

# Chapter 3: Design Thinking, UX and Born-digital Archives: Solving the Problem of Dark Archives Closed to Users<sup>1</sup>

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Lise Jaillant, Loughborough University, UK

## **Abstract**

*As a human-centered method to solve business and social problems, design thinking has been applied to “wicked problems” in a wide range of sectors. However, the archival sector has rarely engaged with this methodology. This chapter argues that design thinking is a productive way to solve the problems of access and use of archival collections in the digital age. Indeed, the vast majority of born-digital archives are not available to users due to data protection, copyright and other issues. Drawing on the author’s experience as a researcher who has had access to “dark” archives normally closed to the public, the chapter presents examples of research that can be done using born-digital records. It demonstrates the importance of seeking early feedback from researchers via design thinking workshops, and of designing and improving access procedures through an iterative process. Researchers have too often played the role of passive users of archival collections. They now need to work closely with archivists to shape access policies that will facilitate the use of innovative methodologies such as Artificial Intelligence.*

## **Introduction**

Popularized by Tim Brown and his IDEO team at Stanford, design thinking is a human-centered method to solve business and social problems. This creative problem-solving approach reaches beyond professionally trained designers. Interdisciplinary teams can use design thinking to tackle even society’s most intractable “wicked problems,” argues Brown in the updated 2019 edition of his bestseller *Change by Design*.<sup>2</sup> A key message is for organizations to focus on the people they

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1 This research was funded by the Arts and Humanities Research Council (grant ref AH/R00773X/1). See [www.poetrysurvival.com](http://www.poetrysurvival.com) for more information about this project.

2 Tim Brown, *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*, New York 2019, see 250-256.

are serving. The first question should always be: what is the human need behind the problem we are trying to solve?

Design thinking has been extremely influential in the business world, leading to the multiplication of “Innovation Labs” and “Experience Centers.” Yet, it is not a term that Digital Archivists and Digital Humanists frequently use. Although there is a growing body of work linking design thinking to the development of services within libraries, museums and exhibitions spaces, the archive sector has only recently started paying more attention to this field.<sup>3</sup> “User-centered design thinking as a driver for innovation” was the theme of a panel at the 2019 “Designing the Archive” conference in Adelaide (Australia).<sup>4</sup> As part of this panel, the National Archives of Norway presented their work on digital records, and the need to maintain reliability and trustworthiness of these records at all stages of the process (from creation to transfer to the archival institution). In the past few years, they have applied design thinking to develop creative solutions to the issues of digital archives. In June 2019, the Norwegian National Archives also presented this work to the European Archives Group, which is part of the European Commission expert groups. Following this meeting, “Archiving by design” has been identified as a priority for EU-wide collaboration.

While this work claims a user-centered approach, it is led by archivists in partnership with record creators. Too often, end-users<sup>5</sup> do not fully participate in debates on archives, including born-digital archives.<sup>6</sup> “Citizens” remain abstract fig-

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- 3 For examples of design thinking applied to museums and other cultural organisations, see: Lucy Larson, Engaging Families in the Galleries Using Design Thinking, in: *Journal of Museum Education* 42 (4/2017), 376-384, doi:10.1080/10598650.2017.1379294; Suzanne MacLeod et al., New Museum Design Cultures: Harnessing the Potential of Design and “Design Thinking” in Museums, in: *Museum Management and Curatorship* 30 (4/2015), 314-341, doi:10.1080/09647775.2015.1042513; and Mahendra Mahey, *Open a GLAM Lab. Digital Cultural Heritage Innovation Labs*, Doha, Qatar, 2019.
  - 4 See <https://www.archivists.org.au/conference/program-and-abstracts/abstracts> [last accessed: Mar. 31, 2021].
  - 5 In this essay, users are defined as end-users, i.e. academic researchers and members of the public who are using archival collections for professional or personal research. The point of this distinction is to clarify the archival circuit, from creators of records and archivists, to end users. For more on users of archives, see Elizabeth Yakel/Deborah A. Torres, AI: Archival Intelligence and User Expertise, in: *The American Archivist* 66 (1/2003), 51-78, <http://www.jstor.org/stable/40294217> [last accessed: April 5, 2021].
  - 6 In 2010, OCLC listed various kinds of born-digital resources, broadly defined as “items created and managed in digital form” (Ricky Erway, Defining “Born Digital,” Dublin, OH, 2010, URL: <https://www.oclc.org/content/dam/research/activities/hiddencollections/borndigital.pdf> [last accessed: April 5, 2021], see 1). This includes digital photographs; digital documents such as PDFs; harvested web content; the digital manuscripts of noteworthy individuals; the electronic records of institutions; static data sets generated by researchers; dynamic data such as Facebook and Twitter accounts; digital art; and digital media publications – music

ures that have a right to access in theory, but rarely do in practice. This chapter draws on my experience as a researcher who has had access to “dark” archives (defined as archives normally closed to the public).<sup>7</sup> In particular, it presents the work done during my project funded by the Arts and Humanities Research Council (2018-2020), focusing on the Carcanet Press archive at the John Rylands Library in Manchester. As a Humanities scholar, my main methodology has always been archival work. In this essay, however, I also use autoethnography – reflecting on my own experience and connecting this experience with a wider context.<sup>8</sup>

My central argument is that design thinking is a productive way to solve the problems of *access* and *use* of archival collections in the digital age. A key message for archivists will be to seek early feedback from researchers via design thinking workshops, and to design and improve access procedures through an iterative process (Fig 3.1). Researchers have too often played the role of passive users of archival collections.<sup>9</sup> They now need to work closely with archivists to shape access policies that will facilitate the use of innovative methodologies such as Artificial Intelligence.

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and movies, for example. This chapter focuses mostly on materials immediately relevant to historians, literary scholars, and other digital humanists – including web archives, authors’ personal archives, and government records.

- 7 Although this chapter focuses on born-digital archives, it relies on the extensive literature on confidentiality and access to archives, which applies both to physical and digital archives. For example, authors’ physical archives are also subject to highly restrictive access frameworks. See, for instance, Mark Greene/Dennis Meissner, *More Product, Less Process: Revamping Traditional Archival Processing*, in: *The American Archivist* 68 (2/2005), 208-263, doi:10.17723/aarc.68.2.c741823776k65863; Ben Goldman/Timothy D. Pyatt, *Security Without Obscurity: Managing Personally Identifiable Information in Born-Digital Archives*, in: *Library & Archival Security* 26 (1-2/2013), 37-55, doi:10.1080/01960075.2014.913966; Valerie Harris/Kathryn Stine, *Politically Charged Records: A Case Study with Recommendations for Providing Access to a Challenging Collection*, in: *The American Archivist* 74 (2/2011), 633-51, doi:10.17723/aarc.74.2.f252r28174251525; Julia Kastenhofer/Shadrack Katuu, *Declassification: A Clouded Environment*, in: *Archives and Records* 37 (2/2016), 198-224, doi:10.1080/23257962.2016.1194814.
- 8 According to Carolyn Ellis, autoethnography can be defined as “research, writing, story, and method that connect the autobiographical and personal to the cultural, social, and political.” Carolyn Ellis, *The Ethnographic I: A Methodological Novel about Autoethnography*, Walnut Creek, CA, 2004, see xix.
- 9 See Lise Jaillant, *After the Digital Revolution: Working with Emails and Born-Digital Records in Literary and Publishers’ Archives*, in: *Archives and Manuscripts* 47 (3/2019), 285-304, doi:10.1080/01576895.2019.1640555.

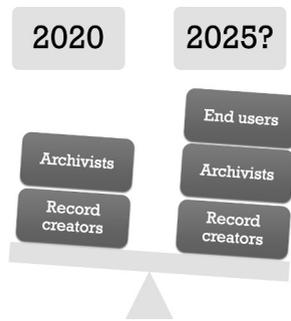


Fig 3.1: Involving end-users of born-digital archives. Courtesy of the author.

The first section examines design thinking as a methodology that can be applied to archival collections. I then turn to my own experience of gaining access and using “dark” archives, focusing on the Carcanet Press collection. The third section offers practical ways of involving users more closely, moving from user-testing to design thinking in action. Finally, the conclusion articulates what research users’ priorities are when it comes to dark archive accessibility, and how design thinking helps design solutions to meet these.

## 1. Design Thinking as a Methodology

In January 2017, the UK Cabinet Office, working in collaboration with The National Archives (TNA), identified key issues with the management of born-digital records within government, resulting from the implementation of digital technologies and the decentralization of record-keeping processes. It has created an environment where data and records are scattered across multiple platforms and not organized in a way to facilitate timely retrieval.<sup>10</sup> The digital revolution has challenged established processes: “Much of what has accumulated over the past fifteen to twenty years is poorly organized, scattered across different systems and almost impossible to search effectively.”<sup>11</sup> This inefficient organization of records is a pressing issue as government records now need to be transferred to TNA after twenty years, rather than the previous thirty-year rule.

10 Cabinet Office (UK), *Better Information for Better Government*, 18.01.2017, <https://www.gov.uk/government/publications/better-information-for-better-government> [last accessed: Mar. 30, 2021], see 3.

11 Cabinet Office (UK), *Better Information for Better Government*, 3.

The report made several suggestions to improve the management of digital records. First, departments with large – and potentially very sensitive – unstructured data were encouraged to use e-discovery tools (which are often used by legal professionals in their investigations). In 2015, TNA carried out a study on the applicability of e-discovery for appraisal, selection and sensitivity to determine the strengths and weaknesses of these technologies and published their findings in 2016.<sup>12</sup> A second recommendation from the Better Information for Better Government report encouraged civil servants to take care of their records by making record management “Easy, Attractive, Social and Timely.” The third recommendation in the report was to include information management compliance as part of performance review, as an additional incentive to make progress. This can also be a lever to change perceptions on the usefulness of record-keeping. These measures would “unlock the value of legacy collections for the benefit of civil servants and citizens alike.”<sup>13</sup>

While citizens are mentioned a few times in the report, there are no details about specific ways to engage with these end users. How will government born-digital records be made available? Will users have to travel to The National Archives to access these records? Is it feasible and desirable to make born-digital archives available to anyone with an internet connection? TNA are doing important work on the issue of access, in particular via initiatives led by their Head of Digital Access.<sup>14</sup>

The problems of access and use of archival collections in the digital age are multi-faceted and complex. Although there is no quick fix, we can make progress by turning to design thinking – a set of methods and skills to solve challenging problems. It is not a new concept. John E. Arnold, a professor of mechanical engineering and business administration at Stanford, was one of the first to use the term “design thinking.” Arnold was convinced that innovators should start with human needs, rather than develop a technical product first and then see if it is of interest. In his lectures, compiled under the title *Creative Engineering* (1959), Arnold described the “creative engineer” as a professional who combined technical skills with a human-centered approach more comprehensive than industrial design.<sup>15</sup>

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12 <https://www.nationalarchives.gov.uk/documents/technology-assisted-review-to-born-digital-records-transfer.pdf> [last accessed: April 5, 2021].

13 Cabinet Office (UK), *Better Information for Better Government*, 9.

14 TNA's Head of Digital Access, Catherine Elliott, has been doing a lot of work on revamping the presentation of the catalogue and access to born digital information. See the presentation she gave at the ICA 2019 Adelaide conference: [https://www.ica.org/sites/default/files/session\\_lti\\_a-project-alpha\\_by\\_catherine\\_elliott\\_o.pdf](https://www.ica.org/sites/default/files/session_lti_a-project-alpha_by_catherine_elliott_o.pdf) and [https://www.youtube.com/watch?v=bsiWfnUGLZk&feature=emb\\_logo](https://www.youtube.com/watch?v=bsiWfnUGLZk&feature=emb_logo) [last accessed: April 5, 2021].

15 John E. Arnold, *Creative Engineering*, <https://stacks.stanford.edu/file/druid:jb10ovs5745/Creative%20Engineering%20-%20John%20E.%20Arnold.pdf> [last accessed: Mar. 30, 2021].

Over the next fifty years, the term “design thinking” broadened its reach well beyond engineering and its applications in the business world.

“Design thinking” did not emerge out of nowhere. Systems thinking – theorized and practiced by Russell Ackoff, C. West Churchman, Peter Checkland and others – developed ideas that are also found in design thinking. This includes engaging with a broad range of stakeholders, considering and exploring idealized options, reframing problems, using iteration, diagrams and pictures, and tirelessly searching for better alternatives. Design ideas were then applied to various organizations and to society as a whole. Likewise, in *The Design Way: Intentional Change in an Unpredictable World*, Harold G. Nelson and Erik Stolterman moved beyond design theory and practice, to formulate design culture’s fundamental core of ideas. The “design way” was applicable not only to traditional fields such as architecture and graphic design, but also to other organizations – including education and health care.

Previously confined to professional and academic circles, the concept of “design thinking” became mainstream due largely to the work of IDEO, a California-based design firm that specializes in innovation and strategy. In *Change by Design* (2009, revised edition 2019), Tim Brown offered an easy-to-read guide to design thinking, presented as a way to transform organizations and inspire innovation. He described the design thinking process as a system of three overlapping areas: *inspiration*, *ideation*, and *implementation*.<sup>16</sup> In the case of institutions that do not engage directly with the market, this third phase is replaced with *iteration*, i.e. continual experimentation based on user feedback.

Let’s start with *inspiration*, which is about framing a challenge and discovering new perspectives. As described in the 2014 IDEO toolkit *Design Thinking for Libraries*,<sup>17</sup> the response to a challenge should be: “How do I approach it?” The mindset should be optimistic and forward-looking. Problems need to be re-framed as opportunities in disguise. To improve their understanding of the challenge, design thinkers need to gather insights through observations and interviews of target users and experts. They need to emphasize with the audience and learn more about their beliefs and behaviors.

The *ideation* phase transforms this research into actionable insights. It aims to produce a wide range of ideas (divergent thinking) before selecting the best ones (convergent thinking). “To have a good idea, you must first have lots of ideas,” said the Nobel Prize winner Linus Pauling.<sup>18</sup> To visualize and evaluate ideas, design thinkers create prototypes. These sketches and models make ideas tangible. The objective is not to produce something perfect – prototypes are “quick and dirty.” They allow designers to share their ideas with others and to obtain rapid feedback.

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16 Brown, *Change by Design*, 22.

17 Available at: <http://designthinkingforlibraries.com/> [last accessed: April 1, 2021].

18 Cited in Brown, *Change by Design*, 73.

After prototyping, the next phase is to test the model with users and refine it. During this *iteration* phase, design thinkers continue to build on the original prototype thanks to feedback. They go through multiple rounds of iteration of their concept before they are ready to launch their new ideas in the world. Design thinkers seek a perfect balance of *desirability*, *feasibility*, and *viability*. A new idea should make sense to people and for people, it should be possible within the foreseeable future, and it should take part in a sustainable business model.

The popularity of design thinking in the business world has led to attacks – including from a young sociologist called Tim Seitz. Drawing heavily on Luc Boltanski and Eve Chiapello's *The New Spirit of Capitalism*, Seitz sees criticism as a catalyst for changes in the spirit of capitalism.<sup>19</sup> In the 1990s onwards, the rise of a digitally dominated world with fewer human contacts could have threatened capitalism, accused of lacking authenticity. Instead, capitalism has harnessed these criticisms, using design thinking and its focus on humans and empathy as a catch-all solution to all “wicked problems.”

While I find the broad claims of design thinking gurus problematic, I believe that we should not throw the baby out with the bath water. Design thinking is not a magic solution to all our problems, but it can be a useful method – particularly when various groups do not communicate well. In the case of born-digital records produced by government agencies, end-users are held at a distance. This lack of communication has an impact on producers of records, who lose touch with the finality of information management compliance. Why spend time on administering records? With closer interactions with end-users, producers of records could see that filing digital records (either manually or automatically) is not a waste of time, but a service to their fellow citizens and to future generations. Design thinking is a way to bring people together and start important conversations.

How can the three phases of the design thinking process (inspiration, ideation, iteration) be applied to libraries and archives? This is a disparate group, and the 2014 IDEO report focuses mostly on public libraries with a general audience of readers – for example elderly people who don't know how to use computers, or parents with their babies.<sup>20</sup> These groups have specific needs – which can of course be very different from the needs of people who engage with national archives or Special Collections libraries.

Design thinking differs from user-testing of interfaces. In a good design thinking workshop, library and archive professionals listen to users and observe their behavior so they can empathize with their needs and identify the problems that

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19 Luc Boltanski and Eve Chiapello, *The New Spirit of Capitalism*, London 2007; Tim Seitz, *Design Thinking and the New Spirit of Capitalism: Sociological Reflections on Innovation Culture*, London 2020, doi:10.1007/978-3-030-31715-7.

20 Available at: <http://designthinkingforlibraries.com/> [last accessed: Mar. 31, 2021].

require solving. Whereas user-testing of interfaces attempts to solve predefined problems, design thinking uncovers real problems that need solving. Design thinking is also different from iterative methods such as Agile. The Agile Manifesto, released in 2001, outlined a way for project managers to make software design more responsive, and less burdened by paperwork and predefined specifications.<sup>21</sup> As a project management method, Agile relies on gathering fast feedback, producing iterative releases, and rapidly adapting the design plan to best meet the needs of the users. While Agile is a method used to build better software, design thinking can be used by anyone to solve any “wicked problem” that has no clear solution. In the case of access frameworks in archives, the main objective is not to test a software or an interface. It is to understand the needs of the users and respond creatively to the problems they face.

In their 2019 conference presentation, the National Archives of Norway explained how they used design thinking to re-envision the concepts of records and archive in the digital world.<sup>22</sup> With the rise of digital records, the challenge was to modernize inefficient processes born in the paper age. In March 2017, a report to the Norwegian Parliament gave a bleak picture of the state of digital records in government. With around half a million documents produced a year, the problem is not the lack of records, but the poor management of these records. Buried under a flood of digital materials, the public sector finds it difficult to actively manage its archives.

The Norwegian National Archives identified a “toxic cocktail” of four main factors. First, the volume and range of data, which comes in many formats and through various channels, make the preservation and management of digital data complicated. Second, nobody is expected to spend any time on this, and government officials often prioritize their daily job. Third, potentially important records are reviewed individually, which can be inefficient and time consuming. And fourth, the complexity and low level of integration of IT systems also contribute to the problem. As a consequence of these inefficient practices, no or poor records exist for important areas such as Norwegian bilateral relations with China 2010 – 2017 (after the Nobel peace prize to Chinese political opponent Liu Xiabao); the decision of Norwegian leaders not to meet the Dalai Lama in 2014; and the investigation of international law as a basis for Norway to take part in the action against ISIS.

To start addressing this complex problem, the National Archives of Norway adopted a design thinking approach. Teams were encouraged to challenge existing truths and ways of doing things. Their process was iterative, starting with the

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21 <https://agilemanifesto.org/> [last accessed: April 5, 2021].

22 Espen Sjøvoll, *Design Thinking & Innovation: Norwegian Approach*, <https://www.archivists.org.au/documents/item/1640> [last accessed: Mar. 30, 2021].

learning process: What have we learned? What do we need to learn now? The next step was to share this knowledge, adjusting insights along the way. This collective discovery process led to a prototype that allowed people to test the new idea. The learning process could then start again, building on the previous prototype to improve it.

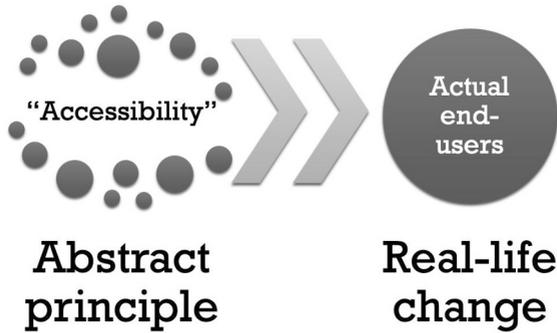
This approach yielded significant results, including new approaches to appraisal and digitization. The National Archives of Norway now digitize 90% of modern paper archives, reducing long-term costs. The number of records transferred to the National Archives also increased – with fewer staff members needed to transfer these records. By 2025, the vision of the Norwegian archives is that government employees will no longer need to spend time on archiving records. While this approach claims to be user-centered, the focus is mostly on record creators (i.e. civil servants) rather than end-users of digital archives.

The activities of the National Archives of Norway influenced the creation of the EU “Archives by Design” working group in 2019. Making born-digital records more accessible is a key priority. Indeed, the ambition of the group is to “get new insights on opportunities and experiences with early intervention with ICT [Information and Communications Technology] systems development to achieve sustainable accessibility of data, persistent/authoritative data and ensuring data protection across European countries – also known as Archiving by design.”<sup>23</sup> For Erik Saaman, Strategic Advisor at the Dutch National Archives, “archiving by design means designing information systems to support the work process in such a way that the long-term accessibility of that information is taken into account from the outset.”<sup>24</sup> Despite the proclaimed focus on accessibility, this goal remains a largely abstract principle. We need to move away from accessibility as an abstract principle, towards actual end-end-users who want (and often fail) to access digital records (Fig 3.2).

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23 *Draft Mandate: Archives by Design Working Group*, <https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=34956> [last accessed: Mar. 30, 2021]. My emphasis.

24 <https://www.nationaalarchief.nl/en/archive/knowledge-base/archiving-by-design> [last accessed: Mar. 31, 2021].



*Fig 3.2: Moving away from “accessibility” as an abstract principle. Courtesy of the author.*

## 2. Gaining access and using “dark” archives

I will now turn to my own experience as a publishing historian who has gained access to “dark” digital archives normally closed to the public. Publishers often treat their archives as rubbish. Fortunately, we still have a large number of records from firms such as Random House or Chatto & Windus due to two main reasons: the determination of enterprising archivists to preserve materials they thought valuable; and the incentivization of publishers who were promised prestige and financial rewards if they transferred their collections to university libraries. The pressure to preserve publishers’ records rarely came from scholars and other users. As a publishing historian, I stand on the shoulders of giants in my field: but these great scholars did little to gather the collections that made possible their own scholarship. With archivists in the driving seat, the question of access was often relegated to the “desirable” rather than “essential” criteria. At the University of Reading, for example, users need to ask Random House UK for permissions to consult archival documents, which severely restricts access. At the John Rylands Library in Manchester, large sections of the archive of Carcanet, a leading poetry publisher in the UK, are closed to the public.

The relationship between access issues and the underlying copyright, confidentiality, and privacy requirements of archives is a complicated one. In addition

to copyright restrictions,<sup>25</sup> there are at least two issues at the core of the “dark” archive situation: first, the lack of a technical infrastructure to make born-digital records available; and second, issues relating to the confidentiality or sensitivity of these documents. There are also collecting policy questions involved here, not just access and interface issues. Could researchers work with archivists and authors to define and clarify the expectations when born-digital archives are being acquired? Do researchers have a right to expect these kinds of archives to be as open as possible? What is the point of acquiring these archives if copyright and confidentiality severely restrict access or close them entirely? Even if we put aside these collecting policy questions and focus on archives already acquired, we still need more collaboration between archivists and researchers. After several years of discussions and collaborative work with archivists, I am convinced that we should move fast (and avoid breaking things). Open data respectful of privacy is possible, and the first step is to quickly build prototypes to give access to archival records.

Since the late 1970s, the John Rylands Library in Manchester has acquired the Carcanet Press archive on a yearly basis. Founded in 1969 by Michael Schmidt and Peter Jones, Carcanet moved from Oxford to Manchester in 1972. The press went on to build a diverse list, including poetry in translation and by neglected women poets. Among the distinguished writers associated with Carcanet are Elizabeth Jennings, Ted Hughes and many others. In the past three decades, the Carcanet Press archive has become hybrid: it is now composed of paper records but also emails and other born-digital documents. The vast majority of the paper archive is uncatalogued and closed to researchers; and the digital part of the collection is a “dark” archive, open only to a handful of staff.

From 2012 to 2014, Fran Baker led the Carcanet Press E-mail Preservation Project at the John Rylands Library.<sup>26</sup> The project resulted in the successful rescue and preservation of 215,000 e-mails and 65,000 attachments generated by Carcanet Press, as well as comprehensive metadata. Towards the end of the project, Fran Baker experimented with network graphs to analyze this data. She used metadata such as the person who sends the email; the person who receives the message; the time and date of the message. The first graph represents the correspondence of Michael Schmidt (the founder of Carcanet Press) “with two writers,” but we do not know who these writers are. The second graph represents “Schmidt’s network of correspondents.”<sup>27</sup> But again, we do not know the names

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25 For example, copyright is at the centre of the requirement that mandates on-premises access, e.g. web archives at the British Library and other institutions.

26 Fran Baker, E-Mails to an Editor: Safeguarding the Literary Correspondence of the Twenty-First Century at The University of Manchester Library, in: *New Review of Academic Librarianship* 21 (2/2015), 216-224, doi:10.1080/13614533.2015.1040925.

27 Baker, E-Mails to an Editor, 222.

of these correspondents. There is something else we do not know: the corpus that Fran Baker used to create these graphs. Did she use the entire Carcanet Press archive? Or a selection of it? There are a lot of missing gaps in this story, which shows that even metadata can be seen as potentially confidential.

What happens if people want access to the full text of the emails rather than just metadata? The archive is normally closed to the public. However, my AHRC grant allowed me to employ a Project Archivist for a couple of months in 2019. She was based at the Rylands Library and had access to the entire collection. In Summer 2019, she prepared a selection of 200 emails that she thought would be interesting for me to see. She then submitted the selection to Michael Schmidt, the founder of Carcanet Press, for approval. Schmidt requested that some materials be closed or redacted for confidentiality reasons. The redacted selection of emails was then sent to me as a PDF, with email attachments in a separate ZIP folder.

For archivists, only basic technical skills are necessary to provide access to emails and other born-digital archives. There is no need to build a complicated system, or to buy expensive tools. Creating a PDF is enough to allow users to see content that will be useful for their research. This is of course not perfect: as a researcher, I wish I could download thousands of emails and do some data analysis. But even a small selection of data is better than no data at all. Issues with technical infrastructure, at the core of the “dark” archive problem can be easily resolved if archivists and researchers embrace imperfection. As we have seen, a prototype inspired by design thinking is “quick and dirty” and can be improved over time, whereas a closed archive remains static and inaccessible.

Not everyone will agree that faster is always better for users. Archivists often look at the longer perspective, and will happily sacrifice instant gratification (access now) for a more sustainable and considered enjoyment in future (preservation for access by later generations). Since the 1980s, the slow movement has been advocating a cultural change toward slowing down life’s pace, and favouring quality over quantity in everything from work, food and parenting, to archival processing and research.<sup>28</sup> For advocates of this movement, it is important to do everything at the right speed. Yet, a key issue is to define what kind of speed is “right.” Even the participants of the Slow philosophy recognise that doing everything at a snail’s pace is not beneficial. Accelerating the opening up of dark archives would benefit

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28 See for example, Carl Honoré, *In Praise of Slow: How a Worldwide Movement Is Challenging the Cult of Speed*, London 2010; Maggie Berg/Barbara K. Seeber, *The Slow Professor: Challenging the Culture of Speed in the Academy*, Toronto 2018; Kimberly Christen/Jane Anderson, Toward Slow Archives, in: *Archival Science* 19 (2/2019), 87–116, doi:10.1007/s10502-019-09307-x.

the research community, and reinforce the legitimacy of archival collections at a time when libraries and cultural organisations are under attack.<sup>29</sup>

The second issue (the confidentiality and sensitivity of some born-digital documents) can also be addressed with a change of mindset. This applies to archivists, but also to researchers, who need to critically evaluate their own expectations too. Archivists were understandably nervous when they gave me access to the selected Carcanet emails. Even after redaction, emails often contain information that the sender had not intended for public release. This is particularly problematic in light of the GDPR (General Data Protection Regulation) that applies to UK and European collections. But it is essential to embrace risk and trust that researchers will make good use of the data they access. And for users, it is important to respect privacy. Each time I saw CLOSED or [.....REDACTED.....] on the PDF, I wished I could see the entire message. It reminded me of the asterisks used for censored passages in early-twentieth-century books. Yet, I also realize that I would not want people to access all of my emails. Closure and redaction are reasonable measures, as long as the user is informed of the withdrawal of information.

Many libraries and archival collections are now experimenting with new systems to make their digital collections more accessible. For example, ePADD (an open-source software developed at Stanford University) is a valuable tool to discover born-digital materials, but researchers still need to travel to Special Collections to consult relevant records. For archival repositories with limited staff time and funding, one solution is to create PDFs based on certain themes and to make them available to users after obtaining permissions. This is a low-tech solution that nearly all institutions could implement rapidly to respond to user needs. “Our users are crying out for faster access,” argued Mark Greene and Dennis Meissner in their influential article “More Product, Less Process.”<sup>30</sup> To resolve the “dark” archive problem, archivists need to start with the users and quickly work backwards. But unlocking born-digital data is not a one-way process. We need more collaboration between archivists and users. We also need more empathy: the ability to understand the concerns of archivists, and the needs of users of born-digital collections.

Design thinking is at its core a user-centered approach. Gaining access to “dark” archives is one thing, producing new knowledge is another. The selection of 200 emails that the Project Archivist prepared were generated by Carcanet during a single year (2010). Why did I choose this particular year? In 2010, the Arts sector faced major cuts following the economic crisis. For Michael Schmidt, this period brought anxiety, but also new opportunities. In October 2010, the report “Mapping Contemporary Poetry” offered an overview of the poetry sector from the

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29 See Richard Ovenden, *Burning the Books: A History of Knowledge under Attack*, Cambridge, MA, 2020.

30 Mark Greene/Dennis Meissner, *More Product, Less Process*, 235.

perspective of poetry publishers (including Carcanet and Bloodaxe). In the past, there had been many tensions between Michael Schmidt of Carcanet and Neil Astley of Bloodaxe. But the two men had decided to put aside their differences and work together. I was therefore interested in this key moment: the moment when poetry publishers united in order to survive a tough funding landscape.

The Project Archivist divided the corpus of emails into 11 sections, focusing on the Publishing Landscape; on Arts Council England; on poetry publishers (Peepal Tree; Bloodaxe); on women poets and editors (such Helen Tookey; Alison Brackenbury; Sujata Bhatt; Mimi Khalvati; Elaine Feinstein); and on Poetry in translation. It was sometimes very difficult to understand the context. For example, this is what EMAIL#20 looks like: “[.....REDACTED.....] I agree with Andrew. But I am glad the Seraglio is rewarding. I hope you wear your curly-toed slippers and as many of your veils as possible. I will be at the Book Mess on Wednesday wouldn'tyaknowit so I will miss you. We will palaver soon I hope... All best! T B.”

When I read the other emails, I understood that “TB” refers to “Teddy Bear.” EMAIL#25 was sent by the editor Helen Tookey to Michael Schmidt. She wrote: “you will be intrigued to hear that you were starring the other day as one of the characters in a strange wedding ceremony that Patrick and Rowan created in our living room between a large teddy bear and a pink panther, named for the occasion Michael Schmidt and Julie Vanberger respectively. (I have no idea where ' Julie Vanberger' came from.)”

Now, if you go back to EMAIL#24, you will find Michael Schmidt's response to Tookey: “Very pleased to be a large teddy bear! If only I'd married a pink panther!” At this point, I realized that “Teddy Bear” or “T.B.” was actually Michael Schmidt. Remember that this email correspondence is between Tookey (an editor and published poet) and Schmidt (a publisher). It tells us a lot about the tone of emails – which is of course much more informal than business letters.

What kind of methodologies did I use to analyze my corpus of Carcanet emails? The first methodology is of course close reading – because I had a limited number of emails, I could read everything and make notes on the main topics. Unsurprisingly, a key topic is the changing funding landscape in 2010. Just after the announcement for a new program on 1,000 poets working in school, Simon Thirsk of Bloodaxe wrote to Jeremy Poynting and Michael Schmidt:

“Were you surprised by the amount of money going to writer development organisations, Apples and Snakes, Etc? I think it's important for us to realise that **Literary Merit** is only one way of viewing the world. There are several other. Some philistines, bigots and Tories take a purely **Financial Merit** view: there is only merit in what sells, (I just read bestsellers, like my friends.) Others take a **Social Merit** view: the importance of poetry in education (as a useful way to test intelligence but not important in itself), in community work (self-expression, releasing neurotic thoughts, recollection).”

Here, Simon Thirsk identifies three ways to define the value of poetry: it could be based on Literary Merit, Financial Merit or Social Merit. Among these publishers, there is the impression that funding is now allocated on social merit rather than on literary merit. If you do social good, you get the funding, but if you only publish old white males, you will not get the funding, even if they are very gifted. This email is very detailed, very elaborate and is closer to a letter, and offers precious information for researchers.

In addition to close reading, there are many other things we can do with email records. First, I learned to use Gephi, using the tutorials on Martin Grandjean's website.<sup>31</sup> I prepared a spreadsheet with the list of correspondents, and their gender. I then prepared another spreadsheet with the relationships between the correspondents. Once you combine the two spreadsheets on Gephi, you can get this kind of visualizations (Fig 3.3).

Michael Schmidt is of course at the center of the network – and there are two interesting things here. First, his main correspondents are men, often older men in the publishing industry. You see a lot of green on the graph – I chose green for men, and pink for women. Among the women who are important correspondents, you see Judith Willson, who is an editor and also a published poet. Helen Tookey is not a major correspondent. Visualizations are a great way to see connections that were not obvious at first sight. But of course, it all depends on the data that you have. I had little control over the selection of Carcanet emails, and this selection of course had an impact on the visualizations.

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31 <http://www.martingrandjean.ch/>[last accessed: Mar. 31, 2021].





Fig 3.4: Frequent words in Michael Schmidt's selection of emails. Courtesy of the author.

Emails that mention funding do not mention “love” and vice versa. Of course, “love” is a way to conclude a personal email. Michael Schmidt and his correspondents almost never use the term “funding” in their personal emails. The corpus I have is a mix of personal and professional emails. It shows that like most of us, Michael Schmidt uses email for all aspects of his life. It would be very difficult to write the biography of a contemporary figure without access to their emails.

In the future, I would like to experiment with other methodologies, including sentiment analysis and artificial intelligence. Sentiment analysis has been used for Germaine Greer's archive.<sup>32</sup> Germaine Greer is of course one of the leading figures of second-wave feminism. She was born in Australia and has lived in Britain since 1964. Her archive was purchased by the University of Melbourne in 2013. It is a huge collection with more than 500-plus boxes documenting all aspects of her personal and professional life. The University of Melbourne decided to catalogue the collection at file level – which is unusual for a collection of this size. They wanted to manage risk and improve the discoverability of the collection. The entire archive has detailed file-level metadata and subject indexing. Researchers can use keywords to search the collection, but it is not the most effective method: it does not offer a sense of the archive as a whole. Keyword search tells us nothing about the trends and themes that characterize the archive. Sentiment analysis can be a very useful approach to find information with a strong affective content. Text is classified as positive or negative based on the strength of sentiment that it expresses. In the case of the Germaine Greer's archive, researchers used a tool called SentiStrength, which has an inbuilt lexicon.

Machine learning is increasingly used to identify sensitive materials in born-digital archives.<sup>33</sup> Removing sensitive information is the first step, and the next

32 Millicent Weber/Rachel Buchanan, Metadata as a Machine for Feeling in Germaine Greer's Archive, *Archives and Manuscripts* 47 (2/2019), 230-241, doi:10.1080/01576895.2019.1568266.

33 See the presentation slides at the “Archives, Access and AI” conference (London, January 2020): <https://www.poetrysurvival.com/presentation-slides-archives-access-and-ai-conference/> [last accessed: Mar. 31, 2021].

step is to give access to this data. Scholars can then use machine learning to gain more information about the context of a collection. Instead of using keyword search to discover materials, we could train machines to tell us more about the context of a collection. For example, we could learn about patterns in the correspondence of two writers, Ian McEwan<sup>34</sup> and Kazuo Ishiguro: perhaps their emails often mention science, or religion, or the university they went to: UEA. These themes could be recommended to scholars – on the model of the Amazon recommendation engine, “customers who bought also bought.”

### 3. Involving users more closely: From user-testing to design thinking in action

For researchers, collaborations with archivists are absolutely key. So far, the priority has been to secure the materials and preserve them first, before liaising with users and researchers. We now need to move the focus towards access. There are ways to do that. For example, the Wellcome Collection in London organized a workshop on born-digital archives in 2017.<sup>35</sup> And in September 2019, the British Library brought together curators, PhD students and academics (including myself) to discuss and test born-digital and “hybrid” archives. The examples of the Wellcome Collection and the British Library offer a model for other organizations interested in involving users. Although more could be done to fully apply design thinking to the case to archival collections, these two institutions are moving in the right direction.

Since 2015, the Contemporary Archives and Manuscripts division of the British Library has worked mostly with the personal born-digital archives of writers and scientists, which present multiple challenges.<sup>36</sup> Most of these born-digital files are text based, and British Library curators acquire and process them via a six-stage workflow: acquisition; capture; extracted capture; metadata extraction; migration as PDF/As; and access.

How do these workflows apply to email in particular? For example, the British Library holds the email archive of the poet Wendy Cope. This collection of around 25,000 emails is not easy to process and make accessible for several reasons. First, email is a highly distributed service: several actors are involved to accomplish end-

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34 Lise Jaillant, *From Letters to Emails: Reading Ian McEwan's Correspondence*, *TLS Online*, 21.11.2017, <https://www.the-tls.co.uk/articles/public/ian-mcewans-emails-letters/> [last accessed: Mar. 30, 2021].

35 Victoria Sloyan, *Overview of a Born-Digital Archives Access Workshop Held at Wellcome Collection*, London 2018, doi:10.6084/m9.figshare.6087194.v1.

36 See Josh Schneider et al., *Appraising, Processing, and Providing Access to Email in Contemporary Literary Archives*, in: *Archives and Manuscripts* 47 (3/2019), 305-326, doi:10.1080/01576895.2019.1622138, which includes a section on the British Library.

to-end mail exchange. Second, it is impossible to verify the authenticity of senders without universally adopted forms of digital signature verification, such as DKIM (DomainKeys Identified Mail). Third, the logic of “deliverable units” that applies to other materials does not work well with email threads.

Processing the Wendy Cope email archive involved several steps. The emails came to the Library as a .PST file stored on a USB Flash Drive. This drive was captured forensically using FTK Imager. The PST file was then converted to an .mbox file using Aid4Mail. The last step was to load the .mbox file into ePADD, an application intended to guide email archives from ingestion to access. What might the future look like? For the British Library, ePADD (or a similar tool) could be used in combination with bespoke access to metadata and raw files following request and clearance. Another option is to use emulation, which allows users to use computers similar to the donors’ machines and to interrogate email files.

The Library aims to offer full access to born-digital archives in its Manuscripts reading room, via computer terminals (not from laptops within the reading room). During the workshop’s user-testing session, participants were able to use the terminals to view and interrogate born-digital content as a pilot project. Users then answered questions on several collections, starting with the born-digital files of the writer Ronald Harwood. Due to issues with processing some of the files, not all of them were available. Is it better to include these files in the directory so that users have the complete set of digital objects available to them? Or does this inclusion detract from the experience of using the catalogue? My own recommendation was to make a note of this in the catalogue, explaining that the Library has not been able to process these files to a satisfactory level.

The next step was to turn to the OHS (Oral History Society) archive. The born-digital material in this collection was extracted from thirteen 3.5-inch floppy disks and totals 20 MB of data over 118 digital objects. Much of this born-digital material relates to the OHS Regional Network but also includes items connected with the journal, *Oral History*. Digital content from the archive can be viewed in the Manuscripts reading room, in PDF and JPEG formats. During the workshop, participants were asked to find digital objects with the same name and file extension. Why do some objects with the same name appear in different locations in the catalogue? By looking at the “Size” and “Last Modified” information, users could see that files with the same name were not necessarily identical. Indeed, the dates when the born-digital objects were “Last Modified” by the creator have been specified in the “Scope and Content” field as this may differ from the creation date of the object.

Turning to the archive of the writer Hanif Kureishi, which arrived at the British Library in 2014, users were asked to compare electronic drafts of his work in the form of Word files. The process involved switching between tabs in the browser, which seemed time-consuming and inefficient considering the fact that Word has a “Compare documents” tool. To a large extent, it replicated the experience of con-

sulting paper drafts and comparing them manually – instead of harnessing the power of digital technologies. Embracing imperfection does not mean settling for less than commonly used tools offered by MS Word and other software.

Organizing a similar workshop does not involve a lot of time or resources, and it is an excellent way to gather feedback from users. Drawing on the British Library's questionnaire, the following five sets of questions could be a starting point for other institutions interested in user-testing sessions. First, users would be asked about their experience with descriptive metadata. Is it necessary to describe the digital object in detail? Or is it feasible for researchers to use only technical metadata? The second set of questions would focus on digital surrogates (for instance, PDF/A files): does it present difficulties regarding the authenticity of the information? Third, for hybrid collections, users could be asked if they need to consult physical papers alongside born-digital files (normally, only one collection at a time can be consulted). The fourth set of questions would relate to emulation as a model of access: is it better for users to access born-digital material through an emulated model? If so, what does emulation offer that other access models do not offer? Finally, users could be asked about their preferences for visualizations rather than data sets: what would be helpful for their research?

Comparing the British Library workshop with the user-testing session organized by the Wellcome Collection two years before brings interesting insights. A key finding of the Wellcome workshop was that “many researchers have limited experience of using born-digital archives.”<sup>37</sup> Participants did not find the information easily, and they expected more guidance from archivists – particularly in terms of overview and context. This level of curation would of course be time-consuming and costly due to the huge volume of born-digital data.

At the British Library, participants (myself included) seemed equally lost. The experience of using a PC in the British Library reading room included many pain points. Although I have experience of using born-digital archives, I struggled to find the files listed on the questionnaire. The fact that I could not use my own laptop to consult the digital files made things worse. As I see it, having a detailed level of description would not necessarily make the user experience better (after all, researchers would still need to travel to the reading room and lose time trying to understand a complicated interface). What would make the user experience better would be to improve the interface giving access to files. Partnerships with UI/UX designers are urgently needed to remove pain points and lead to greater user satisfaction.

Following the 2017 workshop, the Wellcome Collection pointed out that users rarely know that some born-digital records are available, which of course results in low engagement with these materials. The Collection decided to change access

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37 Sloyan, *Overview of a Born-Digital Archives Access Workshop*, 7.

conditions. While born-digital records were previously listed as unavailable to researchers, the catalogue now states that users can contact the Collections Information Team to request access to these records. Let's take the example of the record entitled "Birmingham Children's hospital/1996 Liverpool," a 3.5-inch floppy disk containing correspondence, designs and reports. Regarding access conditions, the catalogue now states that "digital records cannot be ordered or viewed online. Requests to view digital records onsite are considered on a case-by-case basis." This wording seems designed to discourage users: not only do they need to travel onsite to view materials, they also need to convince the Collections Information Team that they have a good reason to do this research. This is reminiscent of the policy of the Bibliothèque Nationale de France, where users of web archives are asked to first come to the library for an interview.<sup>38</sup> These obstacles risk discouraging many users, leaving only a minority of determined academics and journalists who have the confidence to push for access (and the funding to travel onsite). My suggestion is to change the wording of the catalogue to make clear that users are *encouraged* to request access, and that the library welcomes such requests since an archive is meant to be used – not locked away. Collaborations between archivists and academics who study conversation analysis would lead to more inclusive language on the catalogue and finding aids, broadening the range of users of born-digital records.

Like the Wellcome Collection, the British Library does not make it easy for users to access born-digital collections. The main problem is that born-digital records are not always listed on the catalogue and finding aids. In the case of the Will Self archive, the catalogue lists the collection as "Will Self: Personal and Literary Papers." Users who download the finding aid will find no mention of any born-digital records. The collection seems to be a traditional, paper-based archive. In fact, shortly after acquiring the collection, the British Library declared:

Self's archive, like most of the contemporary archives we acquire, is a hybrid archive containing both paper and born-digital material. The collection includes his computer hard drive which holds a wealth of electronic manuscript drafts and approximately 100,000 emails along with a huge number of other files yet to be mined and identified (including downloads of his i-Tunes, which offer an intriguing line of investigation for future users of the archive).<sup>39</sup>

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38 Sara Aubry, Introducing Web Archives as a New Library Service: The Experience of the National Library of France, in: *LIBER Quarterly* 20 (2/2010), 179-199, doi:10.18352/lq.7987.

39 Will Self's Archive Acquired by the British Library - *English and Drama Blog*, 21.12.2016, <https://blogs.bl.uk/english-and-drama/2016/12/will-selfs-archive-acquired-by-the-british-library.html> [last accessed: Mar. 30, 2021].

My suggestion is to be transparent and include details about born-digital collections holdings on the catalogue and finding aids. This would achieve two main purposes: first, inform users that these materials exist; and second, make the library accountable. Since “dark” archives cannot be dark forever, the library would need to provide an approximate date when these materials could be made available (Fig 3.5).



*Fig 3.5: Three recommendations to improve access to born-digital records. Courtesy of the author.*

## Conclusion

The common purpose of these workshops was to place users at the center of the development of access to born-digital archives. As a researcher who has had access to archives that are normally closed to the public, I am convinced that this user-friendly approach is the way forward. Since 2017, I have led several international projects to bring together archivists and researchers (including Computer Scientists who specialize in AI).<sup>40</sup> A leitmotiv of the events organized as part of these projects has been the need for researchers to gain easier access to dark archives. Reflecting the priorities of the research community, the UKRI (UK Research and Innovation) Infrastructure Roadmap Progress Report (2019) states that making born-

40 “After the Digital Revolution” 2017-2018 ([www.afterthedigitalrevolution.com](http://www.afterthedigitalrevolution.com)) funded by a British Academy Rising Star award; AURA – Archives in the UK/ Republic of Ireland and AI 2020-2021 ([www.aura-network.net](http://www.aura-network.net)) funded by the AHRC and the Irish Research Council; AEOLIAN – Artificial Intelligence for Cultural Organisations ([www.aeolian-network.net](http://www.aeolian-network.net)) funded by the AHRC and the National Endowment for the Humanities.

digital archives “discoverable and accessible in a coherent fashion, in perpetuity” is a key objective.<sup>41</sup> The UK National Data Strategy (2020) also stresses the need for data to be “appropriately accessible, mobile and re-usable”<sup>42</sup> – which has an impact on researchers and other users. There is little doubt that more needs to be done to unlock archives that are currently closed to the public, and design thinking is part of the solution.

Indeed, design thinking is a productive method to solve the problems of *access* and *use* of born-digital archives. Academic and non-academic researchers should no longer take the back seat and wait for archivists to offer access. They should co-design access policies alongside archives professionals. The archival community must have a clear understanding of the needs of end users, before designing for machine-to-machine interoperability. For archivists, working closely with users is important to make a case for the relevance of their collections. It is also crucial for the archive sector to facilitate the use of innovative methodologies such as Artificial Intelligence. Not all users want to download data on their laptops and apply computer methods to produce new knowledge. Some users (myself included) favor hybrid approaches – for example combining close reading with network graphs, as explained in this chapter. But the increasing availability of AI platforms, tools and services (such as Microsoft Azure AI) will encourage a growing number of users to request access to large datasets rather than single items. Staying in touch with human users will allow archival institutions to remain relevant in an AI-dominated world.

## Bibliography

- ACKOFF, Russell L./EMERY, Fred E., *On Purposeful Systems: An Interdisciplinary Analysis of Individual And Social Behavior As a System of Purposeful Events*, New Brunswick, NJ, 1972.
- ARNOLD, John E. *Creative Engineering*, <https://stacks.stanford.edu/file/druid:jb100vs5745/Creative%20Engineering%20-%20John%20E.%20Arnold.pdf> [last accessed: Mar. 30, 2021].
- AUBRY, Sara, *Introducing Web Archives as a New Library Service: The Experience of the National Library of France*, in: *LIBER Quarterly* 20 (2/2010), 179-199, doi:10.18352/lq.7987.
- BAKER, Fran, *E-Mails to an Editor: Safeguarding the Literary Correspondence of the Twenty-First Century at The University of Manchester Library*, in: *New Re-*

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41 UKRI Infrastructure Roadmap Progress Report, 2019, see 59.

42 <https://www.gov.uk/government/publications/uk-national-data-strategy> [last accessed: April 5, 2021].

- view of Academic Librarianship 21 (2/2015), 216–224, doi:10.1080/13614533.2015.1040925.
- BERG, Maggie/SEEBER, Barbara K., *The Slow Professor: Challenging the Culture of Speed in the Academy*, Toronto 2018.
- BOLTANSKI, Luc/CHIAPELLO, Eve, *The New Spirit of Capitalism*, London 2007.
- BROWN, Tim, *Change by Design: How Design Thinking Transforms Organizations and Inspires Innovation*, New York 2019.
- Cabinet Office (UK), *Better Information for Better Government*, 18.01.2017, <https://www.gov.uk/government/publications/better-information-for-better-government> [last accessed: Mar. 30, 2021].
- CHECKLAND, Peter, Systems Thinking, in: Wendy Currie/ Bob Galliers (eds.), *Rethinking Management Information Systems: An Interdisciplinary Perspective*, Oxford 1999, 45–56.
- CHRISTEN, Kimberly/ANDERSON, Jane, *Toward Slow Archives*, in: *Archival Science* 19 (2/2019), 87–116, doi:10.1007/s10502-019-09307-x.
- CHURCHMAN, C. West, Guest Editorial: Wicked Problems, in: *Management Science* 14 (4/1967), B141–42.
- Draft Mandate: Archives by Design Working Group, <https://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupMeetingDoc&docid=34956> [last accessed: Mar. 30, 2021].
- ELLIS, Carolyn, *The Ethnographic I: A Methodological Novel about Autoethnography*, Walnut Creek, CA, 2004.
- ERWAY, Ricky, *Defining “Born Digital,”* Dublin, OH, 2010, URL: <https://www.oclc.org/content/dam/research/activities/hiddencollections/borndigital.pdf> [last accessed: April 5, 2021].
- GOLDMAN, Ben/PYATT, Timothy D., *Security Without Obscurity: Managing Personally Identifiable Information in Born-Digital Archives*, in: *Library & Archival Security* 26 (1–2/2013), 37–55, doi:10.1080/01960075.2014.913966.
- GREENE, Mark/MEISSNER, Dennis, *More Product, Less Process: Revamping Traditional Archival Processing*, in: *The American Archivist* 68 (2/2005), 208–263, doi:10.17723/aarc.68.2.c741823776k65863.
- HARRIS, Valerie/STINE, Kathryn, *Politically Charged Records: A Case Study with Recommendations for Providing Access to a Challenging Collection*, in: *The American Archivist* 74 (2/2011), 633–51, doi:10.17723/aarc.74.2.f252r28174251525.
- HONORÉ, Carl, *In Praise of Slow: How a Worldwide Movement Is Challenging the Cult of Speed*, London 2010.
- JAILLANT, Lise, *After the Digital Revolution: Working with Emails and Born-Digital Records in Literary and Publishers’ Archives*, in: *Archives and Manuscripts* 47 (3/2019), 285–304, doi:10.1080/01576895.2019.1640555.

- JAILLANT, Lise, From Letters to Emails: Reading Ian McEwan's Correspondence, TLS Online, 21.11.2017, <https://www.the-tls.co.uk/articles/public/ian-mcewans-emails-letters/> [last accessed: Mar. 30, 2021].
- KASTENHOFER, Julia/KATUU, Shadrack, Declassification: A Clouded Environment, in: *Archives and Records* 37 (2/2016), 198–224, doi:10.1080/23257962.2016.1194814.
- LARSON, Lucy, Engaging Families in the Galleries Using Design Thinking, in: *Journal of Museum Education* 42 (4/2017), 376–384, doi:10.1080/10598650.2017.1379294.
- MACLEOD, Suzanne, et al, New Museum Design Cultures: Harnessing the Potential of Design and “Design Thinking” in Museums, in: *Museum Management and Curatorship* 30 (4/2015), 314–341, doi:10.1080/09647775.2015.1042513.
- MAHEY, Mahendra, Open a GLAM Lab. Digital Cultural Heritage Innovation Labs, Doha, Qatar, 2019.
- NELSON, Harold G./STOLTERMAN, Erik, *The Design Way: Intentional Change in an Unpredictable World*, Cambridge, MA, 2014.
- OVENDEN, Richard, *Burning the Books: A History of Knowledge under Attack*, Cambridge, MA, 2020.
- SCHNEIDER, Josh, et al., Appraising, Processing, and Providing Access to Email in Contemporary Literary Archives, in: *Archives and Manuscripts* 47 (3/2019), 305–326, doi:10.1080/01576895.2019.1622138.
- SEITZ, Tim, *Design Thinking and the New Spirit of Capitalism: Sociological Reflections on Innovation Culture*, London 2020, doi:10.1007/978-3-030-31715-7.
- SJØVOLL, Espen, *Design Thinking & Innovation: Norwegian Approach*, <https://www.archivists.org.au/documents/item/1640> [last accessed: Mar. 30, 2021].
- SLOYAN, Victoria, *Overview of a Born-Digital Archives Access Workshop Held at Wellcome Collection*, London 2018, doi:10.6084/m9.figshare.6087194.v1.
- WEBER, Millicent/BUCHANAN, Rachel, Metadata as a Machine for Feeling in Germaine Greer's Archive, *Archives and Manuscripts* 47 (2/2019), 230–241, doi:10.1080/01576895.2019.1568266.
- Will Self's Archive Acquired by the British Library - English and Drama Blog, 21.12.2016, <https://blogs.bl.uk/english-and-drama/2016/12/will-selfs-archive-acquired-by-the-british-library.html> [last accessed: Mar. 30, 2021].
- YAKEL, Elizabeth/TORRES, Deborah A., AI: Archival Intelligence and User Expertise, in: *The American Archivist* 66 (1/2003), 51–78, <http://www.jstor.org/stable/40294217> [last accessed: April 5, 2021].

