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Blank pages, brief notes and ethical double-binds: micro digitisation and the 'infinite archive'

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ABSTRACT

Digitised versions of archival fonds with micro or regional significance daily join mass digitisation projects of books and documents in the global digital space. For historians, the exponential expansion of searchable digital archival material has required the revision of traditional research methods. The digital age has also shifted disciplinary boundaries such as the distinction between historian and archivist. This article concerns a micro digitisation involving collaboration between historian and archivist, not in archive access as is usually the case, but in archive creation. The experience of this collaboration is generalisable to other micro-scale uploads of scanned material enabled by digital technologies. This article is a case study of this experience. It uses autoethnography to explore the practicalities and ethical processes of decision-making to create a new digital archive of wine history during the pilot stage of an Australian Research Council Industry Linkage Grant. The decision-making process that transformed a historian as traditional archive end-user to archive creator highlights the challenges for both professions in the decision to digitise, the implications for expenditure of public funds and questions of digitisation and environmental sustainability.

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As Maryanne Dever has noted, 'there is no question that digitisation is rapidly changing the ways in which archives are made and the forms in which archival documents are organised, distributed and used'.[1] Among these changes is that new technologies allow public participation in the creation of digital content. As observed during a mass digitisation project that involved public contribution of over 42,000 documents, a problem with this is that members of the public may be inexpert at judging the integrity of the information they are providing.[2] Looking across disciplinary borders into changes for academic historians in the digital age, much has been written on how digital technologies have transfigured the preservation of records, access to records and the dissemination of research. A documented consequence of the abundance of digital archives and scholarly databases is the problem of an 'infinite archive'.[3] That is, how to create historical knowledge amid a seemingly inexhaustible supply of digitally-discoverable primary (time of origin; often archival) and secondary (scholarship) sources that are no longer delimited spatially or temporally, as were traditional sources less than a generation ago. An unexplored transdisciplinary issue for archivists and historians

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is that historians are becoming the inexpert architects of digital archives. New technologies have given rise to a deceptive ease with which skilled archive end-users become archive creators as the novelty and potential reach of presenting material online become a worthy output of small block funding grants by government, community and cultural groups.

This article presents an autoethnographic study by a historian of the processes and implications of micro-level digitisation for archive creation where slippage has occurred between the traditional professional boundaries of archival end-user and creator. It considers the importance of historian/archivist collaboration and documents the financial and temporal costs of digitisation. More broadly, it focuses on a question that emerged during the decision-making process about environmental ethics. It asks whether scanning and uploading numerous blank pages in an existing set of fonds, for a relatively small audience – when this digital blankness is at variance with the materiality of blankness in tangible fonds – may be inadvertently making cyberspace junk. This contributes to debates centred on the materiality of digital versus non-digital archival documents.

Study method

Autoethnography is a research methodology that allows analysis of participant -observation of processes in action. It involves gathering qualitative data records of these processes and analysis of this data through contextualised reflection on practitioner transformation in action where this transformation has generalisability for praxis and research.[4] Autoethnography requires sequential recording of participant -observation of problems, solutions and responses to processes.[5] In this study, as the participant–observer I underwent a transformation from academic historian and experienced archival end-user to collaborator with an experienced archivist in the making of a small digital archive. For historians the autoethnographic method has commonalities with the concept of accounting for and reflecting on 'arrival stories' in archives.[6] Arrival stories give depth to understanding how historians have identified archival sources for a project. It is a means to acknowledge the steps undertaken to formulate and reformulate questions and interpretations that shape new historical knowledge. My experience in plotting archival arrival stories has been a useful reference point for the self-reflexivity of autoethnographic research.[7] Authoethnography proved to be an ideal means by which to observe and report on the experience of navigating new disciplinary territory without a pre-existing 'map' to do so.

The qualitative research data collected for this study is contained in an email exchange between myself and librarian–archivist Kelli Stidiford, who is employed at Central Queensland University, Rockhampton campus (CQU), which holds the Capricornia CQ Collection. Kelli readily gave permission for our email correspondence to be incorporated into the research for this article, and she agreed to be named for publication. I forwarded Kelli a version of this article before submission and invited her to make changes. She warmly acknowledged receipt of the draft and stated that she had read it but declined to make alterations or comment, which could be read as confirmation that there were no additional issues she would have raised beyond what is written here.[8] The email trail documents the substance and time intervals of decision-making, such as when I realised that my exchange with Kelli could provide insight into practitioner transformations.[9]

Study context

Paper-based archives are integral to the research and writing of history. Even when there are exceptions to this, the archive as a concept remains the methodological and theoretical touchstone for other sources used in historical inquiry.[10] As archival end-users, historians are not however trained in archive creation, yet the affordability and portability of new digital scanning technologies such as cameras and mobile devices have drawn us closer to this role. The most obvious way in which this has occurred in recent years is in digital photographing of manuscript material for research purposes, as opposed to dissemination, to collect data from traditional repositories. This practice of creating individualised and private databanks of digitised research documents can reduce research travel costs by compressing the amount of time required in archives. Manuscript material may be copied with mobile devices at very low cost compared with photocopying or in-library scanning. Still, my experience and evidence from other historians indicate that there is often a temptation to copy more material than can be effectively read and analysed at a later date, and a lack of training in digital file management can result in misplaced or unused research data. Despite my enthusiasm for, and early adoption of, digital technologies as research tools and techniques, I wonder whether it may be that historians who use a pencil and paper to record notes in the archive are being more time-efficient. This study is concerned however with the possibilities offered by mobile scanning by an individual researcher, which requires travel to traditional archives and allows for unexpected discoveries in the archive, versus the expenditure of research funds on library scanning of material sight-unseen. This second option in turn allows public dissemination of documents through creation of new digital archives but raises questions about inexpert decision-making and unnecessary data generation through digitisation. The impact on historical methodology of changes wrought by digital technologies to the making, organisation, distribution and use of traditional archives has been rapid, confounding and exciting. As Toni Weller argues in her introduction to the edited collection *History in the Digital Age* (2012), these changes mean that '[h]istory, as a field of enquiry, is standing on the edge of a conceptual precipice'.[11] The resulting reconceptualisation has required historians and archivists to interact in new ways. As shown in this study, I required advice from an archivist that resembled my usual queries about access to records but, instead of only informing the identification and retrieval of records, this advice came to inform my decision about whether to use a portion of a records collection to contribute to a new digital archive within a specific project.

The decision-making process documented in this study entailed digitisation of a portion of a collection of material not rich with text or images yet anticipated as having significance for historical sociological research on Australia's oldest continually producing wine region, the Hunter Valley NSW.[12] Typical documents in the collection included pre-printed diaries with blank pages or simple notations of seemingly little socio-cultural context such as 'windy'.[13] While it is agreed that 'blank spaces' in archival documents contribute depth of meaning through non-textual materiality,[14] it is not immaterial that among the approximately 3000 discrete sheets of paper in agricultural diaries and letter books in the collection that is the subject of this case study, there are hundreds of blank or barely written-on pages. Hundreds of blank pages might seem inconsequential compared with the number of blank spaces digitised along with pages with writing in mass digitisation projects. I found however that the notion of blankness raised two questions. First: the suitability of paying

public funds to have this blankness digitised. Second, while theoretically the digitisation of sections of the document collection I am about to describe opened up access for public and academic researchers, I became haunted by a parallel possibility. That owing to the sheer quantity of archival material online – and regardless of its defensible quality and value – I risked creating what might later become useless, forgotten artefacts of human innovation wheeling continuously in a cloudlike orbit. I could find no guidance on these matters with respect to working on small-scale projects. Nor does there appear to be concern for ethical consideration of blank spaces in mass digitisation of literary and historical collections. Instead the main issue is that the agreed social and cultural value of online availability democratises access to knowledge for a potentially enormous audience.[15] This is of concern as a proliferation of small born-digital and digital archives does add up to an appreciable quantity of data storage globally.

This case study's decision about whether to digitise occurred during the pilot stage of an Australian Research Council Linkage Project (ARC LP) in partnership with the peak wine industry body for the Hunter Valley NSW, the Hunter Valley Wine and Tourism Association (HVWTA), and Newcastle Museum. The ARC LP focuses on the role of the Hunter region in wine production, distribution and consumption from the 1820s to the present. It aims to represent the meaning of the industry to its business and labour community and the wider region. Histories and heritage of the Hunter Valley's wine past will be presented in a Newcastle Museum exhibition scheduled for 2017.[16]

The project, called Vines, Wine & Identity: The Hunter Valley NSW and Changing Australian Taste, has grown out of prior research into the emergence of colonial wine industry and culture in New South Wales.[17] This project comprises research at traditional archives, mainly in Newcastle and Sydney, as well as the creation of a series of oral history interviews. Vines, Wine & Identity aims to make available as digital history these interviews and other primary source material not otherwise accessible by the Hunter community.

As a Linkage Project, Vines, Wine & Identity is intended to solve problems for the industry partners. The HVWTA seeks to understand the region's history to form marketing and tourism narratives, and as a type of family history of an industry. There is a good deal of regional economic value in enabling wine community members to access primary source material they do not have skills to locate for themselves. The wine industry requires access to reliable historical material to express and expend historical capital in marketing and tourism. Historical capital is a combination of non-financial forms of capital: cultural capital, social capital and natural capital, which determine wine value.[18] For wine companies, historical capital exists in the longevity of their operation and association with particular vineyard sites and wine styles. Historical capital among leading wine companies in a region lends historical capital to the region as a whole.

The creation of a digital wine history archive also has significance beyond the Newcastle and Hunter Valley region. Wine studies is an area of academic research internationally in the humanities and social sciences as well as in science, business and tourism.[19] The University of Newcastle's Wine Studies Research Network webpage – the construction of which has overlapped with the timeframe of this case study – rates highly in Google searches. The material it is collecting will be valuable for future research within the academy, for the wine industry and beyond the industry. For example genealogists seeking knowledge of colonial migrant vinedressers or other wine community ancestors. A rise in interest in wine research in the humanities and social sciences has occurred as a result of new understanding

about Australia's long history of wine import, production, trade and consumption – and the importance of Australian wine exports in the recent global wine boom.[20] The Vines, Wine & Identity archive will over time complement the online archive at the State Library of South Australia (SLSA). Wine Literature of the World was innovated in the 1990s by the dedicated and now-retired Valmai Hankel.[21] The SLSA holds several hundred oral history interviews with members of the wine industry that were conducted in the early 2000s and are part of the Somerville Oral History Collection. It also hosts the Hardy Collection of hard-copy publications on wine.

For Newcastle Museum, the Vines, Wine & Identity project addresses the problem that curatorial staff have for some time sought to represent the Hunter wine region in permanent exhibitions, and mount a major temporary exhibition of the wine region, but have lacked access to knowledge and artefacts. The Vines, Wine & Identity digital archive will be connected with the University of Newcastle's Cultural Collections, staffed by archivists who will formally accession analogue and digital material. However the first pilot stage of the project involved digital archive creation unconnected with the University's Cultural Collections as emerging technologies presented the possibility of digitally 'bringing home' a set of Hunter records from an archive at CQU, some 1200 kilometres north of Newcastle, to a portal not yet formally linked with Cultural Collections. The idea for this 'bringing home' of records came about during the development of the relationship between University of Newcastle wine studies researchers and the HVWTA that culminated in the application for the ARC LP.

In 2012 I was invited to make a presentation at an HVWTA heritage event at the Lindeman's Wines cellar door in the Hunter Valley, on a site established and operated as a vineyard and winery by the Macdonald family on their Ben Ean property at the turn of the twentieth century. The event focused on the still (for distillation of wine) constructed during the Macdonalds' occupancy. The HVWTA's decision to celebrate the heritage of the century-old still rather than the 1970s history of Lindeman's Ben Ean, a popular non-premium wine named for the Hunter site,[22] is an example of the greater relative value of historic material culture from an earlier age.

In my online research for the Ben Ean presentation, I discovered that the Macdonalds' Ben Ean records are held in CQU's Capricornia CQ Collection and became very interested in sighting them. As I had been earlier advised by a research mentor to use document digitisation to compress travel time to archives remote from my work space, I thought immediately of the possibility of returning the Ben Ean material 'home' for my convenience and perhaps also for the wider Hunter wine community. However, the scanning process required research funds that I did not have at this time.

Why were the Ben Ean records in Rockhampton? Prior to purchase of Ben Ean by the Lindeman family, the Macdonalds used their large land holding as a mixed farm and built a sizeable and successful wine-growing enterprise. Just prior to World War I the Macdonald family sold Ben Ean and moved to a cattle station in North Queensland. Owing to the family's relocation to Raglan Station, the records of the original Ben Ean wine operation were donated along with Raglan papers to the Capricornia CQ Collection. Once I identified the existence of the Macdonald papers in an online search, I contacted CQU to access material for the presentation on the Ben Ean still for the HVWTA. In response, Kelli scanned a few pages of material at no cost but, owing to copyright protection, not for wider dissemination.[23] In her role as advising archivist, Kelli provided details about content from archival notes made on accession and looked over the relevant material, which allowed completion

of my presentation.[24] After the Ben Ean event, Kelli and I concluded this round of communication with her suggestion that I travel to Rockhampton to further explore the papers. To this end I began to include this plan for research travel into my proposals for internal university funding and external grant applications. Originally I conceived of the travel as a precursor to seeking funding for digitisation.[25] At this juncture, no clear digital archival point yet existed at which to locate or link to material digitised on, or for, the Hunter wine community. Between 2012 and 2014 however, the project proposal for Vines, Wine & Identity continued to mature along with plans for a new digital archive of wine history material. The rationale for this archive combined possibilities offered by rapidly advancing technologies of high-quality document scanning and webpage design, and an intention to extract the best possible value from project funds.

Access to funding

In the financial year 2013–14, internal university pilot stage funds were awarded for Vines, Wine & Identity. This funding totalled close to $20,000, which had to stretch in several different directions: travel from Newcastle to Sydney archives and accommodation in Sydney, the purchase of recording equipment for oral history interviews, and transcription services for the interviews. Fortuitously, by this time, faculty staffing for digital communication led to construction of a Wine Studies Research Network homepage on the University of Newcastle website, with provision to operate as an archive hub. This increased the utility of paying for digitisation of the Macdonald papers. The website could host links to the CQU homepage from which the Hunter Valley wine community and other stakeholders could readily access material. The problem remained to determine whether it would be value for money.

Having received advice from Kelli about the textual strengths and limitations of the Macdonald Family Papers, I could rule out a third, potentially less expensive option. This was to employ a research assistant to read the Ben Ean material at Rockhampton and provide notes or digital photographs as research-only files. This did not seem practical as there are specialist skills required to read wine production records: taxonomies of plants and technology, knowledge of cultivation and manufacturing processes, understanding of family, social and professional networks, plus insight into non-textual materialities. A research assistant with these skills was not available at Rockhampton and the time to brief a researcher would have been costly as well. This made the option of recruiting a research assistant less viable than other alternatives.

I understood from Kelli's descriptions that the Macdonald papers do not offer the rich prose detail of, for instance, famous travel journals.[26] The Macdonald papers are essentially agricultural day books, and some letters. Such day books are by their nature sparse documents with little or no emotional or sensory text. For this reason they present a particular challenge to the social and cultural historian seeking to capture evidence of everyday lives, decisions and knowledge flows of people on the land.[27] Yet they should not be disregarded as they do still offer environmental and economic historical perspectives. They contain scribbles, pasted-in clippings, smudges of grease and dirt that speak of gathering and sharing knowledge in regional networks, of success and failure; of practical use in practical lives. Agricultural collections may also contain published works that are notated. A significant example is Convict Superintendent Frederick Hely's copy of James Busby's *A Manual of*

Plain Directions for Planting and Cultivating Vineyards, and for Making Wine in New South Wales (1830).

Hely's copy is a first edition of the *Manual* and one of ten copies of this publication held at the State Library of New South Wales.[28] It contains handwritten notations that have been important sources of knowledge about early Australian wine growing as no formal documentation of early plantings in the Hunter Valley (and, incidentally, Bathurst) have been found elsewhere.[29] Until I handled Hely's copy of the *Manual*, I did not realise that other crucial knowledge is contained within these pages. Such a possibility is well understood with respect to material literacy in handling archival fonds rather than their digital copies.[30] In this case, the original ownership of a readily available published work had a good deal of significance and my knowledge of the value of the Hely copy of Busby's *Manual* to my mind supported the idea of travelling to Rockhampton. As wine history research is a relatively new field, I could presume that no prior researcher had sought out every possible nuance of the Macdonald papers, and what I found could prove to be important. The problem remained how to best judge whether I needed to handle these papers or have them digitised, and there were professional and temporal limits to how deeply I could expect Kelli to engage with them on my behalf.

Fortunately, research on whether to digitise literary studies archives is also salient for historians. As Maryanne Dever and Linda Morra have demonstrated, decisions about whether to scan and upload paper archives are a source of tension in the co-existing 'digital turn' and 'material turn' in literary studies.[31] Why digitise if too much meaning will be lost, or potentially great mistakes result from loss of non-textual meaning in digital records versus contact with analogue originals? Researchers in the digital humanities must 'understand how archived paper fonds – or individual documents – might be understood to do things or perform in ways that the digitised or born-digital cannot'.[32] Archival fonds evoke a profound sensory response from researchers through their size, shape, smell, sound when handled, and their relative order or disarray.[33] Moreover, immersion in the paper archive has long been a powerful narrative prompt for historians.[34] My preference was to travel to view and handle the Macdonald papers but whereas Dever's research, for instance on the archive of Eve Langley, required a three-hour train journey from her university base, I faced longer and more expensive travel from Newcastle to Rockhampton.

There are further matters to note about the Macdonald papers. The collection contains diaries and notebooks of female as well as male family members. This is valuable as perspectives on the role of women as colonial farmers are scant. At the same time, I had to weigh up the effects of ignoring the non-wine records or the possibility that reference to the wine enterprise existed among other parts of these agricultural and pastoral records. John and Hattie Macdonald were mixed farmers, as were many small- to medium-scale property owners in this period, and once they moved to their North Queensland cattle property, Raglan, they were station owners. On balance it made more sense to make the Macdonald wine records available to an audience that would otherwise not know of their existence than to rule out digitisation on the grounds of greater cost of scanning the entire Macdonald papers in order to preserve the original state of this collection or mitigate the risk of overlooking something. Even so, funds expended on travelling to read, or scanning to digitise, the Macdonald papers would be denied to other elements of the wider project I managed. While the quantity of pilot funding I had to work with was a drop in the ocean compared with large projects, it was equivalent to regional and community history programs

and fellowships provided by Arts NSW, the State Library of NSW and National Library fellowships, and decisions about its expenditure therefore have generalisability to a wide network of researchers, archivists and archival institutions.

The missing variable at this stage became the comparative financial cost for three alternatives: travel and digitisation, digitisation without travel or solely digitisation. To finally make a decision, I asked Kelli to quote on scanning. This required that I decide exactly which material would be scanned without actually seeing the documents and it involved great patience by Kelli in advising me about document contents within time constraints, as Capricornia is staffed only a part of the week. Thanks to Kelli's quick evaluation of the content of the listing in the online catalogue of material and other details, we were able to establish which sections of the Macdonald Family Papers contained in MS G17/796 and MS C18/619.1–18 would be relevant.

Here are selected descriptions from the main documents on Ben Ean to demonstrate the information we were working with to decide on travel and/or digitisation, and, if we chose digitisation, which items to scan.

> MS C18/619.1 – This letterbook contains 5 letters from 1904–1905. Four include Ben Ean in the address. The pages are fragile and hard to read. MS C18/619.2 – This is a lovely little pocket diary from 1892 from Hattie Macdonald. The front page is addressed as Ben Ean. On the 25 August 1892, the diary entry is simply 'Windy'. Most of the entries in the diary are quite brief. Many focussed on the weather (hot day, drizzly etc) or on the type of day (dull, lonely). MS C18/619.5 – Most of the notes are very rough, although I did come across a shopping list titled 'List (Sydney) August 1899'.[35]

From the longer document that included these details, Kelli also required a decision on precise selection of material to proceed to check for copyright restrictions on reproduction before quoting on scanning costs. Meanwhile, I estimated the cost of airfares to Rockhampton, accommodation and per diems as upward of $2000.

I advised Kelli of the documents of interest. She advised in return that there were no copyright restrictions and that scanning and uploading the papers to the CQU webpage to provide a link for the Wine Studies Research Network website would cost $1500.[36]

Then: a new dilemma. The spreadsheet from Kelli for the quote included the detail that in MS C18/619.1–18, the 1909 diary of JM Macdonald, 'Most pages are blank'.[37] Even more than the idea of digitising material with details as scant as 'windy' – as advised earlier – if digital cyberspace junk has an exemplar, surely it is *blank pages*; solid in data storage terms with no guarantee of research value. 'Blank spaces' have a materiality valued by researchers,[38] and the number of blank pages I potentially faced may seem minor compared with mass digitisation projects that generate tremendous numbers of blank pages through the scanning of hundreds of thousands – millions – of pages. Still, I felt concern that I could fly to Rockhampton knowing I would see quite a few blank pages which I at least could knowledgably interpret. Or, at the other end of the spectrum, I could request digitisation of many blank pages, knowing no other future researcher might view them with interest.

Australian best practice in digital continuity requires reliable storage of data analogous to continuity of knowledge storage in paper archives.[39] This does not however address the environmental footprint of digital data storage. Cloud computing data storage, in particular, is not as ephemeral as it sounds. Its functionality is dependent on enormous, highly tangible server farms and, in 2008, researchers identified that Information and Computing Technology (ICT) was 'responsible for the same amount of CO2 emissions as global air

travel'.[40] While a burgeoning movement for environmental sustainability exists in ICT,[41] consideration of environmental impact is an additional reason to think carefully about expending public funds on small-scale digitisation.

The deadline loomed for expending the pilot funds.

With all of the information I now had to hand, I decided to proceed with digitisation as part of the wider plan to create a new online archive of wine history. In acknowledging my email about this in September 2014, Kelli noted that some of the material I sought had 'indecipherable' sections.[42] Another risk! If I could not read them, these records would prove impossible to weave into narratives of the Hunter wine region and they would be of no use either to other researchers. Yet digitisation alone seemed more cost-effective and beneficial to the project than either to fly to Rockhampton and proceed to digitise or to fly to Rockhampton and then not digitise for further dissemination.

Kelli discussed with her colleagues the order of document scanning. They proposed starting with an 1897 diary.[43] A month later the first completed document scan from the collection was uploaded. In opening the link to that scan on the computer in my office at the University of Newcastle, I had the same sense of anticipation in opening a new manuscript at the broad polished timber tables in the manuscripts and rare books section in the Mitchell Reading Room at the State Library of NSW. Although being at the Mitchell has other aesthetic pleasures compared to my office, a new manuscript offers great excitement no matter what the location. In this case, there was trepidation too, as this document had a digital life I had assisted in creating. The diary first scanned proved to be more interesting than I expected, as I reported to Kelli[44] and recorded in the December 2014 Vines, Wine & Identity project newsletter.[45] It contained far more detail than I had hoped, and, despite its textual scarcity, animated my understanding of the Macdonald wine enterprise. At this stage in the process, I decided to write this article and, as part of the research, I directed a question to Kelli that I had not asked during the decision to digitise: had others accessed the Macdonald papers at CQU? The response would provide perspective on pre-digital access in order to compare it to post-digital access on the project website. Kelli informed me that apart from my 2012 inquiry, only one other request had been made to use the collection, in 2006, by a researcher comparing Raglan Station to other cattle properties. Time will tell whether digitisation of the wine material from the collection will increase access and interest in it. I am convinced however that I made the correct decision to expend funds on this micro-level and specialist digitisation, though it required a good deal of information, and time, to proceed.

There is a considerable literature on best practice for document digitisation, whether specialised, such as the WA Welcome Wall Collection, or at mass scale, such as the Google books project.[46] These projects confirm, on the one hand, the value of localised, specialised digitisation, and the unlikelihood that mass digitisation will spell the end of traditional libraries as hard-copy book and document storage and access.[47] Historians and archivists are concerned with similar issues arising from mass digitisation and online archives, such as the fate of paper-based material from which the digital resources were created.[48] This article has documented how this process occurs at a much smaller scale: the problems, costs and implications.

Conclusion

The key points that have arisen from this study are:

- The digital age has resulted in breaches of professional boundaries but the pathways of communication and practices that already exist between archive end-users and archivists in achieving archive creation can be readily adapted to solve problems that occur in this process.
- Even micro-level digitisation takes time and money to be effective.
- Digitisation produces tangible data and should be created responsibly.

This case study demonstrates that relationship between historian and archivist/librarian is as important as ever. The opportunity to digitise the Macdonald papers as part of digital archive creation blurred the boundaries of expertise such as 'archivist' as creator and 'historian' as end-user in ways I did not anticipate, and dealing with the decisions that had to be made as a result confirmed the centrality of archivist support in this process. I could not have made an informed decision to expend research funds without Kelli Stidiford's advice. Also, on reflection, Kelli's advice resembled past exchanges with archivists and library staff in records access. This indicates that archivists advising historians as archive creators need not attain new skills. The onus is on historians, or other archive end-users involved in archive creation. It is they who should expect to develop new skills. It is worthwhile adding that my relationship with Kelli would not have been as successful had I not been mindful of her time constraints.

On the second point about time and money: despite the seeming ease of access to digital technologies, the scarcity of research funding imposes limits that presented challenges in this case but ultimately benefited the decision-making process by forcing self-reflection of expenditure options and their advantages and disadvantages. Finally, the decision-making process raised the spectre that unfettered digitisation has other consequences. While digital humanities researchers debate ethical questions, such as whether mass digitisation of literary works is dehumanising,[49] in the Anthropocene attention must also be paid to the environmental effects of data storage to ensure responsible and sustainable knowledge futures.

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24. Email communication between Kelli Stidiford and Julie McIntyre, 22 August 2012.
25. This is evidenced in application documentation for the ARC LP146100140.
26. For example, Penny Russell, *This Errant Lady: Jane Franklin's Overland Journey to Port Phillip and Sydney 1839*, Antipodes Books and Beyond, Sydney, 2002.
27. Julie McIntyre, 'The story of Alf Kurtz and Chardonnay: An Australian microhistory', Honours thesis, University of Newcastle, 2004.
28. The publication is James Busby, *A Manual of Plain Directions for Planting and Cultivating Vineyards, and for Making Wine in New South Wales*, printed by R Mansfield, for the Executors of R Howe, Sydney, 1830. The call numbers of the eight State Library of NSW (SLNSW) copies are: Dixon Library (DL) 83/66–67; DL 82/102; 638.809944/4; 634.8/B copy 1; 634.8/B copy 2; DSM/634.8/B; Rare Books (RB) DS634.8 53; RB DS634.8 52. Hely's *Manual* is 634.8/B copy 1.
29. WH Driscoll, *The Beginnings of the Wine Industry in the Hunter Valley, Newcastle, N.S.W.*, Newcastle Public Library (in association with the Newcastle and District Historical Society), Newcastle, 1969, p. 11–12. Hely's notes on Bathurst have not been explored to the same extent in wine history owing to discontinuities in that region's wine history.
30. Ala Rekrut, 'Matters of Substance: Materiality and Meaning in Historical Records and Their Digital Images', *Archives and Manuscripts*, vol. 42, no. 3, November 2014, pp. 238–47.

31. Maryanne Dever, 'Photographs and Manuscripts: Working in the Archive', *Archives and Manuscripts*, vol. 42, no. 3, November 2014, pp. 282–94; quote on p. 290.
32. Maryanne Dever and Linda Morra, 'Editorial: Literary Archives, Materiality and the Digital', *Archives and Manuscripts*, vol. 42, no. 3, November 2014, p. 223.
33. Dever, 'Provocations', pp. 173–82.
34. As I have remarked elsewhere, I first found this in accessing Lloyd Evans' papers at the State Library of South Australia (SLSA). The papers are a fine collection of material on Australian wine growing and on the McWilliams wine family enterprise, however they indicate that Evans' research sprawled too broadly, which in turn compromised his research: Julie McIntyre, 'A "Civilized" Drink and a "Civilizing" Industry: wine growing and cultural imagining in Colonial New South Wales', PhD thesis, University of Sydney, 2009, p. 12.
35. Word document attachment in email communication, Kelli Stidiford to Julie McIntyre, 7 August 2014.
36. Email communication, Kelli Stidiford to Julie McIntyre, 13 August 2014.
37. Excel spreadsheet attachment to email communication from Kelli Stidiford to Julie McIntyre, 13 August 2014.
38. Dever, 'Provocations', p. 176.
39. National Archives of Australia, 'Digital Continuity Principles' http://www.naa.gov.au/records-management/digital-transition-and-digital-continuity/digital-transition-policy/principles/index.aspx, accessed 31 January 2015.
40. Gerhard Fettweis and Ernesto Zimmermann, 'ICT energy consumption: trends and challenges', 11th International Symposium on Wireless Personal Multimedia Communications, 2008, available at <https://mns.ifn.et.tu-dresden.de/Lists/nPublications/Attachments/559/Fettweis_G_WPMC_08.pdf>, accessed 20 September 2015.
41. Bill Tomlinson, *Greening Through IT: Information Technology for Environmental Sustainability*, MIT Press, Cambridge, 2010.
42. Email communication, Kelli Stidiford to Julie McIntyre, 10 September 2014.
43. Email communication, Kelli Stidiford to Julie McIntyre, 14 October 2014.
44. Email communication, Julie McIntyre to Kelli Stidiford, 22 October 2014.
45. The file I accessed is <http://library-resources.cqu.edu.au/cqcollection/manuscripts/macdonald/1897-diary.pdf>, accessed 31 May 2015; the newsletter report is at <http://www.newcastle.edu.au/research-and-innovation/centre/education-arts/wine-research/research/vines,-wine-and-identity>, accessed 31 May 2015.
46. Karen Coyle, 'Mass Digitization of Books', *The Journal of Academic Librarianship*, vol. 32, no. 6, November 2006, pp. 641–5; William C Dougherty, 'The Google Books Project: Will it Make Libraries Obsolete?' *The Journal of Academic Librarianship*, vol. 36, no. 1, January 2010, pp. 85–9.
47. Dougherty, p. 88.
48. King, p. 19.
49. See for example, David Greetham, 'The Resistance to Digital Humanities', in Matthew K Gold, *Debates in the Digital Humanities*, Minneapolis University Press, Minneapolis, 2012, pp. 438–51.

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