributions would ‘help researchers to find information and to better understand archival sources and British history’ (P114). Contributors to the National Archives of Australia’s archIVE transcription platform, meanwhile, are invited to ‘help make our national records easier to find for everyone’ (<http://transcribe.naa.gov.au/>). Similarly, the volunteer-led Crew List Index Project states its aim as being ‘to make an index of the crew names from these documents, to *assist researchers in accessing the records*’ (P110, my italics). Participants too may recognise that ‘one of the reasons you’re doing this is to get the archives used as much as possible, to justify their existence’ (P24). Or in other words, participatory practice cannot be evaluated on the grounds of participation alone, but must also take into account the reception and use of contributed content amongst archival user communities (as well as the impact upon professional practice as discussed in Chapter 3). Who gets a say is indeed important, but are participants’ voices being heard? Further, given the dearth of critical comment from users on

participatory practice, is online user participation welcomed (indeed, understood as a concept) by users themselves?

All of which rather begs a series of questions regarding whether and how contributed data are actually being utilised by researchers and other users of archives. Is the advent of the online participatory archive in any way enhancing or changing established research practice and outcomes? Do augmented, (supposedly) richer descriptions particularly benefit experienced archive researchers with the skills to navigate and interpret multiple layers of contextualisation, or is participatory description in fact more of an aid for novice users?¹⁴ For instance, it has been suggested that as well as plugging the 'descriptive gaps left by the varied levels of description applied to collections, especially lighter treatments' (Sedgwick 2008, p. 14), user participation may help to close the 'semantic gap' between the search terms selected by lay users and professional descriptive terminology (Trant 2009). Would research users benefit most from participation initiatives aimed at opening up 'hidden' collections languishing in the ubiquitous cataloguing backlog (Rutner & Scofield 2012), or the linking together of physically dispersed collections, including those outside of formal archival custody (Lischer-Katz 2012), or do they find value in contributions which give alternative or more detailed perspectives as a supplement to a bedrock structure of professional description? Does user collaboration and interaction in description, as Krause and Yakel (2007, p. 312) hope, 'push the boundaries of current descriptive representations and reconceptualize ... the interactions among archivists, researchers, and records', or do researchers (like many archivists) harbour serious reservations about the accuracy, reliability and appropriateness of user participation in description, fearing it may create a 'chimera of false democracy' which 'detract[s] from scholarship' (Kennedy 2009)?

¹⁴ Although often assumed by professional advocates of user participation (for example Huvila 2008, p. 26), it is not a given that contributions will necessarily be perceived by research users as enriching professional archival description.

This chapter divides broadly into three sections: the first section considers participatory practice from a research user's point of view and outlines four common issues (accuracy, authenticity, authority, accessibility) which may limit users' willingness to accept contributed description or third party narrative as legitimate sources of influence upon their own evolving interpretation of archive materials. The middle section on ideals and realities of participatory use critiques the record-centric foundations of the participatory ideal, and argues that certain assumptions about the non-rival quality of archives cannot be upheld amongst existing user groups. This is problematic in that established users may consequently be unwilling to *participate*, thus staunching the flow of peer expertise available to other users. If therefore the participatory paradigm is to gain headway amongst research users of archives, a new concept of use itself is needed which encapsulates the symbiotic relationship between participation and use. The final section of the chapter suggests some possible directions in which a new use paradigm might develop for the future of participatory archives.

Who currently uses contributed content?

A first, significant, challenge in considering the use of participatory archives lies in trying to identify who might already have benefited from contributed data, what kinds of participatory description they have found most useful, and to what ends — and conversely, what barriers exist against efforts to extend the reach of user participation. Currently, in contrast with the citizen science field for instance, many participatory projects involving archives are not designed to help answer a specific research question (or even targeted at a particular research discipline; genealogy is possibly the principal exception here), but are intended for the general benefit of researchers working within a broad paradigm of the humanities and social sciences. This can be the case even where a participatory project aims to create a new digital research resource around a particular theme or archival source: for example, the

Marine Lives project recruited PhD students ‘in History and associated fields like English, Geography, Historical Linguistics, Sociology and Anthropology ... to assist us in understanding the research questions of relevance’ (<http://marinelives-theshippingnews.org/blog/2012/10/22/call-for-participants-in-marinelives-phd-online-forum/>), but only after commencing the actual transcription project. Similarly, the Transcribe Bentham project is described as ‘widen[ing] access to the manuscripts, so that anyone, anywhere in the world can search the collection’ (<https://blogs.ucl.ac.uk/transcribe-bentham/about/>). The potential spectrum for the use of contributed data is therefore very wide, and encompasses imaginative or poetic uses (for example, as inspiration for a craft activity, narrative writing or the performing arts) as well as cognitive uses in academic disciplines and beyond (for instance, by genealogists). For reasons of practicality, this chapter concentrates on intellectual use in research and meaning making, although still ranged along a continuum of creative capacity, from sophisticated technological mash-ups of archival content and descriptions (Pugh 2012), via the customary products of academic or popular historical interpretations (published in monographs and magazine articles or perhaps broadcast on television or radio, or presented online), through to single purpose fact-finding missions, for instance, persons seeking authenticated copies of British citizenship certificates (‘Certificates of British Citizenship (1949-1986)’ n.d.) for legal purposes (one of the information seeking personas used by The National Archives (TNA42)). The potential for artistic uses is acknowledged but is for the most part beyond the scope of this thesis. Creativity here is understood according to Burgess’ definition:

Creativity is the process by which available cultural resources (including both ‘material’ resources — content, and immaterial resources — genre conventions, shared knowledges) are recombined in novel ways, so that they are both recognizable because of their familiar elements, and create affective impact through the innovative process of this recombination (Burgess 2006, p. 206).

An initial tentative distinction may still be made between (a) research use by design, in which contributions are solicited and tailored by a group of experts, with or without a specific set of research questions in mind, and (b) *a posteriori* research (re)use of user-contributed descriptions. Whilst it is relatively straightforward to identify the primary users of data collated in participation-by-design projects, evidence for *a posteriori* use of online user contributions by established archives researchers proved more of a challenge to identify and collect, perhaps because *online* participation is a relatively new departure with respect to archival materials. Some web log data may be available internally within archives institutions, but these can be difficult to interpret (the Your Archives logs, for instance, showed little correlation between the number of times a page was viewed and the number of times it was edited, with each edit also having the side effect of incrementing the viewing count for that page (YA-R)), and in any case ‘cannot tell us anything about the users’ cognitive or affective responses during the system interaction’ (Sheble and Wildemuth quoted in Chassanoff 2013, p. 463). In a snapshot poll of researchers visiting The National Archives’ reading rooms on 1 December 2011, 23.8% of visitors who returned the questionnaire ($n=143$) claimed to have made use of other users’ contributions in the course of their research, but few submitted actual examples. The examples which were offered were primarily genealogical resources, together with some more generic research forums (mostly on a particular historical subject or theme; for instance, military or naval history), Wikipedia, and offline interaction spaces such as seminars and research groups. In the interviews which followed, family historians and biographers appeared more likely than other researchers to profess to using information contributed by their peers:

I would have had a heck of a job to find that out without access to people who had perhaps studied this for ages. And although they probably are experts, but they probably haven’t published worthy tomes about it or anything, they certainly answered my questions quite well, you know.
(P130)

However, many of the interviewees struggled to distinguish their use of user-contributed description and content from digital access issues more generally: participatory archives are to a significant degree an artificial construction of the professional sphere, not necessarily recognised by users themselves as a specific phenomenon likely to impact upon research practice:

I don't disagree it could be very useful. It's something extra. But I will say to you what I said [to staff at The National Archives] that the whole thing's overkill. Massive overkill... And I can't help wonder sometimes what the motive for all of this is. Is it re-discovery of the wheel? Is there a definite need? (P123)¹⁵

And beyond genealogical and biographical research, which benefit from a long-established tradition of 'self-help' (H. Hall 1908; Procter 2008), it is less likely anyway that relevant user contributions will be presently available: 'I often check Your Archives but so far nothing in my research has extra info[rmation] contributed' (P121). User-contributed transcriptions and sources are often integrated by default into the search interface of standard online genealogical resources, such as Ancestry or FamilySearch:

And then that information just kind of is then visible to other people when they go to the record and also its probably used in the search criteria, so if people were searching for that information it would search the tags information that's attached to the record. (P143)

But this is rarely the case with more generalised archive search tools. User tags are not currently returned in Discovery search results, for instance, but must be browsed or searched separately, thus limiting their usability for both new users (because the tag interface is separated from the main search form (and appears 'below the fold' of a browser window, i.e. it is not visible without scrolling down)), and to existing users (because of the additional

¹⁵ In fairness, this question — of whether there is actual demand from users to participate — was also raised by several of my professional interviewees, including this member of The National Archives' staff: 'Is there a real appetite, I sometimes wonder? Are we pushing it too much? Do we have a political agenda? We believe this is good, and we have to do it for the common good, because we also have less [sic] resources in a time of financial difficulties. But do the users, do we have enough users wanting to do this with us? Are we trying to convince users to do it? I would like to know more about how they feel, how much they want, what do they want? I don't know.' (P136)

effort required to comb through them). And in more niche research fields, the value in user contributions may also lie dormant for many years before being picked up by another researcher:

When you're at the Bodleian, say, and you pull out the manuscript catalogues, and [...] they've got these marginal annotations and, like, insertions. But they're actually photocopies of the original catalogue, where people got marginal annotations on which people have then written more marginal annotations and additions... So there will definitely be people wanting to add information to whatever bit of archival document it is — but it might take fifty years for somebody to look at the material I'm working on again, and look at my marginal annotation and go, great, this is what I wanted! (P145)

This raises further methodological questions for archivists about how user contributions should be evaluated, since it implies that the value of user participation may not be immediately apparent at either the point of creation or even initial discovery by users.

Meanwhile, it is also possible that the data collected in participation-by-design research may be of further use to third parties *a posteriori*. Old Weather participants, for example, variously expressed interest in viewing the project's formal scientific outputs or in more popular secondary analysis of the extracted climate data (as graphs, maps, animations, and so on), but some also wanted to be able to access the raw data itself 'so that the materials, or selections or tranches therefrom, can be easily downloaded for analysis by whomever — amateur or professional historians, scientists, etc.' (OW-S). There are also many volunteer data-entry projects in the family history field whose outputs (and sometimes also inputs, where name data is selectively transcribed) are targeted specifically at genealogical researchers (i.e. the associated search interfaces allow for interrogation by personal name only). But this same data also has a much broader re-use potential, for example in historical demographics research (Duke-Williams 2012). Indeed, one of the universal challenges of user participation relates to how to maximise this *a posteriori* 're-cycling' potential whilst

simultaneously maintaining the quality and relevance of contributions for core audiences and users (Hansen 2007).

4 'A's: Issues for research use of contributed content

The central issues arising in relation to the quality and perceived value of contributed content span many different categories of user and research contexts in which the participatory description might be utilised. There are also substantial overlaps within and between the abstract categories presented in the following section, which should consequently be considered a preliminary analysis of these issues, and which may in time play out differently, or with different weightings, according to particular participation types. For example, accuracy is vital to more mechanistic styles of participation, whereas authenticity may be the prime concern where contributions are more narrative in form and evaluated according to qualitative characteristics. Further distinctions lie in the individual user's (or user community's) attitudes towards participatory practice, their understanding of their own place within a participatory ecosystem, and their level of acceptance towards changes to traditional roles and responsibilities along the research workflow.

Accuracy

I assume that if someone suggests a correction it wouldn't automatically be implemented. Somebody would have to check it and make sure it looked accurate and then put it in there. (P131)

For research users, as for archivists, there is an important balance to be struck with participatory description, in 'making sure the content is accurate (or accepting the risk that it isn't)' (P121). 'The problem is that people reading them can often take them as being correct'

(P27), and this, it is claimed, might lead on to an incorrect or ‘biased approach to history’ (P121).

Accuracy of description (that it is correct, truthful, precise, and relatable to the content described) is not of course an issue specific to the online domain or to user participation. G.R. Elton in 1965 described printed calendars as ‘a splendid aid to historical study ... also, like all abstracts of record material, a trap and occasionally a positive disaster’ (quoted in Knighton 2007). This criticism has not though prevented ‘the official Calendars [becoming] cornerstones of our medieval and early modern historiography. For formal records such as the Chancery and Exchequer rolls, they are all that most researchers require, and the originals are hardly ever now opened’ (Knighton 2007). A similar concern was expressed by interviewees in the context of user participation, with the prospect of almost *too much* description — that the easy accessibility of full document transcriptions might negate the necessity to check the original source:

Once you have the transcription, very few people are going to even want to really go and actually view the original document, because the transcription’s going to be easier to read. So, if it’s wrong, in the future... I just, I get a little nervous about that. (P30)

And yet insofar as user participation extends an acknowledged tradition (P131) of user involvement in calendaring, document editing and publication (‘It will be apparent, therefore, that whilst the preparation of Lists or inventories of Archives is ostensibly the business of archivists, the compilation of Indexes, like the preparation of Calendars or the transcription of texts, is a matter which chiefly concerns the historical student’ (H. Hall 1908, p. 80)), researchers were more often cautiously welcoming of initiatives which might help bring to light new sources or make already known ones easier to access:

The more people that come into this I would think, the more documents can be transcribed and made available to other people to be used [...] There’s a lot of lost material out there, and it isn’t lost, it’s just you can’t find what’s in it. (P126)

In participation-by-design projects, a concern for accuracy is usually directly controlled by specifying the types and format of acceptable contribution in advance, and/or by stringent mechanisms of post-participation review or revision (Brumfield 2012). In Old Weather for instance, each logbook page is transcribed independently by at least three people, and these transcriptions are then checked for matches ('Better than the Defence' 2011); Transcribe Bentham operates a manual system of expert review following which the completed manuscripts are locked against further editing (Causer et al. 2012); VeleHanden recruits volunteer checkers to audit the index entries of two of their peers against the scanned document (Fleurbaey & Eveleigh 2012). Although the exact method of quality control is different in each case — some processes represent a simple translation of traditional manuscript editing or expert peer review into the context of online user participation; others seek to leverage the available computing power by automating some or all of the checking process — the common consequence is to orient responsibility for establishing accuracy away from the research user. The inevitable trade-off in regard to available resources, however, also means that where a project's primary focus is on accuracy, the contributed data is also likely to be limited to literal details which can be transcribed precisely and verified by direct comparison with the original archival source.

Users may however be conscious that a single accurate representation, even in transcription, may not be so easily established:

It's a little bit tricky with [...] things with like spelling errors, because if they exist [...] in the record, I don't whether it... is it right to correct them, even though you know it's wrong, but that's not what... if that's what the record says, surely that's what the website should say the record says? Does it depend on the person looking for it? But as with a factual error, I certainly would [suggest a correction. But [...] I don't know what I'd really expect to happen. I assume that it would, I would expect that the error I'd suggested would appear as a sort of alternative, an alternative interpretation of the record rather than an automatic, 'we're just changing it'. (P143)

A more extensive discussion of ‘error’ in the context of the VeleHanden transcription and indexing platform is to be found in Fleurbaay & Eveleigh (2012): this paper discussed the numerous features implemented by VeleHanden to prevent errors occurring at the point of data entry, and then for error correction at a later stage. However, we found that these various measures merely instigated a debate over what should count as an error, and on issues surrounding the accuracy of the underlying historical record. Examples included incomplete or incorrectly formatted dates, which turned out to be so prevalent that the participants asked for the automated date format submission check to be removed, mistakes made at the point of recording in the nineteenth century, and variant forms of names (including completely new forms of name taken upon naturalisation). Since correcting these ‘errors’ would be to jeopardise the authenticity of the data in the underlying record, our conclusion was that users’ best interests were served not in control — by suppressing anomalies — but in communication; that is, by instead highlighting the uncertainty, and providing a search system which helps the user to understand, navigate, and filter this diversity.

An alternative standpoint therefore puts the responsibility for establishing the accuracy of contributions back onto users themselves:

Well I’m a sceptic, so I basically took information off the Our Archives wiki that other people had put there, and because I’m at the Archives all the time I just directly tested it. I went into the Finding Aids room and I requested the record. And I just saw if it worked. And mostly it was correct. (P28)

Users may sometimes express scepticism about their peers’ skill or assiduousness in carrying out this kind of evaluation of contributed data:

And that happens a lot in family history, people get hold of information, they put it on the web; somebody reads it and says, oh yes, that’s the family, that’s the history of our family. And the people who did the original research have got it completely wrong. (P27)

But notably, none of those interviewed seemed to consider that they might fall into Elton's trap in their own research practice. Participatory description, after all, is envisaged to 'provide users with multiple pathways to explore, which the user would be free to pursue *or ignore*' (MacNeil 2005, p. 276 — my italics). So in spite of the frequently expressed reservations about 'inaccuracies and incomplete information' (P121), and even an occasional accusation that 'you could find people there actually sowing wrong information' (P123), few interviewees actually dismissed user contributions out of hand. Instead, interviewees readily identified a role for themselves in evaluating not only the source content but also its description or transcription; a need to 'triangulate it with as many other sources as possible' (P33):

I mean, it's like anything you find online, you take it with a grain of salt. And in terms of an historical technique, you really have to cross-reference things to make sure. (P144)

Most researchers then would still 'want to read the original myself as well because, you know, you don't know... you want to gauge for yourself whether or not you think its correct' (P143), although as Lim & Simon (2011) have suggested, the extent of this evaluation varies according to the type of information sought, and the intended purpose of use:

I'd treat it as a standard secondary source that needed verification, or not necessarily needing verification but, if it was significant for the project that I was working on, I'd be looking for some form of verification. If it was just incidental to a project that I was working on, I might treat it as not needing verification. (P142)

Possibly as a consequence of the longer tradition of online peer contribution in the family history field, or possibly due to the self-evidently emergent, 'always beta', quality of family tree construction, it was the genealogists interviewed who exhibited the most nuanced understanding of user-contributed description as contingent and provisional in nature — 'It would just make it easier to connect. It wouldn't make it definitive' (P124). As Hurley points out, 'family historians have always been amongst the most sophisticated users of original documents and the best rummagers' (Hurley 2011, p. 6), and although concerned that

participation should be monitored to maintain discipline and the relevance of contributions, family historians also recognised the (disputed but compelling) possibility of collective accuracy control:

It's probably more likely to be accurate because it's had more than one person look at it and discuss. (P143)

Famously expressed of open source software development by Eric Raymond (1998) that 'given enough eyeballs, all bugs are shallow', the claim here is that, given sufficient numbers of participants, mistakes are more likely to be located and rectified, leading somewhat paradoxically to increased accuracy:

The quality control would be the other people using the document. (P126)

Where researchers are open to this responsibility and contingency of evaluation, it also releases the potential for the research use of more innovative and less literal types of contribution, to uncover perhaps tacit perspectives, new identifications, memories, or creative contextualisations:

There is the possibility of errors made through lack of understanding, but I suspect these are not that common and the benefits outweigh the costs. As users who choose to participate tend to be highly dedicated or very knowledgeable on specific topics, they can provide insights and information that general staff don't have time to. (P151)

Authenticity (and reliability)

The authenticity of any information would have to be checked, and how relevant it is. (P121)

Establishing and demonstrating authenticity in the context of user participation is a closely related, but even more vexed, issue than that of accuracy. Authenticity (concerning the integrity and identity of a witness or statement of record, that it is what it claims to be) and reliability (the veracity and completeness of a source of information) are concepts which have received much attention in the archival literature in respect of the purported truth, originality

and trustworthiness of records themselves (for example, Duranti 1995; MacNeil 2001). But whilst an evaluation of the authenticity of records' content, of primary source material, is commonly understood to fall also within the remit of the archives user, archivists have taken on an exclusive professional responsibility for creating 'reliable, authentic, meaningful and accessible descriptive records' (International Council on Archives 2000, paragraph 1.2) of that material. More recently therefore, MacNeil has discussed the authenticating function of archival description (MacNeil 2005, 2009), and authenticity in the context of the digital environment (MacNeil & Mak 2007).

Three aspects of authenticity and reliability seem relevant with respect to participatory description:

1. The impact of user participation upon researchers' understanding of the authenticity and reliability of the archival records described.
2. The authenticity and reliability of each contribution (as contrasted to the authenticity and reliability of the records being described).
3. The authenticity and reliability of the *contributor*, particularly where anonymous editing of online resources is permitted and consequently 'you don't know the expertise or background of the people submitting information' (P121).

But as MacNeil warns, 'the relationship between authenticity and archival description is neither self-evident nor straightforward ... and the question whether an archival description provides grounds on which users might presume the authenticity of records being described cannot be separated from the question of whether users can trust the archivist's [and now other users'] representation of the records' (MacNeil 2009, p. 93):

If the information's reliable, it doesn't matter who... you know, as long as the information's reliable, I don't look about who, you know, I don't look at who edited/attributed to... except the problem is that I know some of those people and I don't trust them! (P29)

In further illustration of this tangled association, consider Yakel's (2011a) reasoning around the reconceptualisation of description and the interaction between user and archivist through the social web, and the 'balancing' of the 'authentic voices' of user-contributed description in opposition to archival 'authority' and traditional methods of archival description. She argues, for example, that 'authority and authenticity collide' on Your Archives, over editorial control of content. Then again, commenting upon the nature of the historical discussions, memories, and then-and-now photograph pairs submitted to Flickr Commons, she claims that:

These types of comments have no place in our current descriptive metadata for images and records, yet it is just these types of comments that recontextualize the records and change both the records and their context forever. These comments also add another layer of authenticity to the records with their 'authentic voices' (Yakel 2011a, p. 94).

Yakel's reasoning that the incorporation of external voices strengthens the authenticity of the images or records, however, relies upon the presumed authenticity and reliability of the contributions submitted, a conundrum to which she offers no solution beyond a belief in community building and the sharing of authority.

If 'authenticity is in the eyes of the beholder' (MacNeil 2009, p. 92), then one solution may lie in linking authenticity to accuracy, and shifting accountability back to the researcher — user contributions would simply provide additional information upon which researchers can make their own judgements. But even if the addition of user contributions helps to reinforce the message of professional description and bolsters users' trust in the accuracy, authenticity and reliability of the archives described, questions still remain over how the authenticity of the contributors and their contributions can themselves be established:

As I say, there is an element of, you know, it's quite a trusting thing to assume that somebody else is... who perhaps who maybe might not be as familiar with the information that is in there as I would be, because I know about some of it because it's my family history. (P143)

Yakel's 'authentic voices' argument also does not address a scenario in which user comments contradict or repudiate the descriptive analysis provided by a professional archivist or by established subject experts. In any case, the extent to which current researchers would agree that participatory description reinforces the authenticity of records is rather unclear.

Certainly, they might understand user participation to facilitate 'different ways of looking at data' (P121). One (academic) interviewee was particularly concerned to see the descriptive process — including user contributions — laid bare, to expose the potential impact such re-contextualisations might have upon researchers' interpretation of the source material:

It's a concern, it's something that I believe humanities scholars should know — how different databases... there should be transparency on the tagging, the kinds of metadata, the quality, and the kind of thinking that went in to constructing the database. Because the actual, the underbelly that we never see, even if you reveal source code, so there's also thinking... because tagging, metadata, [even] if you're doing things according to, like, TEI,¹⁶ that's interpretive work, about the document. You're making interpretations about the document through the coding that is then going to reveal, that's going to come up when you do the search. (P146)

Yet rather than perceiving participatory description as boosting authenticity, established researchers may seek to ensure user contributions are separated from both digitised content and professional archival description, in order that 'the integrity of the holding is preserved' (P121):

When we consulted with academic historians they didn't want that much muddling of the original material with new comments, they wanted it to be very distinct. (P94)

Participatory description here may still be accepted as authentic, reliable and useful, but it has only a subsidiary or supplementary status, and is evaluated in the shade of professionally endorsed resources:

I can see no downside or disadvantage to this informal user participation in archives. Such use is always a positive and collaborative experience. Users always are clear that recourse to the relevant professional advice e.g. Research Guides, Archives Guidelines etc. is always a first step before accessing the archives, and that any tags, posts, notes, lists added by user participants is utilised on the understanding that it is an 'amateur' input. (P151)

¹⁶ Text Encoding Initiative – markup standard for literary and manuscript texts.

If, on the other hand, ‘authenticity is best understood as a social construction’ in a digital context (MacNeil & Mak 2007, p. 26), an alternative conception of the participatory archives transfers the responsibility for authenticity evaluation to the wider user community where the legitimacy and veracity of contributions can be established through social interaction:

I think the thing that’s useful about something that’s very collaborative like that is that there’d have been lots of input so there’s an element of debate about what’s written there and people, you know, you have different inputs and come up with slightly different solutions, rather than just having one person transcribe it. (P143)

This is not a purely online phenomenon either — one interviewee observed that academic historians, ‘share at professorial-level in universities, and seminars and that sort of thing, but it’s disseminated amongst an academic crowd’ (P123). But not all archival user communities have yet been able (or wanted) to translate these established social customs of offline debate into the online world. The historian blogger Will Thomas (2013) expresses frustration with this state of affairs: ‘I believe historians continue to nurture a *fear of the unrefined*. We are extraordinarily reticent to show ourselves in a state of uncertainty, investigation, and, above all, internal disagreement.’ So it is that despite Samuel’s (1994, p. 8) paradigm of history as ‘a social form of knowledge’, academic historians might, in stereotype, provide the prime example of this reluctance to engage in open discussion online — perhaps especially where personal career development remains heavily focused upon original, peer-reviewed publication as the polished product of research:

Now I have not put out anything too much about this person. I’ve given lots of talks about him and the firm, but some of the information — I’ve been working on this for about eight years. And I’m actually a very collaborative person in some ways, but I’d rather have this published formally before I, you know, put any website out there. (P146)

However, it is also clear from interview evidence that family historians too may feel uncomfortable with sharing their research in an unregulated public space:

I’ve had my data in MyHeritage and it didn’t quite..., no, I didn’t quite like it. The thing with the Internet is you can... there’s a lot on the Internet that isn’t correct. So with that site, some of my research was published and, well, it didn’t make me feel comfortable. So I pulled back, but there’s still a

part of my research available on the Internet. And I think that's some[thing] of a risk. I think you can put a lot of data on the Internet, and not always get it back. Well, my own data was not always correct, or complete. (P36)

And yet, whilst the subjectivity of archival finding aids and the privileging of the archivist's voice have been matters for much debate in the archival literature, it remains unclear to what extent all potential users are themselves conscious of (or concerned with) archivists' potential mediating or authenticating power (Duff et al. 2012). Both Yeo (2010a, in regard to archivists) and Craven (2008, discussing users) make essentially the same distinction between those who are fascinated by context or authenticity, and those who simply demand access to content. As with the evaluation of accuracy, the degree of authenticity to be demonstrated seems to be contingent here upon the context of use, that is, according to the conventions or expectations of the community within which use occurs:

And I guess you know at bottom, the genealogists really are, have a different mindset. They are really looking for their name, ultimately, you know what was their family doing, even if they want the broader context, so they really do have a different end in view. (P147)

The following Old Weather forum post, attaching a black and white photograph entitled 'awesome_photos_collected_from_history_01.jpg' (Dean 2014) helps to illustrate this point in detail:

This came from a friend. It was part of a much longer series of old photos but I thought it may be of some use to our Group. I have no way to verify its authenticity except it 'looks good.'

The title stated: A boxing match on board the USS Oregon in 1897.

For the social negotiation of authenticity on Old Weather, it seems not insignificant that 'Dean' is (from his profile) an established 'ship history editor', posting into a forum thread regularly frequented by other core members of the Old Weather community. Authenticity is not only contingent and changeable in itself, but also highly dependent upon the building of

trusting relationships; indeed ‘authenticity has its roots in trust’ (Trant 1999, p. 125).

Although the anti-establishment bent of the collaborative ideal may enable non-elite voices to have their say or put their point of view, it is simultaneously difficult to see how a convincing view of the authenticity of this item might emerge within the relatively expert Old Weather core community in the absence of conventional social cues about the commentator, and his claim to knowledge relative to the photograph in question. This implies that online communities too need to develop proxies marking expertise and social standing in order to negotiate authenticity.



Figure 5.1 **U.S.S. Oregon, waiting for the gong.**

Photographer: Edward H. Hart, Detroit Publishing Company [1896 x 1901].

Library of Congress Prints and Photographs Division.

No known restrictions on publication.

<http://hdl.loc.gov/loc.pnp/det.4a14636>

But it may also be that authenticity is not always required for ‘use’; or perhaps that mere credibility is more often than not, as Dean hints, sufficient. Whether or not the photograph is of use to the Old Weather community (Dean’s posting is apparently ignored by the forum), a Google reverse image search demonstrates that the same photograph has been widely shared (used?) on social media, almost uniformly without attribution and also largely without

question as to its source or integrity. A posting (alongside two accompanying images of the same event) of the 'adjusted' photograph on the Shorpy 'vintage photo blog' ('Fight Night: 1897' 2010) leads indirectly back the original image held by the Library of Congress (Figure 5.1), but this official provenance appears to be immaterial to the discussion that the image has inspired. The comments submitted to the Shorpy blog, all under pseudonyms ('Anonymous Tipster', 'Capt. Jack'), demonstrate the images' affective power and also include several highly credible but at the same time impossible to authenticate remarks about the setting (including speculation that the photographs were probably posed ('Round Two: 1897' 2011)).

Archival authority (and trust)

Because if it's an official archive, you know that they retrieve the information right. And they are..., can be trusted. (P96)

Archival authority has been given a hard time lately from those (particularly those of a postmodern persuasion) who would promote participatory practice in archives. To assert this authority is (according to the rhetoric) to make a claim to superiority and to demand power, and to privilege the position of the archivist (and of the archives as an institution). Jennifer Trant (2008, p. 290), writing in a museums context, counsels cultural institutions to change their stance about the nature of their role: 'it is possible to contribute authenticity without demanding authority. Authenticity is a value: its maintenance an imperative in collections of lasting value. But demanding authority is an act, often of arrogance, that denies the contributions of others to the development of knowledge.' Archival authority has also, as Yakel (2011a, 2011b) observes, been portrayed as a fixed, limited commodity — so that 'participating in the social web means that archives either give up authority or their authority is called into question by competing and erroneous information about their collections' (Yakel 2011a, p. 91).

But current researchers interviewed continued to uphold an enduring respect for the institution of the archives, and for description authored by professional archivists:¹⁷

I think Wikipedia is a much more sort of amateur kind of collaborative idea, whereas The National Archives [catalogue], you kind of feel that its being produced by expert archivists and [...] I think you like to feel that it is reliable and not just something that's been put together by people who perhaps don't know that much about what they're talking about! (P141)

Professional researchers, such as academics and freelance record agents¹⁸ (as in the quoted example below), seemed especially anxious to see some kind of identifiable authority figure given responsibility for quality control:

I think really any transcript would have to be firmly embedded with acknowledged academic backup. I don't think you can have people just chiming in and changing things to suit themselves. I mean, you'd get all sorts of nonsense in there. (P123)

This is an inconvenient attitude for those who see user participation in description as a liberation from archival control and authority. However, as part of her argument that authority should instead be considered a non-rival good which can be shared with users, Yakel (2011a) refers to Patrick Wilson's (1983) division of authority into cognitive and administrative types. Administrative authority characterises a hierarchical relationship, whereas cognitive authority 'refers to the trustworthiness and reliability that people grant to texts, records, institutions, and people' (Yakel 2011a, p. 80). This is similar to Raul Espejo's (1999) distinction between a contextual trust based upon credentials, and the responsible trust built through interaction and information exchange. Additionally, in a recent article arguing for the establishment of a new theory of digital historiography, Joshua Sternfeld

¹⁷ Of course this trust in archival authority may turn out to be falsely grounded, in that it is entirely feasible that the professional authors of archival description may also turn out not to 'know that much about what they're talking about'; archival authority is founded on an assumption of expertise which, in reflective professional practice, user participation may help to regulate, as this interviewee (an archivist) recognized: 'We're very interested to hear people's comments. Whether or not we find them agreeable or not is really not the point... I don't think that it undermines our roles as archivists at all, but I think in many senses it demands more of us, because it means that we must be able to interpret the sources in a clear way, and not rely on the descriptions you get in a catalogue and think that's it... You're demanding more of the archivist in understanding why that record, that archive was created, and the potential uses of the records it contains for a wider range of research.' (P127)

¹⁸ Record agents are self-employed researchers working on commission, for a fee.

(2011) comments that ‘the trust bond between archivists and archival users over time has been well established.’ Could it be then that it is this responsible trust, gradually built up through repeated interactions between archivist and user, rather than an admission of subservience, which underpins the continuing reverence which established researchers express for a cognitive archival authority? If so, then it might also be anticipated that this claim to archival authority may not be recognised, indeed may be viewed with suspicion, by certain communities of practice which have no such tradition of interaction with archivists.

Yakel (2011b, p. 264) also reasons that the move from a personal interaction between user and archivist in the physical setting of the reading room to the collaborative online space ‘is a difficult transition. This transition should not be mistaken as a change from control to freedom or one of totally giving up authority.’ From the user’s perspective then, accepting the invitation to participate in description and making use of others’ online contributions need not necessarily preclude an appreciation of the expertise of the professional archivist. But there are also alternative (although not necessarily rival) cognitive authorities available to users. In the following instance, authority is attributed to the collective authority of a genealogical society:

If they’ve been done by family history societies, I would tend to, you know, put quite a lot of faith in their transcription prowess, so to speak, rather than, you know, an individual who’d done it. (P130)

And here, to a university:

It does, the fact that its university hosted does give it an aura of respectability, shall we say. A bit like the archives, you assume a higher standard, let’s put it that way. (P147)

Researchers then can be enthusiastic about the potential benefits of a participatory approach without understanding this in the democratising terms in which user participation is often painted and promoted in the archival literature (for example, Flinn 2010), and continue to place their faith in various sources of authority — often including archives as institutions and

in archivists as professionals — as a heuristic marker of accuracy, reliability and sound provenance:

I also think there's got to be an element of respect for the archives doing things properly, if you know what I mean, you know, to an industry standard and that kind of thing. So I think that shouldn't be compromised but I think certainly taking the [user's] opinion into account and perhaps making it as straightforward as possible for people to find the relevant records, because that is what it's there for isn't it? So that people who need to find records can find them. (P144)

Recognising perhaps the enhanced quality control provided through professional curation of both content and description:

No, the archives, that's more correct. Because on [a personal] website its often information they got from a friend, from a friend, from a friend. So the things you find on the archives' websites, that's er... 99% it's correct. (P34)

Accessibility

Where user contributions are poorly integrated into generic online research tools such as the archive catalogue or leading subject-specific resources, a degree of additional effort is required on the part of the researcher in seeking out new sources of information. Here then the barrier to the more widespread use of participatory description in research is not so much an epistemic concern with the accuracy or authenticity of the contributions themselves, as a practical issue of accessibility or simply a lack of awareness or a disinclination to search beyond tried-and-tested resources most likely to deliver relevant returns: 'I tend to stick to, you know, what I know, and expand into areas where I need to do so' (P124).

This accessibility issue may be circumvented to some degree where user contributions stand out in search engine search results, given the ubiquity of using Google as a first stage discovery tool (Gibbs & Owens 2012; Rutner & Sconfeld 2012):

I do know that I have gained information from articles on [Your Archives]; not because I went to look for them, but they happened to be on a topic that I was interested in [...] But I very rarely actually search Your Archives as a source. Part of the reason for not using it as a source in that way is because its fully indexed on Google, so whenever I'm doing a Google search, I would automatically be picking up anything on Your Archives that was interesting. (P142)

However, although researchers were willing to concede that 'probably having something that somebody else has done, it's going to be easier than starting from scratch because you've got some sort of markers' (P141), promoting greater openness and the early release of user-contributed descriptive data can also backfire in terms of discovery and research use, particularly where the form of contribution is not tightly specified or controlled:

I probably would prefer a bit more moderation because I think the retrospective system is fine in principle but it could easily... I mean if this takes off, it could easily get out of control quite quickly. Just looking at these tags, we've got lots of very, very specific things, and once you get everybody who's interested in *Who Do You Think They Were* [sic], you know, family history, putting their tags in, you're just going to get total chaos. (P141)

Policies of post-, reactive- or distributed-moderation may then help to encourage participation, but the overall result is still likely to be one of incompleteness, duplication, and a lack of consistency, in which researchers express little confidence:

I notice a lot of the stuff on there is a bit half-baked, half complete. Somebody put in some work on Chelsea Pensions, but it sort of finished where it finished, you know, there was nothing, nothing added, nothing new. And I don't really think any of the stuff that's in there that's been produced by outsiders is what I would call really good academic, solid research. (P123)

Reviewing the keyword search interfaces of three digital history sites, Joshua Sternfeld (2011) concludes that unmanaged tagging 'renders materials virtually undiscoverable through conventional search mechanisms', yet the alternatives, using visual prompts (such as enlarging certain words) or preselecting the tags available for browsing, 'in turn can influence how a representation is searched or browsed'. Similarly, one interviewee (a freelance researcher) described how unregulated tagging on a genealogical site had obscured the effectiveness of the site's search facility to such an extent that she had reverted to browsing

by provenance in order to discover items of interest to her research:

And I know that with tagging, that can go wrong. I mean, on what was Footnote and what is now Three Fold, you can basically tag — if you belong — you can tag anything.¹⁹ And that's made searching incredibly difficult, because, you know, someone will be named William Smith, and their ancestor will be like, oh no, we calls him Billy Bob, and they'll tag him as 'Billy Bob'. And pretty much immediately that record just becomes unsearchable [...] It's [got] to the point where I just go through the record groups because, basically a query search is just so time-consuming, because you get so many of the wrong things. (P30)

Even the terminology of 'tagging' was unfamiliar to the majority of researchers interviewed, and presented with the 'Show All Tags' feature of The National Archives' Discovery platform, many initially struggled to comprehend how tags might be searched or browsed. The following researcher's confusion and sense of increasing frustration are characteristic:

Interviewee [viewing a catalogue description for the Master's Log of the ship *Ariadne*]: Right, Show All Tags. 'Admiralty Minutes'. Oh God, can I work it out from there?

Interviewer: Sorry, this isn't an examination! I'm just interested in how you...

Interviewee: You have three minutes! Well, if it's a Master's Log, it isn't going to be 'Admiralty Minutes', I wouldn't have thought. It might have 'Bermuda' or 'Barbados', if it went there, or 'Coalbrook, Antigua'. I don't, sorry... Popular Tags... So it's nothing to do with 'London Underground'. Sorry, that doesn't really mean anything to me at all. Not just looking at this quickly like this. I would sort of, actually doing it for real, I suppose I might click on 'Bermuda' or something or 'Barbados' but...

Interviewer: Ok, well how about you click on one of those and see where it takes you?

Interviewee: Ok. Oh, now it's taken me to something totally irrelevant, well, as far as I can see. It takes me to 'W John Adams Woods, merchant in Antigua, 1856', so that's obviously nothing to do with the *Ariadne*. I would suppose that, after that, I suppose I would go back a page, return to the page and click on something else. But it doesn't really mean much to me. (P130)

¹⁹ The Footnote site was bought, together with its parent company, iArchives, by the genealogy conglomerate Ancestry.com in 2010 and rebranded as Fold3 (<http://www.fold3.com/>) in August 2011.

The folksonomy interface on Discovery has since been re-designed, with more explanatory text added. Even so it is unclear whether the (admittedly tidier) alphabetical arrangement of users' tags will really make 'finding records easier' as claimed, particularly given the unregulated input of terms beyond basic spam and profanity filtering. The prevalence of family name tags, personalised terms, and group mnemonics amongst the Discovery tags ('mike,s family search'; 'mydad'; 'lgc14-20'; 'marinelives') does however suggest that researchers have found a different kind of role for this type of user-contributed metadata — as a bookmarking annotation tool, either for the individual researcher or for pre-established research groups working to a mutually agreed coding standard. The collaborative classification aspect to tagging can then be viewed as a potential ancillary benefit, rather than being the primary focus of a folksonomy as originally envisaged. This interviewee, for example, described how she uses tagging on the National Library of Australia's Trove website:

Right, well, I do that as a matter of course, for two reasons: to signpost my own way back. You know, a little bit like the ball of string in the Minotaur's lair, so that if you get lost you can find your way back to the spot again. But also as a helpful thing to do for other researchers. (P144)

Ideals and realities of participatory use

Use in the Archival Commons: record-centric and non-rival

In introducing his model of a Participatory Archive, Huvila (2008, p. 17) observes that ‘the notion of use has had a rather record-centric character’ in that ‘studies have focused on a record as it is and observed, how it is eventually found, by whom and whether it is retrieved for use or not’ rather than ‘perusing use as a broader notion, which comprises several stakeholders, activities, and contexts’. This record-centric characteristic indeed persists across the theoretical ideals of the Archival Commons and of an ‘archives by the people’. For example, Anderson & Allen’s (2009, p. 383) understanding of a Commons configuration draws heavily upon a notion from economics of information as a non-rival commodity:

Unlike ‘natural’ goods, non-rival intellectual goods are not consumed by use and can be infinitely repurposed in numerous settings. Because archival materials are nonrival goods, they are susceptible to ‘glomming on’²⁰ where the objects and documents in an archives can form the basis of uses that are not confined by archival practice. The postmodern idea that an archives can invoke and reflect constantly changing views and meanings without change to the items themselves can be implemented in a digital environment. Nonrival goods held by archives and cultural heritage organizations are subject to ready ‘glomming on’ because one person’s use or interaction with any particular item does not in a practical sense preclude another person from also utilizing that item to the same extent.’ (S. R. Anderson & Allen 2009, p. 387)

Anderson & Allen’s concept, then, admits to multiple users of archive records, but their uses of records are ‘in a practical sense’ considered orthogonal, in reference to immutable ‘objects and documents’, rather than building upon each other’s interpretations. Evans (2007, p. 396), similarly, believes that ‘the key to understanding why it works is to realize that information is a “nonrival” commodity’.²¹ However, Evans’ construction of the non-rival nature of archives is actually a step more sophisticated than that of Anderson & Allen because he identifies a

²⁰ American slang term meaning ‘to steal’ or ‘to snatch’; also used in intransitive construction, as here, to mean ‘to grab hold of’ or ‘to appropriate for your own use’ (‘glom, v.’ n.d.).

²¹ The ‘it’ discussed here is Benkler’s concept of ‘peer-production’ which Evans explicitly claims as the inspiration behind his ‘vision for an “archives by the people”’ and ‘view of archives as a common and public good rather than as the protected property of an institution’ (M. J. Evans 2007, p. 396 & 394).

cumulative effect of interpretation upon archival content, although he assumes this is always positive: 'An archival record bears out this conclusion; it is a nonrival commodity that becomes more valuable the more people use it'. In a footnote, he also concedes that proprietary interests carry the potential to transform information from a 'perfectly nonrival good' into a rivalrous asset. But Evans nevertheless 'assume[s] ... that archives accession records for the express purpose of making them accessible and therefore are intended to be "nonrival"' (M. J. Evans 2007, p. 396, footnotes 20 & 21).

The failure of use in the Archival Commons?

Unfortunately, many users of archives do not, or may not be able to, subscribe to this simplistic conviction of the non-rival accessibility of archives. In some instances, there is indeed a simple commercial basis for treating archival content as a rival commodity:

Well, some of them are just curmudgeons. They're basically just, like, I'm not going to share my knowledge with people for free. You know, they're hard-core researchers for hire, information mercenaries or whatever.
(P29)

Genealogists too may bask under their reputation as an open and collaborative research community — 'in the genealogical community as it is, people do tend to share research' (P143) — and the user benefits perceived to flow from the ready availability of peer expertise (Lambert 1996). But this sharing characteristic may be under threat from increased commercialisation in the sector. By late 2014, Ancestry.com claims to have made more than 15 billion records available to 2.1 million subscribers, with an average of 2 millions records being added to its websites each day ('Company Facts' 2014). Furthermore, proprietary interests do not just apply to archival content but also to the users of archives:

Now that you've got more and more people who do their family history, they come into it, they pay to join Ancestry or whatever, and they... it's then, for them, its not a collaborative hobby any more, it's a sort of a consumer hobby, and I think they transfer that attitude to other areas. So they would never think of helping anybody else. (P17)

Moreover, the more basic archive content and description becomes easily accessible online, the more professional record agents must find fresh ways to create added value for their customers beyond simply locating the required information:

As a jobbing researcher, the less you indicate, the better it is for me. That's business. As a taxpayer, and somebody who's got a heart, the more the merrier [...] I say to people, it's online if you want it; this is what they'll give you for the price. Or you can pay me two pounds more and I'll get you a quicker copy and add some narrative to it. It's up to them. (P123)

Nor are record agents the only professionals to fear for their own jobs. The following interviewee was an editor of scholarly texts commenting on a transcription crowdsourcing site:

Well, one of my colleagues actually said that he wouldn't want it to be too successful because he'd be put out of a job. (P95)

Another record agent saw a direct threat to her own role from the altruistic reciprocity of collaborative forms of participation:

I mean, I feel like volunteers are more of a threat to researchers than they are to archivists, because then people start expecting research for free too. (P30)

But rivalry is not merely born out of commercial or financial self-interest. A rival quality may also be attached to archive content in defence of personal or professional standing, particularly in those fields where reputations have been built in the past upon limited corpora of documents or upon information inaccessibility, for instance in medieval and early modern history, or biography:

I don't know if historians are particularly prone to [this], but so much research, particularly in the earlier periods where there's a relatively limited amount of material, is based on you finding something that nobody else knows about. And you tend not to want to share that until it's at the publishable full-formed stage. (P94)

The following researcher, a retired university research officer, contrasted her own willingness to share her research findings online with legitimate restrictions on academics' freedom to act in the same way:

So it's not like an academic project where you have to be very careful with your Intellectual Property, or where you're squirreling away on a line of research that is a bit unique, you don't want to tip your hand by sharing too much until you have had a chance to publish it, for example, and get the credit. (P144)

The effect of interpretation on archival content is not then uniformly viewed as an unmitigated or public good, as Evans assumes. For any individual who seeks to claim some kind of status on the grounds of an exclusive knowledge of either content or context (interpretation), the use value of archival information diminishes as soon as that content or interpretation is more widely dispersed. Consequently, archives are treated as rival commodities which may be deliberately withheld in order to gain competitive advantage:

There are three biographies of [A.N.Other] being written at the moment. And I've access to a bit of family material, which were used in a previous book. And somebody said, I'm writing about [A.N.Other], can you let me have a look, you know, show me this stuff. And I said, yes, sure, and I sent him, you know, photographs or whatever it was. And he had a letter in the paper then, asking other people for information. And I got a sudden email from another chap I'd worked with before, saying, well, actually, I am writing about [A.N.Other] as well, and can I ask you not to send your stuff to him. And I said, you know, that's a bit awkward, because I've already done it! (P126)

Even where there is little to be gained or lost in reputational or commercial terms from the use of participatory archives, there may be additional legal restrictions (real or just perceived) affecting the use of both contributed content and contributed description, including copyright, confidentiality and data protection concerns:

I'd be very wary of sharing things that I didn't feel that, I felt weren't either... sort of copyrighted or were sort of sharing other people's research that they had passed on to me, or anything that I thought would affect anybody who was still living. (P143)

Plagiarism and attribution

There is only a fine line here too between the legitimate research use of other people's discoveries and opinions, and plagiarism:

Some people can be terribly sort of possessive about their bits of information, even if it's in the public domain. They found it and put it in an article, i.e. they published it and made it public, so that other people pick it up and in turn they use it in their... I don't think they plagiarise it but you know, they use it as a basis for something else and then the original person thinks they've nicked it or something. (P130)

This is a situation made worse by unresolved issues concerning how collaboratively built digital resources should be credited or cited (Crymble 2012), which causes a sort of vicious cycle of non-participation and use to be set in train:

I mean I was looking the other day at one of the pages that I created, and it's been edited and added on to, to the point where I can't recognise my own work. Which I think is another really big problem just because historians, you know, have their, their own... it's... how do I, like, phrase this correctly? Historians aren't used to doing like crowdsourcing and things where they won't necessarily get credit for, and I think that, erm, because they're not used to that maybe a lot of people aren't willing to do that, not have their names associated with something is kind of foreign to historians. (P30)

At the heart of this issue are the debates about accuracy and authenticity, and to what extent authenticity or data provenance (Groth et al. 2012) is required to be traceable in order for online contributions to be of use. This is likely to be particularly problematic if there are indeed situations where 'the goal is not professional transcriptions, but "web acceptability" — i.e., to be able to search a document and read it ... practical usability over scholarly perfection' (Zastrow 2014, p. 2). For instance, the following interview extract (from a Your Archives contributor and active local historian) is tricky to interpret, but seemed to be admitting to a sliding scale of integrity appropriate to different contexts of use:

I also sense that more... shall we call them academic historians, if you like, people who do this for a living and people who really know what they're doing. I sense a reluctance from that sort of arena to join in. And I don't know whether that is about their concerns about accuracy, which I perfectly understand, because obviously that would mean that they have to stand by [what they say] much more firmly than people like me. (P17)

And yet difficulties with a lack of effective attribution mechanisms for participatory data are not just an issue for the academic domain, but are also encountered in the family history community where participatory practice is much more widely accepted and where there is apparently less scope for rivalry between individual practitioners who are unlikely to be competing — at least over the same family figures:

Various other people have put my family tree on Ancestry, without my knowledge [...] You know, someone else put my family tree on there, put information from me on there, er, that was not corroborated, and it appears on Ancestry as being correct, so it just leads to other people being misled really. But I wouldn't do it, I won't put it on, I won't put my family tree on something like that for that very reason [...] because people can take that information and use it for their own purposes which, you know, which I may not want them to use it for. But also because it, also because they could take the information as, as gospel, and it isn't necessarily. (P27)

Without a widely-implemented and potentially also very fine-grained method of attribution, plagiarism may be hard to avoid and also incentives to participate may be diminished where no credit is available. As Sherratt (2009, p. 26) notes, 'the significance of citations is often overlooked and archives have sometimes been careless in their management ... Citations, unique identifiers and persistent URLs are the glue that link a record's provenance to its use outside the archive', and provide a means to resolve issues of accuracy and authenticity by comparison of original materials to their archival context. Similarly, Wikipedia's core content policy of 'no original research' (http://en.wikipedia.org/wiki/Wikipedia:No_original_research) has been problematic, highly controversial, and widely flouted (Ford et al. 2013) — as the following interviewee related. It seems likely that such experiences are adversely impacting upon researchers' willingness to engage in other participatory contexts:

Well anyone can change Wikipedia. I changed the entry for [A.N. Other] with all the references that I had — genuine, authentic, original references. And another man wrote a book, in fact he's actually given a very nice reference to the work that I helped him with [A.N. Other]. And when I looked at Wikipedia quite recently, either he — but I don't think it would have been him — or a friend of his has changed all of my references to his book [...] So again, when I get time, I'm going to go back and change them to the originals because I think it's far better to have original references rather than secondary. But I was a bit hurt about that because as I say I gave him all that information. (P133)

Participation in use: seeking archival content or discussing meaning?

In spite of an emerging turn in the literature on use and users towards the processes of interpretation and meaning making, participatory archives continue then to be styled predominantly as platforms of *content* (archival content and the representation of that content in metadata or description) rather than as platforms of *debate*. (Huvila's focus on communication and collaboration, or the 'contextualisation of both records and the entire archival process' (2008, p. 25) is indeed the radical exception here.) This sets participatory archives apart from models of online user participation in several other domains — for example, the myExperiment site (<http://www.myexperiment.org>) enables the sharing of scientific workflows and methods; the GitHub community (<http://github.com>) trails the provision of 'collaborative features to make software development more collaborative' for code review and team management rather than emphasise the site's underlying function as a code repository and publication platform.

This record-centric quality can also be traced in the manner in which use itself is comprehended by both archival commentators on participatory practice (for example, Sedgwick 2008) but also by users themselves, being commonly limited to access or an individualistic (and emotionally involving) act of information seeking in archives:

Nothing surpasses one's individual archival experience. It's a bit like worship. The social expression of one's spiritual beliefs in religious practice ought never to be more important than one's personal, individual relationship with God, e.g. in private prayer. So, blogging, sharing, and generally yacking it up online can never supplant a real-time trip to Kew, where one might even have a rare one-on-one encounter with one of the high priests! No doubt the sharing of access problems or useful search information can be helpful at times, but the grunt work really has to be done alone. (P151)

And whilst experienced researchers are willing to express a slightly grudging acceptance of the value of 'factual' contributions, the gathering of narrative comments, memories and other free form annotations is more controversial, perhaps precisely because these tend

towards opening archival description into discussion and debate beyond the literal attributes of the record:

The information should be quality not just quantity and should be facts not just other people's opinions, i.e. Twitter and Facebook type comments would not be welcome. (P121)

Experienced researchers are it seems, like archivists, accustomed to thinking rather uncritically about the presentation of archival description 'as an accurate, factual, and neutral representation of the contents of archives, with little indication of the nature of the interpretation supplied by the archivist' (Hedstrom 2002, p. 40), and consequently such users can be resistant to efforts to create a more collaborative and interpretative descriptive environment in which accuracy cannot be so easily taken at face value:

I don't actually feel that this Your Archives type of collaboration is particularly good because I think they can be nothing more than opinion sheets at the end of the day rather than factual history reports. (P123)

Invoking again Justesen's cycle of learning and innovation, where innovation is defined as 'not merely about getting new ideas and the generation of an invention, but equally about the successful exploitation and diffusion of that invention' (Justesen 2004, p. 81), it might be argued that for as long as users themselves continue to lay stress upon the personal nature of study, then the use of participatory archives is likely also to remain confined to the individual ('It would be kind of self-defeating to put that digging all out there online, on a public website' (P146)). Use outcomes are further constrained by many users' (and archivists') restricted notions of participation as serving (or reflecting indeed) only a limited information seeking phase of use, rather than the more open-ended and creative periods of use, of interpretation and dissemination.

If closed participation is unlikely to result in innovative forms of use, then perhaps one key to generating innovative outcomes from participatory description lies in extending not only the

framing concepts of participation (see the conclusion to Chapter 4) but also in expanding researchers' and archivists' understandings of archival use beyond the record. Folding use back into active engagement (participation) in the distribution of knowledge and in debate inevitably highlights the role of the community in establishing interpretations and creating meanings. This is a long way from use conceived as an individual 'distil[ling] the facts' (P24), and raises a new set of questions around the nature and locale of participatory use, and the accessibility or acceptability of these interpretations and debates beyond the community involved in their creation:

I don't like remarks or comments. So someone says, 'I think this document's about such-and-such' and then someone then joins and says, 'no, it's not'. You just get a sort of a long thread of... its very difficult for people to make any sense of that document, of what that document is actually about. (P148)

Re-imagining use in the participatory archives

What we need are convincing paradigms of what crowdsourced research might look like that do not just treat it as a way of distributing labor in order to get traditional results. While we might use crowdsourcing in this way, achieving traditional Humanities 1.0 aims, the promise of Humanities 2.0 is that it will offer new aims, new types of knowledge, and new outcomes. Not all these novelties will stand the test of time, but the possibilities are worth the exploration so that we can learn about research practices (Rockwell 2012, p. 151).

The discussion which follows attempts to trace some possible directions in which such new aims, knowledge and outcomes might or could develop in the future of participatory archives, particularly if the balance of use can somehow be tipped away from mere information seeking focused on the record itself, towards a greater emphasis on the methods (especially collaborative methods) of constructing knowledge and disseminating interpretations and imaginations (creative uses) founded upon, but not necessarily restricted to, the archival record.

This is a discussion which, only seven or so years since archives began to experiment with online interactive technologies in projects such as Your Archives, is inevitably speculative, a re-imagination of how conceptions of use might be adjusted in order for participatory practice to move further into the archival and research mainstream. In introducing this attempted glimpse into a participatory future, I am conscious of Bradley's admonition about the field of digital humanities that:

[It] has become an evangelical field whose adherents believe that they should promote the role of computing in humanities scholarship to others [and who] have been anxious to convince the rest of the humanities that using the computer in ways that are beyond word processing (or, more recently, web browsing) should be an important component of their research methodology (Bradley 2008, p. 1).

If a similar danger does not already lurk in the Archival Commons ideal, there is at least a necessity to ensure that any techno-socio-utopian discussion here does not denigrate either widely accepted traditional values (such as accuracy) or traditional uses, or belittle the significance of individuals' learning experiences or fact finding missions in archives — still genuine uses which may also, of course, be facilitated by participatory technologies and the new abundance of user-contributed description. And all the more so since users themselves, when interviewed, often struggled to conceive how or even why online user participation might alter their established working practices.

The future of participation in the research status quo

Before turning to how online participation might change research practices therefore, it is germane to consider first how participatory practice might need to adapt to established research workflows. Interview evidence supports Bradley's (2008, p. 1) suggestion that 'tool builders in the digital humanities would have better success ... if the tools they built fit[ted] better into how humanities scholarship is generally done, rather than if they developed new tools that were premised upon a radically different way to do things'; that is, the design of

online participation needs to take into account existing pressures and working practices amongst researchers, in order to encourage use as much as participation:

The key thing, in talking to historians, is that they're not going to do it if there's, if they can't see what's in it for them. Because everyone's so busy, there's so much else to do that you need to... it either has to directly assist your research, or it has to feed into your long-term career benefit. So I think we would frame what we're doing much more in that context, and I do think the cultural shift is happening. (P94)

If researchers see little benefit to themselves in taking part:

Sometimes when you're kind of in the midst of your research, kind of doing that kind of thing [tagging] is a bit, is a bit of secondary, or could be a bit of secondary consideration. (P143)

And if contributions to participation platforms appear to be received mostly from outside of a researcher's peer community of practice, there will presumably be little incentive for them to use the results either. To date, online user participation initiatives have shown inadequate consideration of how public contribution might benefit private research use, although users have sometimes taken this situation into their own hands: whilst user participation interfaces may have been intended and designed to bring shared benefits, it is evident (from the bookmarking uses of tagging, for instance) that some users have preferred instead to adapt these tools to meet their private note taking needs, connecting online participation frameworks into established practices of textual and hypertextual annotation (Marshall 1998).

But perhaps fashions in participatory practice might already be evolving away from a first flush of enthusiasm for open participation towards styles of contribution which intentionally favour established structures of (quality) control and authority — in order, perhaps, to provide better support to enduring, cross-disciplinary epistemic values:

So basically there's a scholarly stamp saying this is ok. And as to what use, well, I'm interested in historical texts as... as accurate transcription as possible. (P145)

The light touch, reactive moderation of sites like Your Archives, catalogue folksonomies, and Flickr comments threads appears lately to have given way to a slew of Transcription Machine type projects (Operation War Diary following Old Weather, to quote examples with which The National Archives have been associated) where the primary input is atomised and literal and rigorously checked before release to users (ancillary contributions which require interpretative effort or the exercise of judgement — Old Weather’s ship history editing project, for instance, or discussions which arise on the project forum — may also be encouraged but are not generally the main project focus). A new generation of participation by design initiatives too promises tighter definition of research aims and direct collaboration with researchers in the planning phases of new projects (for example, the AHRC funded, Zooniverse co-ordinated, Constructing Scientific Communities project has called for proposals for new ‘citizen humanities’ projects ‘from researchers whose work would benefit from the active participation of tens or even hundreds of volunteers’ - <http://conscicom.org/>).

Or participatory innovation?

And yet a promise to widen engagement with archives beyond existing audiences and to disrupt established traditions of thought lies at the very heart of the Archival Commons ideal. As an alternative to translating traditional structures of authority and control into the online world, might new methods of use be developed to enable researchers to navigate the uncertainties of accuracy, authenticity and sometimes tenuous relationships of trust which exemplify freer forms of online participation? What knowledge is available from previously separated domains which might be combined with traditional research practice to deliver innovative new ideas or perspectives? In what ways might participatory practice help to support new interpretations or representations of archival content? What new research values might be the outcome of participatory or collaborative paradigms of use?

New Aims

Evolving research strategies for participatory data: trawl (and filter)

Duff, Monks-Leeson & Galey (2012, p. 85) have observed that archival arrangement and description might be particularly important as a ‘factor in the interpretation of meaning ... for participants whose domain knowledge is less extensive’. And for these new or less experienced users of archives, or perhaps those using the archives for purposes other than historical research — those for whom the catalogue appears ‘written by archivists for archivists’ (P42), and functions not so much as a ‘finding aid’ as an obstacle — user participation too promises many benefits and few downsides. There is the hope that participatory description may better match novice users’ vernacular search terms or need for greater interpretative support:

And I think that there’s... that generalist people working on it as well is really interesting because its more, um, more of a... I don’t know, it’s a different view of the information and maybe that can help with, you know, people who aren’t specialists understanding the information.
(P152)

Or simply that user contributions will provide alternative routes to discovering and using archival materials, sidestepping formal archival description altogether:

Well in terms of giving you more options of how you can arrive at a desired endpoint. At the moment, the way its set up, it’s very lockstep. So, you find a particular catalogue, and then, in effect, it’s a bit like subterranean mining, and you mine your way progressively through subsets of that, which are all very locked together. It doesn’t really allow you to be an out-of-the-box, lateral sort of thinker, really, because that’s not the way the archive is set up. (P144)

But for more expert users, the opening up of archival arrangement and description to manifold alternative readings or points of view may complicate, rather than facilitate, their preferred method of archival information retrieval. Users of archives are known to become increasingly proficient at using record provenance as a method of retrieval as they become

more experienced in research (Duff & Johnson 2002), and the addition of user-contributed description here threatens to obscure this rational, stepwise method:

So that you can look at the documents that survive through a different filter than the archival catalogue [...] Although that actually does present a lot of problems of its own. Well, I guess it links to provenance on the one hand; you have to have an understanding of the provenance in order to be able to reconstruct what happened to the material. (P145)

Simon (1978, p. 13) points out that:

In a world where information is relatively scarce, and where problems for decision are few and simple, information is almost always a positive good. In a world where attention is a major scarce resource, information may be an expensive luxury, for it may turn our attention from what is important to what is unimportant. We cannot afford to attend to information simply because it is there.

This illustrates neatly the dilemma of the archives user faced with ever increasing quantities of digitised content, which is comparatively trivial to search on computer, to which might then be added a multiplicity of suggested alternative interpretations:

Whereas you worked for years to build up a log of knowledge based on pulling out specific references and building up a picture of a particular subject, anybody can now go on and become an instant expert, simple as that, and remarkably quickly. (P123)

I wonder whether having that level of detail is going to make it completely unmanageable? (P141)

As the quantity and complexity of participatory description available online increases therefore, so research strategies need to evolve to cope with this data deluge, and also the characteristic informality, lack of structure, and uncertainty of much of the user-contributed data:

The worry that we had really was that it becomes quite unstructured because people might label the same thing using very slightly different terminology, and we end up with three or four collections actually relating to the same thing but just called something slightly different; that becomes less useful. (P94)

One option is obviously to ignore the user-contributed description, at least in the initial phases of a search:

[Of Your Archives] I've been aware of it and I know of one or two colleagues who've got stuff in there, but on the whole it's not something that I've been particularly bothered to look at. (P123)

And looking towards a field which already boasts a track record of participation, it appears that some family historians also choose this option and are unlikely to focus on user-contributed data as a distinct part of their research strategy:

I generally wouldn't search tags. I generally prefer to do my research as close to the original source as possible. So I would look through the registers [catalogue] and the index perhaps, but I wouldn't search tags. (P125)

However, other genealogists prefer to start with a more generalised trawling strategy which does not initially privilege any particular source of information. User transcriptions and uploaded photographs, documented family narratives and memories, other people's family trees, and so forth are swept into the net, then evaluated and analysed afterwards; 'there's a lot more sort of skimming of records and finding things that might be useful, and then dealing with them a bit more later' (P143). Similarly wide-ranging search techniques have been observed previously by Helen Tibbo (2003, p. 24) in the context of family centred research of another kind: 'it appears that those historians who were working on a biographical topic used a wider variety of methods to locate materials than did other historians.' It is a methodology ideally suited to the informational overload, attentional scarcity situation faced by would-be users of the online participatory archives:

You can just kind of click and sort of save something, and you don't have to deal with it right away. Its more like sort of collating resources and then working through them, than, perhaps, if you were doing it paper step by paper step, you'd kind of have to be a lot more, a bit more methodical because obviously it would be costing you more and taking you longer. (P143)

Tibbo contrasts this sort of behaviour with the methods used by other historians, who were found both to use a narrower range of methods, and to favour a kind of chaining behaviour following leads and citations from printed resources (Tibbo 2003). Advocates of the trawling technique in the participatory context obviously talk up the benefits of this approach in

exposing a much wider range of potential sources and interpretations than proceeding along successively narrower provenance pathways:

I mean if you're open minded you can only benefit I think from a cross-fertilisation of ideas, because often amateurs have a broader focus perhaps than an academic who's specialising and they might come across things that the more traditional specialist in academe might not have come across. (P144)

Recent reports into the changing research practices of academic historians in the United States suggest that a similar shift towards this trawl then filter methodology is now also being repeated across historical sub-disciplines in the light of the widespread use of digital cameras and the availability of online finding aids indexed by Google (Gibbs & Owens 2012; Rutner & Sconfeld 2012).

But if this shift in research methodology is related to the reduction in effort required to locate online data, it does not yet appear to have been accompanied by a conscious counterpart transfer of attention towards the interpretative phases of the research process, as Fyrst (2008) has suggested. None of my interviewees gave any hint of how the subsequent filtering or analysis might operate at a practical level, and so this is almost certainly therefore a research strategy which will need to continue to evolve. Indeed, there were even curious parallels between the novice's floundering attempts to make sense of the routes through the unfamiliar archive catalogue:

I'd say, er, what do they call it in research, an iterative approach, clicking on things. Yeah I was just having kind of general look around what was there. (P152)

And some expert researchers' attempts to stimulate serendipity:

Archival research also requires luck, and serendipity actually does play a pretty key... A total tangent, one of my favourite things to do when I come to, when I go to any archive really, is to pull up items that say things like 'miscellaneous' or 'uncatalogued', just to see what's there. I've found one or two interesting things, and you don't get that at all because in the catalogue or in calendars [... it] just says it's a beaten-up journal [...] so it doesn't actually tell you anything at all about the thing, so unless you have a look at it [...] I mean you might just pass it by, like, oh it's nothing. And

this is something. Yeah, it's much easier to find this kind of thing when you're just browsing. (P124)

There were hints that some users used participation itself, or what might be termed 'social search' in this context of use, as a complementary research strategy — either to check their understanding:

And that's something that I think a lot of people do anyway in... other genealogists. I quite often would ask, if I wasn't sure about what a record said, I would ask somebody else what they thought it said. (P143)

Or to exchange information likely to be of mutual interest at an informal level (P144):

Contributing that back into this group which then often triggers a set of communication, of yeah, great, you know, I tie into them, here's a bit about them... (P17)

Even targeting lists created by other people 'saving them the labour of the inordinate number of hours it took you to glean from various sources all sorts of little snippets of something or other' (P144). Another interviewee referred to 'a kind of commonwealth of that type of research' (P126). But notably, no interviewee suggested this social interaction might substitute for established methods of testing the accuracy or authenticity of either primary source materials or user contributions. Even if archivists are gradually moving away from a conventional understanding of the construction of authenticity and reliability, it seems many users still, in their research practice at least, adhere to 'the traditional notion of authenticity [which] emphasizes a return to uncorrupted origins, the stabilizing and fixing of reference points, and the privileging of the singular and definitive over the multiple and indeterminate' (MacNeil 2011, p. 187). Transcription hosting sites which had mounted digitised images were broadly acceptable 'because you're not reliant on what somebody else has put up there, because you can compare yourself' (P147), particularly where the host institution offered some additional claim to authority (see P147 quoted on p. 224). Transcriptions on Your Archives, in contrast, were viewed as more problematic, because digitised originals were not freely accessible: 'how can you take a will from Documents

Online, yeah, no-one else is going to pay to take a copy of that to peer review yours, if they haven't got an interest in it' (P17).

New Knowledge

Opening up the 'invisible archive' for new interpretation

There's a lot of lost material out there, and it isn't lost, it's just you can't find what's in it. (P126)

The role of online user participation in uncovering historical minutiae through the transcription or indexing of literal details of manuscript documents has received scant attention in the professional archival literature, which has tended to dismiss (or more simply ignore) transcription as involving little more than a mechanical reproduction of records' content. Transcription and data extraction projects are also criticised by Lara Kelland (2014) on ethical grounds, as operating 'on the level of soliciting labor from the public rather than richly engaging the interpretations of the past' from outside of academia and mainstream cultural institutions (the project examples she cites are Transcribe Bentham and the New York Public Library's Building Inspector, 'a game-like app that asks visitors to help extract historical data on the built environment from street atlases' — <http://buildinginspector.nypl.org/>). This, however, is to disregard considerable theorising about the editing of literary works which highlights the extent to which transcription already functions as a re-representation of the text, privileging content over form (Yeo 2010b), and also the impact of online presentation upon users' understandings of archives (Hedstrom 2002; Monks-Leeson 2011). The significance of online collaborative transcription initiatives should be re-assessed too in the light of recent research findings which support predictions (Hedstrom 2002) of researchers' growing preference for text based search and an unwillingness to look beyond online resources (extending across disciplines, and particularly amongst younger academic

researchers) (Education for Change 2012), and evidence the emergence of new digital methods for searching and analysing large quantities of data (such as text mining and GIS technology) whilst also marking the continuing centrality of transcription as part of the research method for many historians (Rutner & Scofield 2012).

Perhaps then the value in Transcription Machine style participation lies not so much in the act of contribution, but in the potential uses which result from opening up ‘this invisible archive’ (P4), and the impact that presenting documents as digitised text might have upon the ways that researchers discover and interpret archival materials. Monks-Leeson (2011, p. 55) observes that ‘archival collections are never complete in themselves, but always point to other, related records that form part of a larger context’, and argues that the fluidity of online representation and ability to hyperlink together dispersed content can both re-establish contextual relationships which were previously concealed, but also generate new contexts and new meanings from the ‘juxtaposing and constant migration of records and texts’ (p. 54). Hurley (2005) suggests that it is this migration which leads to tacit knowledge becoming explicit in order for knowledge to cross the boundaries of different communities of practice, since ‘the document’s native context only needs to be made explicit when the document leaves its environment and speaks to another parallel context.’ These recontextualisations are similar then to Samuel’s (1994, p. 8) ‘imaginative dislocations which take place when historical knowledge is transferred from one learning circuit to another’, and result not only from the flexibility of online presentation that Monks-Leeson discusses (which enables content to be (re)displayed and (re)interpreted in multiple related contexts), but also from the cognitive leaps that individual users might make on encountering archival materials in novel settings:

That would be very useful because everybody reading a document brings something else to it. And you can look at that and say, oh, that reminds me of... or, you know, I think that leads me to this thing. And sometimes it might be useful to other people to say so. (P126)

One academic researcher, for instance, described this as spinning off the edge of family history:

One of the things I spin off the edge of, but I'm not concerned with, is family histories. And all those people who visit the archives every day who are doing, you know, wills and all those sort of stuff. Don't really interest me very much. But I can see how a lot of that work's being done very well in digitised form. (P129)

Unfortunately however, since transcription and interaction interfaces are often separated, any potential for the successive re-use of contributed interpretative detail is often obscured in current online participation initiatives (for instance, where interpretative discussion takes place on a project support forum). Perhaps one method of evaluating the success of participatory projects however would be to assess whether they have achieved both an opening up of latent detail by producing machine readable and processable text *and* achieved new cognitive or imaginative understandings:

You're able to manually form contextual... re-contextualise your searches by cognitive, by manual rather than computer generated processes. And I believe that computers, they're now working on [...] creating platforms to do semantic searching and meaning based searching. (P146)

Contributing to collaborative representation

MacNeil (2011, p. 185) argues that 'it is now more or less accepted' that archivists have sought to 'establish the boundaries within which users may understand and interpret the records in archival custody through their description practices', privileging the provenance of creation over alternative contextual framings. This is to overstate the case rather, since as we have already seen, users have long been concerned with creating their own domain-specific finding aids, whether in scholarly editions (the Bentham Project, for example — <http://www.ucl.ac.uk/Bentham-Project/>), or in name indexes produced by family history societies (Duff & Johnson 2003, p. 92), or simply through the individual researcher's annotation and note taking practice. In the past, however, practical limitations in the

arrangement and construction of finding aids have ensured that professional archival description and participatory description of the same content have largely existed as separate products, and representations created in one domain of use have not generally been accessible to other communities of practice. The online participatory archives can help to promote the convergence of these products and authorial spheres; whilst archivists, for instance, make one choice about ‘what elements of provenance are the most meaningful’ (Monks-Leeson 2011, p. 55), users may choose other options. But this collaborative approach to archival representation is not uncontroversial amongst users: contributors to The National Archives’ Community (a space ‘for generating new ideas ... to help develop and shape the future of The National Archives’ online services’ — <https://community.nationalarchives.gov.uk/about-2/>) appeared (inopportunately, given that Your Archives had recently been wound up) narrowly to favour a wiki format for user contributions to catalogue descriptions, as being more concise than a long comment thread. But some forum contributors remained ‘concerned about the veracity and accuracy of facts or events contributed. Surely any contributions would have to be referenced back to a source?’ (Hobbs 2012).

User transcription can also then be viewed as marking a gentle transitional point between existing research practice:

If it was a document that I was working on that I was transcribing anyway, then I might as well put it on there. As long as there is somebody then... it’s not just this is the absolutely perfect transcription. (P141)

And new ways for users to encounter how archives might be collaboratively and dynamically represented (Yakel 2003, 2011b) and discovered on the Internet, ‘emphasiz[ing] variability over fixity of meaning, open-ended representation over closed representation, and the process of editing over its product’ (MacNeil 2005, p. 276):

Well, here we are correcting this sort of finished product [...] based on more late occurring experience, more... late arriving information. And when I heard [an academic speaking about] concepts of ‘no final edition’ in which, you don’t say, ‘ok, we’re done with this, we’re not accepting any

more corrections, or any more information, or any more commentary on this', that really kind of made things click to me [...] I sort of anticipated getting commentary from people who were specifically coming in on family members and names and facts like that. But instead I'm finding people in this little community going through and reading about, um, early twentieth-century tobacco agriculture practice. And annotating that, and correcting... (P4)

New Outcomes

(Towards an archival understanding of participative information use)

Valuing the journey of discovery

If participation in the online transcription of sources can prompt users to reflect on the 'perpetual beta' of archival representation, or indeed of the continual condition of becoming of research itself, perhaps this might be counted as an example of Justesen's incremental innovation or redefinition 'on the boundaries between previously separated communities':

Archivists need some user contributions, because there's always going to be some sort of backlog and they're always going to have work and they're never going to just completely finish the work, and the archives are never going to be completely perfect. (P30)

But the promise of the participatory archives is for something more, radical innovation, or the 'social construction' of a whole new knowledge domain (Justesen 2004, p. 84). Justesen, as we have previously seen, links this innovation to the 'successful exploitation and diffusion' of knowledge, just as Binkley, in 1935, observed that 'contributions to knowledge become effective as contributions only when they are communicated' (Binkley 1935, p. 188). This focus on the diffusion or the communication of knowledge reorients attention away from the archive itself towards users and their understanding of their own agency in online participation. If then the participatory archives are to evolve into a place where meaning is made, rather than a place for locating preordained facts, a place not 'to guard certainty ... but to protect uncertainty because who knows how the future might use those documents' (Sachs

2007, p. 14), there is an equal onus upon archivists *and* researchers for creating this state of understanding: archivists cannot achieve the radical participatory archive (on- or offline) simply by providing (or linking into) spaces where participation might occur. For researchers this responsibility would seem to involve a greater valuing of the ‘journey of discovery’ (P36), ‘to be less concerned with History as *stuff* (we must put to one side the content of any particular piece of historical writing, and the historical information it imparts) than as *process*, as ideation, imagining and remembering’ (Steedman 2001, p. 67 — italics in original), seeing participation and dissemination not as separate from research practice but integral to the processes of use. For archivists, there is an additional obligation perhaps to admit that the control of content (limited too by custodial context) is an insufficient foundation for the construction of meaning from the vestiges of the past, and consequently accepting a need to take a much greater interest in how and where research expertise is both acquired and later communicated. As Sinn (2012, p. 1523) argues, ‘the same content will be used by different types of users for different purposes and therefore it becomes more important to impart interesting, novel, and personalized experiences to users when providing digital contents. Digital collections will thrive from the facilitation of communication rather than from static storage and retrieval of information.’

(In)forming communities of archival use

The ideology of the participatory archives has been heavily influenced by tropes from the technological metalanguage of online information systems. Archives, their meaning and use potential already confined, trapped even, by the absence in the English language until relatively recently, of an active, verbal counterpart to the noun,²² are thus doubly contained

²² The *Oxford English Dictionary* records the first appearance of ‘to archive’ in the 2nd edition of *Webster’s new international dictionary of the English language* in 1934, but the word only comes into more common use as a verb from the late 1970s onwards (‘archive, v.’ 2014). ‘Archive’ used as a verb is still contentious amongst professional archivists.

in the techno-centric theoretical construction of the Archival Commons which additionally draws upon the dominant 'conduit metaphor' framing of information science (Day 2000; Reddy 1979). As perceived through the conduit metaphor, content or information is detached from the intrinsically social activity of communication; information, even knowledge, is viewed as something independently 'quantifiably measurable and factual' (Day 2000, p. 806) which can be possessed, acquired and stored, and hence also located, amenable to being transmitted or conveyed from one place (or one person) to another, discovered, accessed (or hidden or withheld) and so on, rather than being constructed, debated, or negotiated. Day (2000, pp. 806–807) documents how in the post World War II period, the conduit metaphor (and its static 'container' twin (Manson & O'Neill 2007, p. 36)), 'canonically embodied' in Shannon & Weaver's (1949) 'The Mathematical Theory of Communication' came not only to model technical systems but also, in the closed communication environment of the Cold War, to represent social communications and organisations. Further, he notes that 'the tropic quality of technical information systems for modelling social formations is, possibly, even stronger today when organizational models often include terms associated with digital information systems (e.g. "networks," "interfacing," "the virtual organization," etc.).' For all their opening emphasis on agency as a foundation for the Archival Commons, for example, even Anderson & Allen cannot escape the conduit metaphor in their vision for 'how users engage with the increasing quantities of digital objects' in 'a highly networked environment' (S. R. Anderson & Allen 2009, p. 388). Again then, when content and information (or records in the context of the participatory archives) are so detached from the *process* of communicating, this obscures the importance of the social norms essential to the success of any such activity, which in turn, Day claims (2000, p. 808), places 'severely restrictive limits upon meaningful activities in the social, cultural and political realms'. Uncertainty around meaning is disparaged as 'dangerous "noise"'; conversely, "'factual" and "clear"' information is privileged 'in the demand that the arts represent reality rather than "distort" it (realism),

and even in the claim that history is the transmission of the past to receivers in subsequent generations (cultural heritage)' (p. 810).

A rather poignant solution to this conundrum perhaps lies in (re)adopting a now largely obsolete but ancient connotation of 'information' to denote the act or process of in-forming, which is (or was, in its older sense) to shape, fashion or give form to something (an idea, a person's opinions) ('information, n.' 2014; Manson & O'Neill 2007, p. 35). This active understanding of in-formation, and by extension of archives, would be both innovative in its appeal to communication and the piecing together of meaning, and distinctively archival in its recognition of the broad social contexts of use. Rather than archives which lie dormant and devoid of meaning until discovered and passed on individual to individual, this construction of 'archival in-formation' highlights the social and cognitive norms which govern understanding, and their quality of "constantly evolving, ever mutating", over time and space infusing and exhaling ... 'tacit narratives' ... embedded in the activations of the record' (Ketelaar 2005, quoting McKemmish). In this act of in-forming, use becomes inextricably entangled with participation, because individual epistemic responsibility can never reach far enough to test the truthfulness of archival claims to knowledge without encountering others' testimony. "Knowledge" in this sense is a *success term* labelling epistemic content that has survived critical scrutiny from multiple agents and satisfies communal standards' (J. Simon 2010, p. 344 — italics in original); participation is no longer a mere adjunct supporting use but an integral part of the communicative acts of new knowledge creation and use. Moreover, in this 'socio-technical epistemic system' of participatory archives, as in scientific communities of practice, use itself 'is increasingly and unavoidably a very *cooperative* enterprise ... not because "hard data" and logical arguments are not necessary, but because the relevant data and arguments are too extensive and too difficult to be had by any means

other than testimony' (Hardwig 1991, p. 706 — my italics). As the historian and digital humanist Tom Scheinfeldt writes:

I am coming increasingly to believe that the problem ... is one of scale. [That humanities scholarship expects something] which I'm not sure is true anymore: that a single scholar — nay, every scholar — working alone will, over the course of his or her lifetime ... make a fundamental theoretical advance to the field... We may need to shift our expectations of what constitutes valuable scholarly contribution in the age of the digital humanities. Collaboration is important to digital humanities not because it provides a warm and fuzzy rallying cry, but because it recognizes that digital humanities is a project at a generational scale (Scheinfeldt 2010b).

Chapter 6: On Balance

Surveying the lie of the land

This research set out to map a landscape of online user participation in archives. The surveying expedition (myself as researcher) set out initially, from a conventional background of professional practice, to explore up-and-coming sites of participation within the U.K., but soon began to follow up intelligence of emerging developments, even imitations (Our Archives wiki), elsewhere in the English speaking world (Australia and the United States) and then, by invitation, in the Netherlands also; until the examples newly materialising began to reach a sort of saturation point whereby the styles of participation represented began to repeat in terms of my analysis of their fundamental properties pertaining to professional practice (the evaluation framework, Figure 3.1). The geography of this participatory landscape was acknowledged to be extensive, but town planning was understood to be still at an early stage, in the experimental phases of development. Even so, some participatory settlements had already been abandoned (the BPMA wiki), and others would be evacuated and their populations resettled during the course of the research (Your Archives, PROV wiki). Some established thriving new cities (Old Weather, VeleHanden), but sometimes the denizens opted instead for a closer-knit community and the quieter pace of village life (The Whitby Group, Crew List Index Project, arguably Transcribe Bentham). Other schemes just never really seemed to acquire the backing they needed to get off the ground (All About Cheshire wiki, PROV transcription pilot). Nevertheless, the *ambition* for what might be discovered or achieved in this new realm always ran high. Previously unexplored territories lay ready to be charted, where new streams of knowledge could be found (Causer & Terras 2014); but more than this, a whole new system of government was promised — a radical new democracy and a new creative information culture for cyberspace, perhaps. This vision was vast and complex, and it should have been foreseen that it would require sustained hard

work in order to succeed (although often it was not, where participants were viewed as a free labour source). The pioneers faced many challenges in colonising this unfamiliar land (Yakel 2011a, p. 16). Many came to look, but only a few could be tempted or could afford (the time) to stay (Eveleigh et al. 2014). Some in the old country doubted anyway that this technological utopia existed (Owens 2013, p. 125), whilst others disapproved of the call for a new social order (Kennedy 2009), or at least wanted to see their traditions and old epistemological certainties upheld. Resistance was mostly passive, but still dispiriting for those who had invested time and resources in trying to build up the new communities (Howard et al. 2010).

In the attempt to plot this wide-ranging, often self-contradictory territory, it was necessary to look beyond the techno-socio hyperbole (the vision), and above the often makeshift shanty towns of the early settlers (the practice), seeking out any recurrent aspects which might impact upon the success or failure of this grand participatory endeavour. The landscape was therefore surveyed from three different angles (professional, participant, and user), trying to pick out the major features from these contrasting vantage points, although this was difficult because so many sites were still in the process of construction and many of the observers had only a limited exposure to the participatory environment. New designs for model participatory settlements too sprang forth as earlier endeavours fell by the wayside: when the research began, for instance, there was little interest from the professional archive sector in online Transcription Machines, rather archives organisations had hoped to foster in-depth engagement and collaboration, primarily supported through wiki technologies and comments threads to allow for substantial qualitative contributions. However, the success of initiatives such as Old Weather gradually shifted the balance towards much more specific, bounded project designs, to the point where these have possibly become the dominant style of online user participation in current practice. Or perhaps these are simply more in the public eye, being, in the main, projects supported by larger institutions or commercial partnerships? It

should be noted that some earlier experiments in small scale, occasional contribution, with user tagging and transcription implemented directly in the archive catalogue (Lincs to the Past, Exploring Surrey's Past) apparently do not attract the massive participation of themed crowdsourcing initiatives but neither have they been dismantled unlike most of the wiki developments. Indeed, The National Archives' development of a tagging facility in Discovery as a partial replacement for Your Archives could be read as an affirmation of this style of participation as part of a 'long view' strategy, which trades activity in return for longer-term sustainability (because the catalogue is already a core workflow tool in professional practice, the overhead of supporting user participation within it can be seen as marginal).

Occasionally it appeared construction had stalled altogether, and some worried that this meant online participation might not be capable of achieving its transformative potential (Palmer 2009). Curiously, the citizens often seemed to blame themselves for failed experiments and any slower-than-desired overall progress towards the participatory state: archivists and fellow heritage professionals expressed concern in the literature that their occupations were not yet sufficiently open to sharing authority, or were overly 'authoritarian' instead of 'authoritative' in their expertise (Phillips 2013; Yakel 2011a); participants accused each other of a reluctance to share and of a lack of attention to accurate detail; research users worried that crowdsourcing practice only sought to engage members of the public in menial tasks rather than in the knowledge creating work of innovation (Kelland 2014; Rockwell 2012), or, as part of a wider argument about the digital humanities, that user participation might be helping to reveal hitherto hidden sources, or building new tools, but has not yet answered more substantive humanities questions or resulted in radically new arguments (Scheinfeldt 2010a).

Meeting the residents

And so progressively, from every viewing point, my attention as researcher began to be drawn away from the landscape (from archives as a repository of cultural heritage content) towards these curious behaviours and the (inter)activity of the citizens themselves as witnesses, where the archival landscape became an ever-evolving backdrop to the personal and social construction of meaning (towards archives in-forming use). In the end, I have concluded that, much like the individual's participation/use experience in microcosm, there cannot really be any single conceptual theory in overview or 'one true map of this terrain or even the best map' (J. Simon 2010, p. 345), only a series of frames at different scales and from different perspectives which can help to highlight certain viewpoints on, and actions within, participatory practice, but which must also inevitably obscure other aspects and purposes.

Although then the mapping of the participatory landscape could not be (was never intended to be) comprehensive, the exploratory approach carried the advantage of bringing to light commonalities between the three chosen stakeholder perspectives which might otherwise have remained hidden. Of course, to the extent that these perspectives were artificial divisions to begin with, not true categorisations, it should not really be surprising (for example) that interviews conducted with stalwart Your Archives participants exposed a particular unease about the accuracy of contributions, since these early interviewees were also in the main established researcher users of The National Archives, and in some cases also members of staff. What was perhaps more unexpected was that a concern for similar concern for accurate or 'useful' input was also expressed later in the research study by participants in Transcription Machine projects who sometimes had only a meagre prior experience of archives (or none at all), and even in some cases little long-term interest in the

transcription project itself — but who were nevertheless disinclined to contribute without some reassurance as to the accuracy (see OW11 quoted on p. 200) or value of their contributions:

I lost motivation to continue contributing information because I was not sure of how useful my input was. I did not want to take challenging pages if I would not be producing useful results and I had no way to see how useful my previous contributions were. I do not use ratings to compare myself to others, but do appreciate feedback to feel confident to stretch myself further and to feel that my contribution is valued. (OW-S)

Another commonality (more surprising given the hostile review received in respect of the original research proposal (Flinn 2010)) was that ‘downright resistance’, which Zastrow (2014, p. 1), for instance, contends ‘is frequently the professional response’ (to crowdsourcing), was in my experience encountered only very rarely from any direction. Even where reservations in regard to participatory practice were expressed, these might often be linked back to an enduring value placed in the professional role, even from participants or users: as a response to perceived threats to archival professionalism (‘Pointless if archives are simultaneously being de-skilled’ (P121)), or where professional moderation was proposed as a solution to issues of accuracy or reliability (‘Very important work but must be carefully overseen by professionals’ (P121)).

One contribution of this research then has been to determine some common threads across different perspectives, as well as periods of consolidation in the hitherto brief lifetime of the participatory endeavour, and to present these as a firm foundation from which the future of online user participation may be built, rather than on the shifting sands of the latest technological trends. Waters (2013, p. 24), for example, draws parallels between the critical apparatus of a textual edition, ‘a mechanism ... to make complex arguments by moving directly in and among and arranging the primary sources, not simply by referring to them’ and scholarly participation in data mash-ups and visualisation. Moreover, this same idea, of textual description in perpetual beta, can also be traced not only in critiques of scholarly use

and participation (for example, Bagnall 2010, p. 2), but also in archival theory (Yeo 2010a, p. 102), and in (for instance) family history online forum debates about participation and sharing ('our trees are a work in progress' (queenc723 2013b)). Rather than always anticipating *radical* innovation from participatory practice, perhaps a key to its future potential will be to pursue instead a gentler pace of change (although this change might still be transformational over the longer term): annotation and online user contributions are pushing the boundaries of current practice towards a more dynamic conception of both archival description and text editing processes (P4, quoted in Chapter 5, pp. 249–250), but the change is incremental, not suddenly disruptive.

Scheinfeldt (2008, 2010a) uses historical analogy to reason that 'maybe we need time to articulate our digital apparatus' and to argue generally, as do I for the participatory circumstance, here and in Chapter 5, for a greater sympathy for methodological developments in the present phase, and for efforts to find more effective modes of collaborative working.

Growing up in the second half of the 20th century, we are prone to think about our world and our work in terms of ideologies ... But it wasn't always so. Late 19th and early 20th century scholarship was dominated not by big ideas, but by methodological refinement and disciplinary consolidation (Scheinfeldt 2008).

This is consistent with Mintzberg's (1978) and Moncrief's (1999) legitimisation of an emergent longer-term 'strategy in action' incorporating periods of flux and limbo, as well as directed progress. If then 'both practices and virtues²³ are historically and spatially situated [and] they may change over time and differ from place to place' (Paul 2011; Scheinfeldt 2008 makes a similar point),²⁴ then perhaps the outcome of online participation in its current phase should be simply the recognition of emerging new equilibria, or rebalancings: between

²³ Epistemic values - the examples Paul gives are honesty, carefulness, accuracy and balance.

²⁴ Practices and values are also culturally situated. I acknowledge that this research has, for the most part, assumed a Western worldview. Participatory practice might look substantially different under an Eastern, or even Eastern European lens (given the post-Communist legacy upon attitudes towards volunteering, for instance).

participation and use, online and offline, professional and ‘user’, users seeking facts or building narrative, juggling structure against ambiguity, recognising variability or craving fixity — and so forth. This need not imply that the more flexible environment of participatory archives will supplant or replace existing epistemic research standards (accuracy, authenticity) or professional principles and practices (provenance based description, for example), rather it is an opportunity to examine the tenets of current practices and tailor existing values to the evermore complex and various contexts in which archives are encountered and used.

The frameworks presented in Chapters 3 and 4 can each be considered attempts at such rebalancings: to temper the professional perspective (in particular the ‘common misconception that the main beneficiary of crowdsourcing projects is the institution’ (Noordegraaf et al. 2014)) with the range of participants’ motivations and behaviours represented in Haythornthwaite’s (2009a) crowds and communities spectrum (Figure 3.1); and to present the affective as an equally valuable motivational factor and outcome of participation as the more easily tracked and measured cognitive responses to archives (Figure 4.1). In addition the rebalancing in Chapter 4 involved some preliminary attention towards the attitudes and experiences of those amongst the so-called 90% (Nielsen 2006); those who sign up but do not contribute, or contribute very little. Of course these dabblers may still be *reading* the contributions from other users or from professionals, including online digitised content, and so edge the debate towards some additional potential rebalancings: between the value put upon active participation and the seeming passivity of reading; between participatory archives as a tool for established research users of archives and an advocacy vehicle for engaging new audiences; between the individual’s construction of understanding and the formation of social identity and meaning. Indeed, despite having separated participants and users throughout this thesis for the purposes of highlighting the motivations

and experiences of those perhaps encountering archives for the first time through online participation, I would suggest that the most fertile ground for future research lies at the convergence of interests of these two perspectives, and at the point(s) of intersection between this engagement (participation and use combined) with professional practice. For example, although the use rebalancing in Chapter 5 is more speculative, its focus upon communication and engagement (on user behaviour) in contrast to 'the access paradigm [which] is strictly oriented towards service' (Menne-Haritz 2001, p. 78), in itself represents reconstructability, an important aspect of the professional rebalancing proposed in Chapter 3.

Putting together a development plan

(For future research)

The discussion in Chapter 5, however, was also restricted to intellectual, mostly research, uses of archives. In part this was intentional to keep the scope of the thesis overall within bounds, but in another way it also reflected the practicalities of researching users of archives, particularly online users, at the current time. In contrast with, say, data archives in the scientific domain where considerable recent effort has been directed towards developing new technical standards for data citation to exploit the additional affordances of the digital terrain to enable more effective data sharing but also information gathering about dataset use (for example see 'Joint Declaration of Data Citation Principles — FINAL' n.d.), communication of use in the traditional archive domain remains fundamentally tied to print media channels ('And the ordinary reaction that they have is, unfortunately, er, to write a book' (P4)). Even where the outputs of archive research are published online (or in electronic facsimiles of printed articles and books), there is generally no easy method to track use since there are no universally applied standards for uniquely referencing archive repositories, let

alone technical systems at a sufficient level of granularity to identify individual records (or their descriptions) (Sinn 2012), or, further, to distinguish different layers of contributed interpretations of these items. Resolving such issues will entail the professional counterpart shift towards use conceived as communication rather than conveyance, and a further reinforcement or practical realisation of the archivist's concern for context, for as Sinn (2012, p. 1523) indicates: 'this transition from container to context engenders more challenges and complexity in creating and managing information systems.' Citation practices alone are a substantial area for future research and development (together with accompanying copyright and licensing frameworks to help facilitate participation, and the re-use of contributed information (Dryden 2014)), not least to ensure the traceability of the provenance of data used in works combining multiple archival sources and user interpretations, but also, for professionals, to enable a more 'systematic way of collecting information on what research our records are being used for and the innovative ways in which our records are being deployed, linked and interpreted' (S. Evans 2013). Such practical developments will be fundamental too to any future evaluation of non-traditional, non-research forms of engagement, including the more creative or artistic responses hinted at in some interviews but currently impossible to gauge in overall extent (McGregor 2014; Terras 2014):

[Relating to an outreach style project utilising Flickr] I have a really good example, it's another really kind of fun one. Someone made a bag, or customised a bag, a handbag, using one of the old photos of our hockey teams from the 1920s. (P128)

On the impact of existing forms of user participation, further empirical research is also required to investigate in much greater depth the re-usability of contributed description at all stages and processes of use, including information seeking, serendipitous discovery, and meaning making from archives. Some recent studies are beginning to tackle these issues in the archives domain to a limited extent, but research in this area could usefully be extended beyond small-scale case studies. For instance, Benoit (2014) investigates the correspondence

between the minimal metadata of user-generated tags and existing users' search query terms within a sample digital archive; and Allison-Bunnell et al. (2011) proactively surveyed users' requirements of online 'digital delivery systems', with sites including the Polar Bear Expedition Digital Collections and Library of Congress archival content on Flickr, the focus of research in the latter instance being described as 'accidental discovery of archival materials among non-archival materials as well as the potential for social computing' (p. 77). In general, however, archivists reflecting on current practice could yet stand accused of taking the pragmatic path of investigating the *outputs* of user participation where data is readily available, rather than the *outcomes*, where the experience is subjective and is consequently much harder to pin down and describe. For example, Mayer's (2013) content analysis of user-contributed content on the Footnote military history site argues for direct connections between contribution and use, supporting family historians' fact seeking behaviour (p. 29) or increasing discoverability in the case of contributors with an expressed organisational allegiance (p. 36).²⁵ But although she asserts that her 'study demonstrated that users do not contribute content in a way that allows other users to identify or assess it' (by rarely contributing source citations or comprehensive descriptive metadata to accompany personal uploads of digitised content (p. 42)), Mayer does not go on to test users' actual navigation of user contributions on the site, so her assessment of its usability must remain provisional at best.

Not only will this use experience vary according to the user's background levels of expertise, but as Chassanoff (2013, p. 462) points out, the methods employed 'for unknown materials may be quite different from ... known materials'. It could be further inferred that user

²⁵ Mayer's understanding of organisational association is not transparent here: 'I identified a user as an *organization* if the profile page contained information about the user's association with an organization' (p.28). Possibly she has in mind membership of genealogical societies, although her discussion of Web 2.0 social engagement, which she attributes to 'people with family connections to collections' rather than 'organizational users' who 'did not participate in the social aspects of the site' (p. 42) suggests otherwise.

attitudes and behaviours in the participatory archives will differ according to whether the user is also engaged as a participant, and will correspond too to the accepted norms and values of the on- and offline communities (of practice) within which he or she is embedded. There is potentially a considerable body of future work to be explored simply by reassessing some of the professional assumptions regarding the balance points between participation and use, and also between an individual and interpersonal experience of engagement online. Neither the bookmarking use of tags, nor researchers' concerns about folksonomic consistency encountered in this thesis, for instance, support conceptions of tagging as socially engaging or collaborative (as suggested for example by Bearman and Trant (2005)). Likewise, Zarro & Allen (2010, pp. 50–51) reason that 'tags may not be very useful for public information retrieval [being] generally for the use of the submitter and have a personal meaning.' But bookmarking behaviour is still, presumably, *useful*, except instead on a personal and private level. In another example, contributors to the home-grown Whitby Group valued participation in a defined, private space but struggled to appreciate the impersonal, sometimes acrimonious, debates on a public family history forum (P5). Similarly, Allison-Bunnell's 'subjects also noted that sites tied to more focused user communities (i.e., the Polar Bear Expedition site) tended to generate considerably more useful comments than general sites' (Allison-Bunnell et al. 2011, p. 93), and if they could be tempted to participate at all, preferred to do so within known communities of practice 'where people with relevant expertise would be likely to answer and point them toward appropriate resources' (p. 94). Perhaps then, rather than redesign the whole participatory endeavour, certain existing styles of participation could be more effectively channelled to different forms or localities of use to those originally anticipated by the professional advocates of online user participation? Although somewhat counter-intuitive from a professional perspective which has tended to equate user participation with an opening up to the widest possible audience, possibly an alternative future research trajectory might aim at tipping the balance away from the public

sphere, and instead turn to designing and evaluating targeted sites of participation and use for their qualitative impact as sites of (expert small community or personal) meaning making or creativity, rather than any quantitative clout as an online point of contact with the general public.²⁶ This is no trivial endeavour, not least because any investigation of meaning making through participation in-forming use will quickly encounter issues of emotion and affective response: how these can be reconciled with claims for the cognitive intellectual rigour of expert interpretation remains another open question.

Participatory practice must also be reconciled in ethical terms, for as Judith Simon (2010, p. 354) suggests, professionals 'who design systems are also to be held accountable. The development of tools that empower users by making functions transparent and providing choices should be an epistemological and ethical goal for designers.' Such design choices pertain to both participation and use: in ensuring that participants are not exploited as a free labour source to carry out dull, repetitive tasks which 'serious' researchers choose not to undertake, or, in deploying affective techniques in the attempt to motivate or prolong engagement, that isolated or vulnerable members of society are not lured into perhaps obsessive competitive or addictive behaviours; and, in the context of designing spaces of participation as sites for constructing rich and diverse meanings, that these may prove engaging and compelling, persuasive through reasoning without being manipulative (Ham & Weiler 2003).

And so to finish (if certainly not to conclude, since there can be no real end to user participation's redevelopment potential, nor to the iterative communication of archival information and meaning) on more of a theoretical note for future investigation, I am conscious that I have thus far — having encountered it only lately in pursuing the centrality of

²⁶ Shirky (2010, p. 78) observes too that 'creating something personal, even of moderate quality, has a different kind of appeal than consuming something made by others, even something of high quality.'

communication as the concept linking participation and use — merely scratched the surface of what promises to be a fertile epistemological literature on testimony. According to Judith Simon (2010, p. 346), ‘testimony, considered the fourth classical route to knowledge — in addition to perception, inference and memory — refers to the process of acquiring knowledge *through the words of others*’ (my italics). Testimony is therefore inherently participative: knowledge acquisition is rooted in communication, and tempered by trust as the vital ingredient which links together not only professional, participant and user (as identified in the literature review for this thesis) but also, crucially in the context of online participatory archives, a broader trust ‘in processes as well as in epistemic content itself’ (J. Simon 2010, p. 347). If, or as, online user participation seeks to move into the mainstream of professional archival practice, it is to philosophical discussions of testimony that I would wish to look next in my continuing quest to understand the ever-widening dimensions and fine balances of this joint adventure.

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Appendix A: Interview Guides

The National Archives

Staff interviews 2010

1. What is your role at The National Archives?
2. Briefly, could you explain – How long have you worked for TNA/in the archives sector? What is your background/training?
3. What do you understand by the phrase ‘user participation’?
4. Why do you think that TNA has decided upon a strategy of user participation? Do you agree with this strategy?
5. Are you currently involved in any projects which you would describe as ‘user participation’ or have you been in the past? Describe them briefly, if yes.
6. How do you think TNA can motivate users to participate?
7. What would define ‘success’ in your view, in user participation at TNA?
8. What impact or implications do you think user participation projects might have upon your role at TNA?

Staff interviews 2012

Do you have any questions before we begin?

RECORDING ON!!!

1. What is your role at TNA and what is your background/training? What projects have you been involved in [over the last year and a half] which you would describe as ‘participatory’?
 - Did you have any prior experience of other initiatives which you would describe as participatory (on/offline, archives or non-archives related)? If so, did this experience influence your perception or shape the TNA initiatives in any way?
2. What is your understanding of the phrase ‘user collaboration’ (as used by TNA), ‘user participation’? How has your understanding changed over the last year and a half?
3. What are the aims and objectives for the user participation strategy at TNA?
 - Who would you see as the main beneficiaries of such participatory projects?
 - Who do you hope or expect will participate?
 - Do [or did] you have any fears or concerns about opening up The National Archives to public contributions in this way? If so, how did/do you seek to manage those risks?

4. Before we get into detail, has anything particularly surprised you about the response that participatory projects at The National Archives have received [either internally or externally]?
5. Which participatory projects at The National Archives would you say have been most successful and why? Do you have any examples of participatory projects from outside TNA which you particularly admire?
 - Contributors
 - Management/moderation
 - Users
6. What have you learned from your experience of participatory projects/user participation strategy implementation at TNA over the last year and a half?
 - Motivation of participation?
 - Management/moderation?
 - Examples of re-use?
7. Some archivists appear to view online user contribution as threatening to their professionalism and expertise. Have you encountered this, and how do you respond to such claims?
8. How do you see online participatory projects developing at TNA over the next 5 years?
 - What would you do differently if you were starting again now?
 - What advice would you offer to other archives thinking of embarking upon similar projects?

Imagining

9. What impact or implications do you think user participation has for the professional function and roles of The National Archives / your role within TNA?
 - Can you already see some changes? What further changes might there be in the future?
10. How might we re-imagine TNA for the digital age? Are there things we can do with a 'digital archive' which we haven't been able to do previously? Conversely, what might be lost that current users value about doing research at The National Archives (or at any other archives)?
11. Should archive users be invited to help redesign the ways in which archives are arranged, accessed and/or used in the digital age? Do you think it would be beneficial for researchers, professional historians and archivists to work more closely together – and why, or why not?
12. How might this re-imagined 'digital archive' modify (or reinforce) the professional functions and responsibilities of the archivist? [or the methods of the historian/historiography]

Participants interviews

(interview guide devised by TNA user experience staff)

1. Introduction

We are speaking to you today to get an understanding of user participation with The National Archives. Online participation is a large part of that and we would be keen to hear your thoughts and your feedback on your experience as a volunteer with Your Archives at The National Archives. The findings of the interviews will be reported anonymously and will be used for research purposes only.

TNA are sponsoring a PhD student, Alexandra Eveleigh, who is researching the impact of user participation in the archives sector. Would you be happy for us to share your interview with her, and possibly for Alexandra to use extracts from your interview in her research? The interview data will be anonymised. The interview should take approximately 30 minutes.

- What do you do for a living?
- What is your relationship with the National Archives?
- How do you use the National Archives as a customer?
- What are your impressions of the organisation as a user?
- What is your volunteering role at TNA?
- How long have you been doing it?

2. Motivations

- Thinking back to when you joined Your Archives, what were the reasons that you decided to give up your time for this activity?
- Why did you decide to participate with TNA's Your Archives as opposed to another organisation?
- What are the reasons you have maintained participation with Your Archives?

3. Benefits

- What do you feel that you gain from being participating on Your Archives?
Probe: educational experience, sense of community, personal gain, professional advancement.
- Conversely, how useful do you think your input is to the organisation?

4. Experience

- How satisfied have you been with your experience of participating with TNA through Your Archives. Probe: support, opportunities available etc)
- How satisfied have you been with the support you have had from TNA?
- Do you feel you have had enough opportunity to give feedback about your experience?
- Do you feel you have had sufficient feedback and communication from TNA about your role on Your Archives?
- How do you think your experience could be improved?

- Do you participate online elsewhere? How does it compare?
- Have you ever volunteered for an organisation in person?
- Based on your experience, would you recommend TNA as an organisation for online participation? Why?
- Has your experience at TNA had an impact on your life outside of the organisation? (volunteering elsewhere, professional life / community / education?)

5. Close

- Is there anything that you would like to comment on that we have not discussed in this conversation?
- Thank you and close

Onsite participants/users Interviews

Have you completed & returned the consent form?

TURN RECORDING ON!

Research

1. Please could you briefly describe the nature of your research - your reason(s) for visiting The National Archives?
2. Can you talk me through how you identify or choose the particular documents that you look at at The National Archives?
3. For your research, do you make use of resources on TNA's website? (Catalogue or DocsOnline or the new Discovery Service or research guides etc.)?
4. How do these resources (particularly the Catalogue) help or hinder your research at The National Archives?
5. [If responded 'Yes' to Q6 on survey "In your research, have you ever made use of contributions that other users have made?"]
You indicated on your questionnaire return that you have made use of other users' contributions in your own research. Could you describe what user contributions you have used, and in what ways?

Research Outputs

6. Who would you say are the main beneficiaries of your research, besides yourself? With whom do you share what you have learnt in the archives (and where and when)?
7. Is there some material or knowledge that you do not share with others? If so, why, and what happens to it?
8. Do you acquire or produce images or transcripts of archival documents in the course of your research? Are these made available to others in any way? If so, how?

Participation & Using User-contributed Content

9. [For those who responded 'Yes' to Q4 or Q5 of questionnaire]
On your questionnaire return, you indicated that you have contributed to *Your Archives* / a participatory archives project. Could you describe what contributions you made?
10. I would now like you to click on the links provided (by email/set up on laptop) to view some example participation websites. For each site, I will give you a couple of minutes to look around the site, and then I will ask you some brief questions about it. I've started you off on a particular page on each site, but you are welcome to explore more widely if you would like to. If you can 'think aloud' whilst you are exploring, that would also be helpful for me.
Your Paintings Tagger: Homepage - <http://tagger.thepcf.org.uk/>
⇒ Can you explain to me what you understand to be the purpose of this site?
⇒ Do you think such a site could have an application in archives?
⇒ Do you think the outputs from such a site, if applied in archives, would be useful for your own research? Why or why not?
⇒ Would you be interested in contributing to such a project?
Transcribe Bentham: Transcription Desk with sample document loaded - <http://www.transcribe-bentham.da.ulcc.ac.uk/td/IB/027/010/001>
⇒ Can you explain to me what you understand to be the purpose of this site?

- ⇒ Do you think the outputs from such a project, if applied to your area of interest, might be useful for your own research? Why or why not?
- ⇒ Would you be interested in contributing to such a project if it related to your area of interest?

Lincs to the Past: two pages - sample catalogue page with tags; sample image with tags and transcription - <http://www.lincstothepast.com/Alford-Parish-Records---Marriages--1836-/513965.record?Imageld=25718&pt=T&tid=449300> (or Advanced Search for "Rebecca Lancaster" then click on "Images")

- ⇒ Can you explain to me what you understand to the purpose of this site?
- ⇒ Could you see yourself using this site, if it related to your area of research interest? Why or why not?
- ⇒ Would you consider contributing to such a site (tagging, commenting or transcribing) if material related to your research was included? Why or why not?

TNA Discovery: sample item page - test.discovery.nationalarchives.gov.uk

- ⇒ This one might be familiar! Can you explain to me how you might go about using this site?
- ⇒ Did you notice that TNA is encouraging users to suggest a correction and to tag records to help improve their descriptions. Do you think this is a good idea? Why or why not?
- ⇒ Do you think that having improved facilities for user contributions on the new Discovery site will be of benefit in your own research? Why or why not?

Imagining

11. As a researcher/historian, how might you reimagine The National Archives for the digital age? Are there things we can do with a 'digital archive' which we haven't been able to do previously? What might be lost that you value about doing research at The National Archives (or at any other archives)?
12. Should researchers be invited to help redesign the ways in which archives are arranged, accessed and/or used in the digital age? Do you think it would be beneficial, for instance, for researchers, professional historians and archivists to work more closely together - or not? Why?
13. How might this 'digital archive' modify (or reinforce) the ways in which you go about your own research? [And the methods of historiography more generally?]
14. Is there anything else which I haven't asked about which you think might be useful for my own research into user participation in archives?

Online participants/users interviews

Website & Online

1. Please could you briefly describe your reasons for using The National Archives website?
2. How would you describe your level of skill in using the Internet generally?
3. Are there particular parts of TNA's website that you focus on when you visit it? Catalogue, Discovery, DocsOnline, research guides etc.
4. What other websites do you visit regularly [for the purposes of your research]? Do you contribute to any of these sites (forums, wikis etc.)?
5. [For research use], Can you talk me through how you identify or choose the particular items of interest using the website?
6. How do TNA's online resources help or hinder your research? Gaps or mistakes? Difficult to identify documents?
7. [If responded 'yes' to making use of others contributions] Could you describe what user contributions you have used in your research, and in what ways?

Research outputs

8. Who would you say are the main beneficiaries of your research, besides yourself? With whom do you share what you find out when you visit TNA's website?
9. Is there some material or knowledge that you do not share with others? If so, why and what happens to it?
10. Do you acquire images through DocsOnline or other source, or make transcripts of documents in the course of your research? Are these made available to others in any way? If so, how?

Participation & Using User-contributed Content

11. [For those who responded 'yes' to contributions to *Your Archives*/contributory archives project] Could you describe what contributions you have made?
12. Site examples
 - Can you explain to me what you understand to be the purpose of this site?
 - Do you think the outputs from such a project, if applied to your area of interest, might be useful for your own research? Why or why not?
 - Would you be interested in contributing to such a project if it related to your area of interest?
 - What would you expect to happen when you click on ?

Imagining

13. How might you reimagine The National Archives for the digital age? Are there things we can do with a digital archive which we haven't been able to do previously? Do you miss out by not being able to visit [often] in person?
14. Could website users of TNA be invited to redesign the ways in which archives are arranged, accessed and used? What would this look like? Would it be beneficial for researchers, professional historians, and archivists to work more closely together?
- 15.** How might this digital archive modify (or reinforce) the ways in which you go about your own research using TNA's website? Historiography more generally?

Comparative perspectives

(Interviews conducted in relation to projects other than those internal to The National Archives)

Professionals — indicative interview outline

1. What is your area of expertise? Do you have any background in working with archival material?
2. What were your original aims and objectives for the ***** project? Brief general background to project, how many people are working on it, etc.
3. Did you have some specific outcomes in mind when you started? What will 'success' look like? How will you evaluate the project?
4. What is the current status of the project? What has happened so far? Has your perspective on the project and what you hope to achieve altered in the light of your experiences to date?
5. Who (do you hope will) participate(s) in the project?
 - How are volunteers recruited?
 - Do participants have any prior experience of working with archives/the task?
 - What motivates participants?
 - Has anything surprised you about the response you've had to the project
6. How is the accuracy and reliability of participants' contributions assessed? Who do you see as the 'end users' of the finished project?
7. What can archives organisations learn from your experience? What impact do you expect the project to have upon such organisations?
8. Some archivists appear to view online user contribution as threatening to their professionalism and expertise. Have you encountered this and how do you respond to such claims?
9. Do you have any plans for what you would like to do next, if the project is successful?

'Non-Participant' Interviews

Thank you for agreeing to participate in this interview and to help with my PhD research. I have 20 questions and the interview should take about ½ an hour.

- Have you completed and returned the consent form?
- Do you mind if I record the interview?

If you have any questions as we go along, please ask. If you would prefer not to answer a question for any reason, just say “prefer not to answer” and I will move on to the next question. You don’t have to give a reason. Also, if you would like to end the interview at any time, please say so.

- Do you have any questions before we begin?

Demographics

Firstly, I have some quick questions about yourself:

1. M or F?
2. Whereabouts [in the UK] do you live?
3. Are you retired/working/studying?
4. Age (approx.)
5. How long have you been using a computer/been online?

Motivations

6. I’ve contacted you through your connection to X group. Could you tell me a little about what types of contribution you make to this group, and how often?
7. What were your reasons for joining the X group? (subject, community)
8. Where did you first find out about X group?
9. Have you continued to make contributions to X group and what motivates you to keep doing so? If you don’t contribute very often, why not?
10. Has your participation with X group spilled over into any “real-life” settings? e.g. meet-ups, job. How?
11. Are the group’s activities openly visible on the Internet, or do you have to register to become a member of the group? How important is this openness/privacy to your willingness to contribute to the group?
12. How important is the active participation of members to managing the X group? Would the group be as successful without this community management?

Experience Online + Thought Experiments

13. Do you make contributions online elsewhere, either related to your X interests, or for work, or socially? e.g. Wikipedia, flickr, Ancestry (+FH), facebook, transcription, blogs
14. Are you aware of online user participation projects associated with archives or which make use of historical documents? Which ones? Have you contributed to any of them? If (not), why (not)?
15. Imagine an online archives catalogue which enabled members of the public to add comments to records or tag items (like BBC news stories or flickr). Would you be interested in participating in such a project? Would you find other people’s contributions useful for your own research?
16. Imagine an online platform which asked you to transcribe and/or tag documents selected by archives staff. Would you be likely to participate in such a project?

17. Imagine an online space provided by an archives organisation which enabled you to upload your own research notes, transcripts or copies of documents. Would you be likely to participate in such a project?
18. Would any of your answers change if these projects included a community forum to enable you to discuss your research interests with other archives users?

Experience of Archives

19. Have you ever visited an archives service to carry out research? What kind of research?
20. Have you ever formally studied history? To what level?
21. Are there history-related activities which you particularly enjoy? e.g. visiting museums/NT, reading popular history books, TV series.

Thank you very much indeed.

- is there anything else which I haven't asked about which you think might be useful for my research?

VeleHanden Test Panel Participants

Thank you for agreeing to participate in this interview and to help with my PhD research. The interview should take around half an hour to an hour.

- Have you completed and returned the consent form?

If you have any questions as we go along, please ask. If you would prefer not to answer any of my questions, just say so and I will move on to the next question. Also, if you wish to end the interview at any time, please say so.

I will send you a transcript of the completed interview, so you will have an opportunity to make corrections or clarify what you have said.

- Do you have any questions before we begin?

Demographics

Firstly, I have some quick questions about yourself:

1. What is your *VeleHanden* user name?
2. Where do you live? [Netherlands/Overseas]
3. Are you studying/working/retired?
4. How long have you been using the Internet?

Participation

5. I've contacted you through your participation in the *VeleHanden* test panel. Where did you first hear about the *VeleHanden/militieregisters* project, and what were your reasons for deciding to join in?
6. What kind of contributions do you make to *VeleHanden*?
7. Would you say that you contribute regularly or occasionally, and why? Has the regularity with which you participate changed over the period you have been contributing to *VeleHanden*?
8. What motivates you to continue to contribute to *VeleHanden*? (Or if you don't contribute very often, why not?)
9. Who do you expect/hope will make use of the contributions you make, and in what ways?
10. Are you involved in helping to manage contributions to *VeleHanden*? (Why? If not, who does?)
11. Do you monitor new contributions from other *VeleHanden* participants in any way?
12. Is there much discussion amongst contributors to *VeleHanden* (e.g. on the forum/offsite)? How important is this discussion in motivating you to keep contributing, or is it not important at all?
13. On your profile page, you can see some statistics about the contributions you have made, and the new statistics page features leader boards and overall progress monitors. How important (or otherwise) is competition with your fellow participants in motivating your contributions to *VeleHanden*?
14. Participants in *VeleHanden* are rewarded with points towards free archive document scans. How important (or otherwise) is this reward scheme in motivating your contributions to *VeleHanden*?
15. Were you in contact with any of the other *VeleHanden* participants before the project started? Have you met or corresponded with any members in person since the pilot project began (for friendship, archives research purposes, or unrelated?)?

16. The indexes created on *VeleHanden* are not yet available for searching on the Internet, although that will be the result of the project. Do you think this privacy during the test period is important for participants, or would you prefer your contributions to be immediately available through the Internet?
17. How would you wish your contributions to the project to be acknowledged when the indexes are made available for searching?
18. What role do you think the staff of the archives (and other project staff) should play with respect to the participants on *VeleHanden*?
19. Has anything surprised you about the design of the *VeleHanden* platform or the response that the project has received? What features of the platform do you particularly like? What would you like to change or see develop further in the future?
20. Do you think you will continue to contribute to *VeleHanden* in the future? How could the project encourage you to contribute more or more often? What other projects would you like to see on *VeleHanden*?

Experience Online

21. Are you aware of and do you contribute to any other archives online participation initiatives? If yes, which ones?
22. Do you make contributions online elsewhere, either for work or socially? e.g. Wikipedia, flickr, Ancestry, facebook, personal blog

Research

23. Have you ever visited an archives service in person to carry out research? If yes, what kind of research and which archives have you visited (briefly)?
24. As a researcher, have you made use of contributions other users have made? How did you evaluate the reliability of this information?
25. *VeleHanden* is closely associated with the City Archives in Amsterdam, in partnership with archives across The Netherlands. How important is this connection to you as a researcher, and why?
26. Some archivists appear to view online user contribution as threatening to their professionalism and expertise. How do you respond to such claims?
27. Is there anything else which I haven't asked about which you think might be useful for my research?

Old Weather interviews

(devised in conjunction with Citizen Cyberlab researchers)

Participants

Background

Can you tell me a bit about your background?

- What do you do?
- What are your hobbies or interests?

Usage

What did you originally hope you'd get out of taking part in Old Weather?

How long have you been taking part in Old Weather now? Have you carried on transcribing the US logs? If so, how do you find these compared with the British logs and why? (e.g. Easier/more difficult? More/less interesting?)

Are you participating only in Old Weather? Or are there any other projects that you participating in at the same time? If yes, how do these compare to Old Weather?

How does Old Weather fit in with your day-to-day life?

- When are you most likely to do it?
- How much time do you spend doing it?
- What do you do within that time? (e.g. how many transcripts?)
- How do you feel when you are doing it?
- At what point do you decide to stop and leave the rest for another day?
- Would you say you make a regular commitment to Old Weather, or is your participation more occasional? How do you think this compares to other people taking part in Old Weather?
- What keeps you coming back to do more?

How do you choose which ships to work on?

Can you talk me through what you do if you can't read something in the logs that you want to transcribe?

Do you just transcribe weather data or do you include more detailed information in your transcriptions? When you include more detailed information, how do you decide what to transcribe and what to leave out?

Have you made any interesting discoveries in the logs you've transcribed? How did this make you feel?

Forums

Do you also contribute to the online forums?

If yes, how often?

WHY do you take part in the online forums? Why do you find them useful/ not useful?

Do you post content, read content or manage content? Why or why not?

Are there particular topics you take part in more than others?

Do you make suggestions in how to improve the site?

If no, do you still look at them and feel you gain any benefits from them?

Do you find them easy to use?

Have you made any friends through the forums?

What do you think could be done to improve the online forums?

Motivations

Why do you think some people take part in Old Weather for a long period of time (several months), and others only take part for a short period of time (several days)?

What factors could be involved?

Have you any ideas how Old Weather could attract more volunteers? And maintain the interests of volunteers they initially attract?

Gamification...

What do you think about the competition to become Captain? What do you think is good / bad about using incentives like this?

Community...

What are the characteristics of the Old Weather community? Why do you think some people more active in the community than others?

Have you made any friends through Old Weather? Have you ever met any of the other volunteers off-line (in person)?

What role do the scientists play in the Old Weather community?

How do you think the social tools of Old Weather can be improved? Do you think the collaboration between the scientists and the volunteers could be improved, and if so, how?

Learning

Do you feel you are learning something (*anything at all, to allow for incidental learning*) through your participation in Old Weather?

How are you learning...?

- 1) thanks to communications of scientists
 - a) blogs,
 - b) videos
 - c) papers
 - d) training sessions

-
- e) other ?
 - 2) through exchanges with peers
 - a) in forums
 - b) in a team
 - c) other ?
 - 3) through gaming
 - a) tutorial
 - b) feedback from the system : which kind of feedback ?
 - c) other ?
 - 4) thanks to your own investigation
 - a) additional searches on the Internet
 - b) other ?
 - 5) thanks to the project network
 - a) new opportunities of participation
 - b) interpersonal exchanges
 - c) other ?

Can you tell us about examples of evidence of learning (if any) which you have been experiencing or witnessing in [project name]?

Would you say that learning is an objective for you in this Old Weather?

Is there something that you've done that you wouldn't have done without Old Weather?

In your view, how learning be improved in Old Weather?

Creativity

What opportunities do you think Old Weather offers for volunteers to be creative?

Can you think of any examples where you have been creative? Or other volunteers have been creative?

Can you think of any examples where you or other volunteers suggested idea/new features, which were then taken up by the researchers in the Old Weather science team?

Citizen Science in General

What do you think are the benefits of citizen science to yourself and society? And what are the limitations?

Non-contributors and drop-outs

Our research is interested in finding out more about the experiences of people who signed up to the Old Weather project. By conducting these interviews, we're hoping to gather ideas of how to improve Old Weather and other scientist-volunteer collaborations in the future. Most of the work on Old Weather is done by lots of people contributing just a few [hundred] pages each. We'd really like to talk to some of these people as we think your motivations will be different to those people who have contributed thousands of classifications. We're also just as interested in what doesn't work as an encouragement for people to take part in Old Weather, and what puts you off, as what works well. What are the things you would change if you were in charge of the project?

Background

Can you tell me a bit about your background?

- What do you do?
- What are your hobbies or interests?

Usage

What did you originally hope you'd get out of taking part in Old Weather? Why did you decide to sign up?

Did you intend to make a regular commitment or did you think it was just something you'd dip into occasionally?

Do you consider yourself to be a still active contributor?

- If yes, have you carried on transcribing the US logs? If so, how do you find these compared with the British logs and why? (e.g. Easier/more difficult? More/less interesting?)
- If no, at what point and why did you decide that Old Weather wasn't for you?

Do you have any experience of other citizen science projects besides Old Weather? If yes, how do these compare to Old Weather?

Do/did you also contribute to the Old Weather forum? If yes, select additional questions from FORUM section below. If no, do/did you read other people's contributions in the forum?

Motivations

Why do you think some people take part in Old Weather for a long period of time (several months), and others only take part for a short period of time (several days)? What factors could be involved?

Have you any ideas how Old Weather could attract more volunteers? And maintain the interests of volunteers they initially attract?

Gamification...

What do you think about the competition to become Captain? What do you think is good / bad about using incentives like this?

Community...

What are the characteristics of the Old Weather community? Why do you think some people more active in the community than others?

Have you made any friends through Old Weather? Have you ever met any of the other volunteers off-line (in person)?

What role do the scientists play in the Old Weather community?

How do you think the social tools of Old Weather can be improved? Do you think the collaboration between the scientists and the volunteers could be improved, and if so, how?

Learning

Do you keep an eye out for news on Old Weather? If yes, where do you see news on the project...?

- 1) thanks to communications of scientists
 - a) blogs,
 - b) videos
 - c) papers
 - d) training sessions
 - e) other ?
- 2) through exchanges with peers
 - a) the Old Weather forum
 - b) in a team
 - c) other ?
- 3) thanks to your own investigation
 - a) broadcast media (newspapers, television etc.)
 - b) social media
 - c) additional searches on the Internet
 - d) other ?
- 4) thanks to the Zooniverse network
 - a) new opportunities of participation
 - b) interpersonal exchanges
 - c) other ?

Can you tell us about examples of evidence of learning (if any) which you experienced or witnessed in Old Weather?

Would you say that learning is an objective for you in Old Weather?

Is there something that you've done that you wouldn't have done without Old Weather?

In your view, how learning be improved in Old Weather?

Citizen Science in General

What do you think are the benefits of citizen science to yourself and society? And what are the limitations?

QUESTIONS IN SECTIONS BELOW ARE OPTIONAL ADDITIONS IF INTERVIEWEE CONSIDERS THEMSELVES STILL ACTIVE

How does/did Old Weather fit in with your day-to-day life?

- When are you most likely to do it?
- How much time do you spend doing it?
- What do you do within that time? (e.g. how many transcripts?)
- How do you feel when you are doing it?
- At what point do you decide to stop and leave the rest for another day?
- How do you think your experience has compared to other people taking part in Old Weather?
- What keeps you coming back to do more?

How do you choose which ships to work on?

Can you talk me through what you do if you can't read something in the logs that you want to transcribe?

Do you just transcribe weather data or do you include more detailed information in your transcriptions? When you include more detailed information, how do you decide what to transcribe and what to leave out?

Have you made any interesting discoveries in the logs you've transcribed? How did this make you feel?

Forums

Do you also contribute to the online forums?

If yes, how often?

WHY do you take part in the online forums? Why do you find them useful/ not useful?

Do you post content, read content or manage content? Why or why not?

Are there particular topics you take part in more than others?

Do you make suggestions in how to improve the site?

If no, do you still look at them and feel you gain any benefits from them?

Do you find them easy to use?

Have you made any friends through the forums?

What do you think could be done to improve the online forums?

Creativity

What opportunities do you think Old Weather offers for volunteers to be creative?

Can you think of any examples where you have been creative? Or other volunteers have been creative?

Can you think of any examples where you or other volunteers suggested idea/new features, which were then taken up by the researchers in the Old Weather science team?

Appendix B: List of interviews and other primary data

Interviews

Reference	Affiliation	Date Interviewed
P1	The Whitby Group	16 June 2011
P2	TNA, Resource Discovery Programme - IT Department	30 November 2010
P3	British Postal Museum & Archive	6 June 2011
P4	FromThePage (USA)	10 February 2011
P5	The Whitby Group	3 June 2011
P6	TNA, Archives & Records Knowledge	14 October 2010
P7	Sandwell Community History & Archives Service	8 June 2011
P8	TNA, Archives & Records Knowledge	10 September 2010
P9	Amsterdam City Archives (The Netherlands)	14 February 2011
P10	TNA, Cataloguing Team	14 October 2010
P11	TNA, Digital Preservation & Resource Discovery	17 November 2010
P12	TNA, Archives & Records Knowledge	14 October 2010
P13	Your Archives participant / TNA remote user (Canada)	5 May 2011
P14	TNA, Director	18 November 2010
P15	TNA user, recruited by TNA staff	19 April 2011
P16	TNA cataloguing volunteer, recruited by TNA staff	27 April 2011
P17	Your Archives participant / TNA user, recruited by TNA	29 April 2011
P18	Old Weather	6 May 2011
P19	TNA, Archives & Records Knowledge	10 September 2010
P20	Cheshire Archives & Local Studies	10 May 2011
P21	TNA, Archives & Records Knowledge	10 September 2010
P22	TNA, Cataloguing Team	13 October 2010
P23	TNA, Director	23 October 2010
P24	The Whitby Group	9 June 2011
P25	TNA, Cataloguing Team	13 October 2010
P26	Surrey County Council	16 May 2011
P27	The Whitby Group	10 June 2011
P28	National Archives & Records Administration (USA)	12 August 2011
P29	National Archives & Records Administration (USA)	17 August 2011
P30	National Archives & Records Administration (USA)	1 September 2011
P31	TNA, Marketing & Communications	15 August 2011
P32	VeleHanden test panel participant (The Netherlands)	9 September 2011
P33	Crew List Index Project participant	19 September 2011
P34	VeleHanden test panel participant (The Netherlands)	14 September 2011
P35	VeleHanden test panel participant (The Netherlands)	9 September 2011
P36	VeleHanden test panel participant (The Netherlands)	16 September 2011
P37	VeleHanden test panel participant (The Netherlands)	14 September 2011
P38	VeleHanden test panel participant (USA)	16 September 2011
P39	VeleHanden test panel participant (The Netherlands)	19 September 2011
P40	VeleHanden test panel participant (Canada)	15 September 2011
P41	Public Record Office of Victoria (Australia)	3 October 2011

P42	Crew List Index Project	4 October 2011
P93	TNA, Resource Discovery Programme - IT Department	30 November 2010
P94	Institute of Historical Research	19 October 2011
P95	Transcribe Bentham	25 January 2011
P96	VeleHanden test panel participant (The Netherlands)	21 November 2011
P97	TNA, Marketing & Communications	8 December 2011
P122	TNA user, recruited onsite	17 January 2012
P123	TNA user, recruited onsite	25 January 2012
P124	TNA user, recruited onsite	15 February 2012
P125	TNA user, recruited onsite	20 February 2012
P126	TNA user, recruited onsite (Ireland)	20 February 2012
P127	LSE Archives	8 March 2012
P128	Surrey History Centre	14 March 2012
P129	TNA user, recruited onsite (Australia)	16 March 2012
P130	TNA user, recruited onsite	16 March 2012
P131	TNA user, recruited onsite (USA)	16 March 2012
P132	Lincolnshire Archives	16 March 2012
P133	TNA user, recruited onsite	29 March 2012
P134	Westminster Archives Centre	14 March 2012
P135 *	TNA, Director	12 April 2012
P136 *	TNA, Cataloguing Team	12 April 2012
P137 *	TNA, Archives & Records Knowledge	12 April 2012
P138	TNA, Legislation Services	12 April 2012
P139	TNA, Education	12 April 2012
P140	TNA user, recruited onsite	12 April 2012
P141	TNA user, recruited online	13 April 2012
P142	TNA user, recruited online / Your Archives participant	16 April 2012
P143	TNA user, recruited online	23 April 2012
P144	TNA user, recruited online (Australia)	24 April 2012
P145	TNA user, recruited online (Finland)	25 April 2012
P146	TNA user, recruited online (USA)	25 April 2012
P147	TNA user, recruited online (Canada)	25 April 2012
P148 *	TNA, Resource Discovery Programme - IT Department	11 May 2012
P152	TNA hack day participant, recruited online	1 June 2012

* indicates re-interview

Old Weather Interviews

Reference	Affiliation	Date Interviewed
OW1 §	Old Weather community moderator	14 December 2012
OW2 §	Old Weather community moderator	14 December 2012
OW3 §	Old Weather 'super' contributor (high contribution record)	21 February 2013
OW4 §	Old Weather 'super' contributor (high contribution record)	22 February 2013
OW5	Old Weather contributor (high extrinsic score)	1 March 2013
OW6	Old Weather contributor (high intrinsic score)	3 April 2013
OW7 §	Old Weather contributor (high extrinsic score)	3 April 2013
OW8 §	Old Weather contributor (high intrinsic score)	5 April 2013
OW9 §	Old Weather contributor (high intrinsic score)	12 April 2013
OW10	Old Weather contributor (low intrinsic score)	(Response by email) 11 April 2013
OW11 §	Old Weather contributor (low extrinsic score)	15 April 2013
OW12	Old Weather contributor (low extrinsic score)	15 April 2013
OW13	Old Weather contributor (low extrinsic score)	19 April 2013
OW14 §	Old Weather contributor (low extrinsic score)	22 April 2013
OW15	Old Weather contributor (high extrinsic score)	26 April 2013
OW16	Old Weather contributor (low intrinsic score)	2 May 2013
OW17	Old Weather contributor (low contribution record)	19 May 2013
OW18	Old Weather contributor (high extrinsic score)	25 June 2013

§ indicates interview carried out by other Citizen Cyberlab researchers

Participants are located in the UK, unless otherwise indicated

Notes of additional interviews carried out by customer research staff at TNA are also available:

Reference	Affiliation	Date Interviewed
P87	TNA, Archives & Records Knowledge	April-May 2011
P88	TNA, Archives & Records Knowledge	April-May 2011
P89	TNA, Archives & Records Knowledge	April-May 2011
P91	TNA, Collection Care	April-May 2011
P92	TNA, Collection Care	April-May 2011
P99	TNA Cataloguing Volunteer / Friends of TNA	April-May 2011
P100	TNA Cataloguing Volunteer	April-May 2011
P101	TNA Collection Care Volunteer	April-May 2011
P102	TNA Collection Care Volunteer	April-May 2011
P103	TNA Collection Care Volunteer	April-May 2011
P104	TNA Cataloguing Volunteer	April-May 2011
P105	TNA Remote Cataloguing Volunteer	April-May 2011
P106	TNA Collection Care Volunteer	April-May 2011

Grey Literature, free text survey responses, images and other documentation not publicly accessible and not included in bibliography:

Reference	Document Name	Document Date
P43	TNA, 'Your Archives Review' Internal Report (UNCLASSIFIED)	6 July 2010
P44-P86	TNA, Images of flipcharts from staff creativity workshops for Resource Discovery Programme	October 2010
P90	TNA, Evaluation of current user participation at TNA - internal report	July/August 2011
P98	TNA, cogapp UX Report on Discovery service	16 December 2011
P107	Crew List Index Project BT99 Transcription Guidelines	22 December 2008
P108	Crew List Index Project BT99 Data Quality Procedures	22 December 2008
P109	Sample of The Clipper (<i>CLIP</i> Newsletter)	April 2011
P110	Crew List Index Project sample Project Proposal Document	No date
P111	Crew List Index Project flyer	No date
P112	Crew List Index Project New Transcriber Information	August 2011
P113	TNA, Moderation Recommendations for Discovery	December 2011
P114	TNA, Draft Terms & Conditions for online user collaboration projects	December 2011
P115	TNA, Your Archives Exit Strategy	September 2011
P116	Amsterdam City Archives, text of seminar given at UCL on VeleHanden project	24 November 2011
P117	VeleHanden: powerpoint slides from presentation about checking tool	August 2011
P118	VeleHanden: report for test panel meeting	August 2011
P119	VeleHanden test panel - survey 1 results	September 2011
P120	VeleHanden test panel - survey 2 results	December 2011
P121	Comments from onsite user survey at TNA	December 2011
P149	VeleHanden contribution statistics	To March 2012
P150	VeleHanden participation survey	February 2012
P151	Comments from online user survey at TNA	April 2012
P153	Hack day survey response	April 2012
YA-R	Your Archives 2007-2012 - report of wiki database analysis	June 2012
OW-S	Old Weather survey report	August 2012

Other documentation relating to TNA (used as background material but not coded using Atlas.ti or NVivo):

Reference	Document	Document Date(s)
TNA1	TNA, 'Your Archives' Narnia (The National Archives' Intranet) page	Snapshot taken November 2010, covering 2007-
TNA2	TNA, 'Your Archives lessons learnt' Narnia page	Snapshot taken November 2010
TNA3	TNA, Your Archives survey report	August 2009
TNA4	TNA, [Your Archives] project initiation document	August 2006
TNA5	TNA, ProjectWiki [Your Archives] operational plan	November 2006
TNA6	TNA, draft text for Your Archives news story etc	May 2007
TNA7	TNA, 'Your Archives Roadmap - Ideas' Narnia page	Snapshot taken November 2010
TNA8	[TNA], Your Archives survey summary report (raw data for Emma Marsh MA dissertation)	August 2008
TNA9	TNA, 'Your Archives Strategy' Narnia page	Snapshot taken November 2010
TNA10	TNA, 'Your Archives Useful links' Narnia page	Snapshot taken November 2010
TNA11	TNA, 'Your Archives Moderation' Narnia page	Snapshot taken November 2010
TNA12	TNA, 'Your Archives' guidance to moderators	Snapshot taken November 2010
TNA13	TNA, 'Your Archives' summary web statistics	Collated April 2007 to March 2012
TNA14	TNA, 'Your Archives - 2.0' Narnia page	Snapshot taken November 2010
TNA15	TNA, Steps for business review of Your Archives / Your Archives SWOT Analysis	June 2010
TNA16	TNA, talk magazine (internal staff magazine) [articles about Resource Discovery development and flickr Commons)	April 2010
TNA17	TNA, 'Re-discovering the Record - Our Vision' internal planning document	No date [July 2010]
TNA18	TNA, notes and agenda from User Collaboration project meetings (internal documents + AE notes) & project highlight reports	July - September 2010
TNA19	TNA, 'Resource Discovery Programme Structure & Governance' Narnia page	Snapshot taken November 2010
TNA20	TNA, User Collaboration Use Cases	July - October 2010
TNA21	TNA, notes from Executive Team brainstorming on 'The Public Task' (RESTRICTED)	21 July 2010

Reference	Document	Document Date(s)
TNA22	TNA, 'Enabling the Semantic Transcription of Record Series' Narnia page	Snapshots taken August & November 2010
TNA23	TNA, [User Collaboration] 'Weekly Team Meeting 2010-08-11' Narnia page	Snapshot taken August 2010
TNA24	TNA, Emma Allen's notes on user collaboration	No date [September 2010]
TNA25	TNA, Demonstrable RDD outputs & possible communications project planning document	No date [September 2010]
TNA26	TNA, Oliver Morley's speech at Society of Archivists' conference (full text)	1 September 2010
TNA27	TNA, powerpoint slides on 'The Public Task - Next Steps' for exec reports cascade	3 September 2010
TNA28	TNA, notes from staff creativity workshops on user collaboration	October 2010
TNA29	TNA, Tim Gollins presentation at Catalogue Day 2010 (powerpoint slides)	November 2010
TNA30	TNA, 'User Contribution to TNA Records' Narnia page	Snapshot taken November 2010
TNA31	TNA, 'Enabling User Collaborated elements attached to Information Assets' Narnia page	Snapshot taken November 2010
TNA32	TNA, talk magazine (internal staff magazine) [article about Broadening Customer Reach project = Africa Through a Lens]	September 2010
TNA33	TNA, User Participation project steering group agenda, notes & minutes (internal TNA documents + AE notes)	January - August 2011
TNA34	TNA, User Participation assessment matrix	May 2011
TNA35	TNA, Research E-Newsletter [article on Old Weather]	December 2010
TNA36	TNA, 'TNA Debates' Narnia page and full text of John Sheridan's 'Catalogue debate' (2008)	Snapshot taken November 2010
TNA27	TNA, draft designs for marketing materials produced for PRO/HMC merger (2003)	No date [2003]
TNA38	TNA, Broadening Customer Reach - promotion & engagement plan	No date [2010/2011]
TNA39	TNA, Broadening Customer Reach (Africa Through a Lens) - Evaluation	No date [summer 2011]
TNA40	TNA, Broadening Customer Reach ?investment bid proposal	No date [2010]
TNA41	TNA, User Participation Programme programme closure report	5 August 2013
TNA42	[TNA] Martin, E. and Bergknut, A. 'The National Archives - User Research for the Online Strategy', Amberlight. Research consultancy report.	2008

Appendix C: Surveys

The National Archives

Onsite Readers Survey

USER PARTICIPATION IN ARCHIVES

The National Archives Reading Rooms Survey 1 December 2011

Recent years have seen a growth in online user participation projects in archives, such as wikis, social tagging and commenting, and collaborative online volunteering or 'crowdsourcing'. I am interested in how these developments are viewed by people who visit The National Archives in person to carry out research.

1. What is the main purpose of your visit to The National Archives today?
 - Family history research
 - Personal leisure research (excluding family history)
 - Non-leisure personal or family research
 - Research in connection with business or employment
 - Academic research
2. How long have you been visiting The National Archives?
 - This is my first visit
 - Less than a year
 - 1 – 4 years
 - 5 – 10 years
 - More than 10 years
3. Have you ever submitted corrections to The National Archives Catalogue? Yes No
4. Have you ever contributed to *Your Archives* (The National Archives wiki)? Yes No
5. Have you ever contributed either your research knowledge, or your skills as a volunteer, to any other participatory archives project? Yes No
Why, or why not?
6. In your research, have you ever made use of contributions that other users have made? Yes No
eg *Your Archives* (TNA's wiki), collaborative transcriptions of documents, user tags or comments, volunteer databases, or any other kind of user-generated content.
If you have ticked 'yes', please give examples here:
7. Do you think there are downsides or disadvantages to user participation in archives? Yes No
If you have ticked 'yes', please give examples here:

8. Please leave any further comments you would like to make about user participation in archives here (continue overleaf if you need more space):

If you would be willing to be interviewed about the issues raised here about participatory archives, please leave your name and email address (or other contact details) below:

Your Name:

Your Email Address:

Please return your completed questionnaire to the box at the bottom of the main staircase

THANK YOU!

Data Protection and Confidentiality

This research is conducted within the framework provided by UCL's Ethics Committee and in accordance with Civil Service practice. All of the information you provide will be treated confidentially. You can complete this questionnaire anonymously if you wish. If you do provide your name and email address, this data will be collected and stored in accordance with the Data Protection Act 1998, and will be accessible only to myself, my supervisors and my examiners.

✕-----

About the research

My name is Alexandra Eveleigh and I am a PhD student researching the impact of user participation in archives, particularly in online contexts. The research is funded by an Arts and Humanities Research Council Collaborative Doctoral Award and The National Archives, and is jointly supervised by The National Archives and the Department of Information Studies at University College London.

If you have any comments or questions about my research, you can get in touch with me directly at alexandra.eveleigh.09@ucl.ac.uk.

Online Users Survey

Blog posted to The National Archives Blog, 29 March 2012 (Eveleigh 2012):

Could you help with PhD research into User Participation in Archives?

The National Archives are sponsoring a PhD research student at University College London, Alexandra Eveleigh. Alexandra is interested in recent developments in online user participation projects in archives, such as wikis, social tagging and commenting, and collaborative online volunteering or 'crowdsourcing'. More information about Alexandra's research is available at <http://www.ucl.ac.uk/infostudies/research/icarus/projects/user-participation/>

If you are a user of The National Archives website (whether or not you visit The National Archives in person) and have an opinion about participatory archives, Alexandra would be very interested to hear from you via the short questionnaire at <http://bit.ly/xGUnFU>.

Data Protection and Confidentiality

This research is conducted within the framework provided by UCL's Ethics Committee and in accordance with Civil Service practice. All of the information you provide will be treated confidentially. You can complete the questionnaire anonymously if you wish. If you do provide your name and email address, this data will be stored in accordance with the Data Protection Act 1998, and will be accessible only to Alexandra, her supervisors and examiners.

Linked questionnaire:

User Participation in Archives

Recent years have seen a growth in online user participation projects in archives, such as wikis, social tagging and commenting, and collaborative online volunteering or 'crowdsourcing'. I am interested in how these developments are viewed by people who use the The National Archives website.
* Required

What is your principal reason for visiting The National Archives website? *

- Family history research
- Personal leisure research (excluding family history)
- Non-leisure personal or family research
- Research in connection with business or employment
- Academic research
- Other:

How long have you been visiting The National Archives website? *

- This is my first visit
- Less than a year
- 1 - 4 years
- 5 - 10 years
- More than 10 years

Do you also visit The National Archives in person to carry out research? *

- Yes, regularly
- Yes, occasionally
- No, I have never visited The National Archives in person to carry out research

Have you ever submitted corrections to The National Archives Catalogue? *

Have you ever contributed to Your Archives (The National Archives wiki)? *

Have you ever contributed either your research knowledge, or your skills as a volunteer, to any other participatory archives project? *

In your research, have you ever made use of contributions that other users have made? * For example - Your Archives (TNA's wiki), collaborative transcriptions of documents, user tags or comments, volunteer databases, or any other kind of user generated content.

Do you think there are downsides or disadvantages to user participation in archives?

Please use this space to note any examples of participatory archive projects which you have used in your research, or to which you have contributed, or to leave any further comments you would like to make about user participation in archives.

If you would be willing to be interviewed about the issues raised here about participatory archives, please leave your name: You can complete this questionnaire anonymously if you wish. If you do provide your name and email address, this data stored in accordance with the Data Protection Act 1998, and will be accessible only to the researchers involved in the study.

and contact email address:

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Old Weather Participants Survey 2012

Survey of Old Weather Participants

Introduction

oldWeather has been very successful, but we think future projects could be even better - more useful, easier, and even more fun. But to make improvements we need to know what you think: Why did you join the project? What did you get out of it? What did you find difficult?

So we've put together this survey - it asks a bit about yourself and why you joined the project, then there are a series of questions designed to explore your motivations for taking part, and finally there is a chance for you to add your comments on what you get out of it. Please answer all the questions. It will take you about 15 minutes.

This research is being carried out by Alexandra Eveleigh (on behalf of the oldWeather science team). Alexandra is a PhD research student at University College London and The National Archives.

Data Protection Act 1998: This questionnaire can be completed anonymously. Questions asking for personal, demographic type data are optional. Any personal information that you do give in this questionnaire will be used for the purposes of the survey evaluation, for which individual responses will be linked to the contribution records of participants held separately in the oldWeather database. We may also use your Zooniverse username to seek volunteers to take part in interviews as a follow-up to the survey. The results of this research will be aggregated and anonymised before being made available. No information contained in the results will be attributed to the person who submitted it. The survey response data will be transferred to the researcher conducting the survey, who will retain it in compliance with the UCL Records Retention Schedule. The survey data will also be stored securely by UCL Information Services for six months and will then be removed from the system. UCL Data Protection reference no. Z6364106/2012/04/54.

Cookies: When you visit this survey site, your browser is automatically issued with a 'cookie' to stop you accidentally submitting duplicate responses to the survey. Cookies do not identify the individual user, just the browser used. [Find out more about cookies.](#)

Start

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Survey of Old Weather Participants

Part A

This section asks how you came to participate in the Old Weather project, and (optionally) asks for some basic demographic information about yourself.

1. Where did you first hear about the Old Weather project?

- Via my participation on another Zooniverse project
- Print media coverage (newspapers, magazines etc.)
- Broadcast media coverage (radio, television)
- Social media (facebook, twitter, blogs etc.)
- Email
- Whilst surfing the web
- Word of mouth
- Other:

2. What were your original reasons for joining Old Weather?

You can select more than one option if necessary.

- General interest in science
- Interest in meteorology
- Concern about climate change
- General interest in history
- Interest in maritime history
- Enjoy transcribing handwritten documents
- Interest in crowdsourcing
- Contributing to research
- Looking for a fun new hobby / pastime
- Looking for new online friends
- Helping others
- Other:

3. Have you ever taken part in any other online collaboration project similar to Old Weather?

--Select Yes or No--

If you answered 'yes', please tell us which other project(s) you have contributed to:

Survey of Old Weather Participants

Part A

This section asks how you came to participate in the Old Weather project, and (optionally) asks for some basic demographic information about yourself.

Please select one option.

1. **Where did you first hear about the Old Weather project?**

- Via my participation on another Zooniverse project
 Print media coverage (newspapers, magazines etc.)
 Broadcast media coverage (radio, television)
 Social media (facebook, twitter, blogs etc.)
 Email
 Whilst surfing the web
 Word of mouth
 Other:

You must choose at least one option.

2. **What were your original reasons for joining Old Weather?**

You can select more than one option if necessary.

- General interest in science
 Interest in meteorology
 Concern about climate change
 General interest in history
 Interest in maritime history
 Enjoy transcribing handwritten documents
 Interest in crowdsourcing
 Contributing to research
 Looking for a fun new hobby / pastime
 Looking for new online friends
 Helping others
 Other:

Please choose yes or no.

3. **Have you ever taken part in any other online collaboration project similar to Old Weather?**

--Select Yes or No--

If you answered 'yes', please tell us which other project(s) you have contributed to:

Please select yes or no.

4. **Do you ever transcribe additional 'event' information (i.e. beyond the basic weather observations required for climate research)? Or are you involved in editing ships' histories for Naval-History.Net?**

If your answer is 'yes', please indicate what types of additional transcription or editing you undertake.

--Select Yes or No--

Questions 5 to 10 are optional, but it would help our research if you could provide answers to the following questions:

5. **What is your Zooniverse (Old Weather) username?**

6. **What is your gender?**

--Select Male or Female--

7. **What is your age?**

- 17 or under
 18 - 25
 26 - 35
 36 - 45
 46 - 59
 60 - 79
 80+

8. What is your country of residence?

9. Which of the following best describes your current working status?

- At school or university
- Working part-time
- Working full-time
- Unemployed
- Retired
- Other:

10. What is (or was) your occupation?



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Survey of Old Weather Participants

Part B

This section explores your motivations for taking part in the Old Weather project.

11. For each row in this matrix, please indicate the extent to which the statement reflects your motivation to participation in Old Weather, on a scale of 1 to 5 where:

1 = Never or almost never true of me (i.e. you strongly disagree with the statement) to
5 = Always or almost always true of me (i.e. you strongly agree with the statement)

	Disagree Strongly	Disagree	Neither Disagree nor Agree	Agree	Agree Strongly	Not applicable to me
	1	2	3	4	5	
I enjoy tackling new logs where the handwriting is unknown to me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer log pages I know I can transcribe well over pages that stretch my transcription abilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I would prefer the Old Weather team to set clear goals for me to work towards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am strongly motivated by the recognition I can earn from other Old Weather participants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel that I am contributing to solutions to climate change by participating in Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I seldom think about my Old Weather ranking or forum rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
As long as I can do something I enjoy, I'm not that concerned about my Old Weather ranking or forum rating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want other people to find out how good I am at transcribing or editing logs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Curiosity is the driving force behind much of my participation in Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy relatively simple, straightforward transcription tasks	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To me, success means doing better than other people on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm keenly aware of goals that I have set for myself for my contributions to Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
No matter what the outcome of Old Weather, I am satisfied because I feel I have gained a new experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to take part in Old Weather because it provides me with opportunities for increasing my knowledge and skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find taking part in Old Weather so absorbing that I forget about everything else	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy trying to solve complex problems on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am not that concerned about what other people think of my transcription work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The more difficult a page is to transcribe, the more I enjoy trying to get it right	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer transcribing weather entries because the transcription task is clearly specified	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm less concerned with what tasks I do on Old Weather than what I get for it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm concerned about how other people may react to my forum postings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am keenly aware of the ranking promotion goals I have for myself on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am strongly motivated by becoming (and/or remaining) Captain of my ship on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have to feel that I'm earning something for what I do on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
What matters most to me is enjoying what I do on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to puzzle out tricky transcriptions and problems on Old Weather for myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I believe there is no point in doing a good transcription job if nobody else knows about it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I want to find out how good I can get at transcribing or editing logs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I'm more comfortable because I can set my own goals or targets on Old Weather	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's important for me to be able to do something I particularly enjoy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. If you have any comments you would like to add about your motivations for joining and taking part in Old Weather, please leave them here.

75%

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Survey of Old Weather Participants

Part C

This section gives you an opportunity to comment on what you have got out of participating on Old Weather.

13. Please check any of the following statements which have resulted from your experience of Old Weather

- I am better informed about climate research
- I am better informed about maritime history
- I have formed new online friendships
- I have formed new 'real life' friendships
- I am better aware of research resources available at Naval-History.Net
- I am better aware of research resources available at The National Archives
- I am better aware of research resources available at The National Maritime Museum
- I have been inspired to investigate other sources of information held locally to where I live
- I have visited The National Archives
- I have visited The National Maritime Museum
- I have visited other archives or museums to further my research
- I have been inspired to take part in other 'citizen science' projects
- I have been inspired to take part in other 'participatory history' projects
- I have been inspired to find out more about the history of the period covered by Old Weather
- I have been inspired to find out more about meteorology and climate science
- Other:

14. How would you like your contribution to Old Weather to be acknowledged?

15. Are you interested in seeing the results of the Old Weather data collection or climate science analysis?

Please comment on how you would like to see data from Old Weather made available.

16. If you have any further comments about Old Weather which you think might be useful for our research, please leave them here.

100%

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Survey of Old Weather Participants

Thank you for participating in this research on participants' experiences of Old Weather.

Please click 'finish' to submit your response and return to the Old Weather site.

[Finish](#)

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