learning management systems all speak to the influence of PLATO on online
learning systems. With *The Friendly Orange Glow*, Dear does not try to rewrite the
history of networked computers and the Internet; he is simply ensuring that
PLATO's inventive and passionate community members are among those whose
stories are told. Perhaps more important, Dear offers archives professionals an
insight into how best to preserve the context and the history surrounding the
development of networked computer systems: not only collecting the records of
those who designed and built them, but also gathering the stories of the ordi-
nary people who gave them content, created communities, and found meaning
through them.

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Kennesaw State University

Notes

1   Martin Campbell-Kelly, *From Airline Reservations to Sonic the Hedgehog: A History of the Software Industry*
    (Cambridge. MA: MIT Press, 2003), 23–27.

2   The Computer History Museum has a number of PLATO artifacts, including a PLATO V student
    terminal display, http://www.computerhistory.org/collections/catalog/102730891. The University of
    Illinois Archives holds archival records related to PLATO, including the PLATO user's memos and
    companion booklets, 1974–, https://archives.library.illinois.edu/archon/index.php?p=collections/
    controlcard&id=5156. The Internet Archive has archived and provides emulation playability of
    many of the lessons developed on PLATO, https://archive.org/details/softwarelibrary?and%5B%5D
    =%22control+data+corporation%22&sin=. See also the appendixes for archival sources consulted.

3   PLATO terminal emulator (PTERM) and instructional documentation are available at www.cyber1.
    org.

4   The "Acknowledgements, Interview and Oral History Sources," "Bibliography," and "Source Notes"
    appendixes are something to behold. See pages 525–80.

5   Trevor Owens, *The Theory and Craft of Digital Preservation* (Baltimore: Johns Hopkins University Press,
    2018), 72.

Archival Futures

Edited by Caroline Brown. London: Facet Publishing, 2018. 176 pp. Softcover and
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Predicting the future is a courageous, perhaps foolhardy, undertaking. A
friend of mine once proposed to write a book called "Past Futures" high-
lighting some of the more ludicrous attempts to predict the future that were
ridiculed by hindsight. Nevertheless, preparing for what the future might bring
is prudent—even if it just takes the form of trying to comprehend the changing

world around us and our place in it. To help us grapple with our possible futures, Caroline Brown, an educator and university archivist from the University of Dundee, has assembled a short, varied, but eminently readable collection of essays from an impressive range of leading international archival thinkers.

Kate Theimer opens *Archival Futures* with a rumination on the prognosis for our profession in her chapter, "It's the End of the Archival Profession as We Know It, and I Feel Fine." Technological disruption is radically transforming most, if not all, professions, including the archival profession. Witness such phenomena as artificial intelligence, the gig economy, and the explosion in and democratization of the means, volume, and speed of information creation, transmission, storage, and use. Already, machines or technologically empowered citizen archivists are carrying out much of what we used to regard as our bread-and-butter work. As Theimer argues, this can be liberating. While she asserts that smart technology should now be performing many of the more repetitive and mundane aspects of archival work, that does not mean that the role and work of archivists is being superseded—rather that the nature of our work is changing for the better. So, if high-volume tasks are now being consigned to other agents, what value can we add to society in this brave new world?

The answer lies in being more proactive and externally engaged. David Bearman, for example, told us a generation ago to embed long-term record-keeping solutions in the design and implementation of information systems to make the downstream management and use of high-value, high-volume archives both seamless and achievable.[1] Our unique skills are required now more than ever if the world is to be able to manage, trust, and make sense of the stupen-dous volume of data that our ubiquitous information systems create every day.

In chapter 2, "Whose Truth? Records and Archives as Evidence in the Era of Post-Truth and Disinformation," Luciana Duranti proposes another valuable role for today's and tomorrow's archivists—as protectors of truth. Being able to guarantee the integrity, reliability, authenticity, and trustworthiness of infor-mation has always been a core professional mission. Rumors, falsifications, and disinformation are as old as humanity. Social media, however, proliferates the means, channels, and platforms by which disinformation spreads. Add that to the dystopian realities of how big business, government, and other sinister agents "hoover up," aggregate, and analyze our personal data to use them against us. Duranti proposes computational archival science as a multidisciplinary strategy for deploying our core skills as protectors of evidence to advance the cause of truth and transparency in the "post truth" world.

Victoria Lemieux explores "The Future of Archives as Networked, Decentralised, Autonomous and Global" in chapter 3, focusing in particular on the transformative possibilities presented by blockchain technology. Best known as the technology that underpins cryptocurrencies such as Bitcoin, blockchain

stores authenticated records of transactions across distributed computers using peer-to-peer networks. Given its focus on independently guaranteeing the authenticity of records of transactions, blockchain is of obvious interest and potential utility to archivists. Will blockchain make us redundant, or could it be a "silver bullet" that helps us do our jobs in the digital, networked world? While blockchain may turn out to be a mere passing fad, it seems more likely that it will have a major impact on our world. As such, we must be prepared to engage deeply with its possibilities and work to ensure that the records stored in blockchains can be used and understood over time with an appreciation of their wider contextual meanings and relationships.

If archivists are to have any kind of future, a key question is whether that future has a place for appraisal—and, if so, how appraisal might be done. Information technology professionals, and from time to time some archivists, regularly assert that appraisal is unnecessary as we now have the means to keep everything forever. Geoffrey Yeo's chapter 4, "Can We Keep Everything?" explores this important question. Certainly, digital storage capacities have expanded exponentially, while unit storage costs have dropped exponentially. But this still does not mean that we can keep everything forever. Despite the advances mentioned above, the world's ability to create new data continues to outstrip our ability to store it all. And, while the unit costs might be heading inexorably south, the total cost of storing all these data still presents society with major challenges. Storage is just one of the costs of keeping digital records. Active management, sense-making, and preservation of the data are considerably more expensive than mere storage and must be paid for somehow.

So, what do we do? We need to change our methods and concepts of appraisal. The better way to conceive of appraisal is articulated in the international records management standard, ISO 15489:2016 and its accompanying technical report on appraisal, ISO TR 21946:2018.[2] According to these standards, appraisal is an ongoing and iterative process for determining needs for records. Once one knows what records are needed (by individuals, organizations, and/or society), one can design information and archival systems that create, capture, describe, manage, and preserve these records. This is (or at least should be) one of our core skills—and it will be of even greater value to society as it struggles to cope with our data gluts.

The aforementioned David Bearman's writing serves as a touchstone for Jenny Bunn's chapter 5, "Frames and the Future of Archival Processing." Bearman's calls in the late 1980s and early 1990s to reinvent archival methods continue to resonate today,[3] including his call to reuse metadata created within records systems and supplement it with user-contributed metadata.[4] He argued that archivists should not describe records, but rather document records-creating activity. But Bunn has her doubts. She worries about the sustainability of

an approach to archival documentation that relies on creating and maintaining systems to support separate, linked, interoperable descriptions of the various entities involved in record-making. She argues that a more realistic approach for archivists is to work as "sense-makers," extracting and rendering meaning from the vast quantities of records that we seek to preserve using the clever and scalable automated processing technologies now becoming available (pp. 72–74). Her dose of realism is welcome, and "sense-making" is undoubtedly a valuable contribution that archivists should always help to deliver. Nevertheless, I worry that if we retreat into a world of post-hoc analysis of records, then the sense we might make of those records will be muddied and muddled at best.

In Sonia Ranade's chapter 6, "Access Technologies for the Disruptive Digital Archive," digital technologies offer exciting and seemingly endless opportunities for revolutionary improvements to systems and processes for accessing and using archives. While Ranade discusses many of these opportunities, I was surprised that she ignored probably the most disruptive digital archives of recent years—WikiLeaks. Surely in a book on archival futures, something as significant as WikiLeaks, which arguably makes the access regimes of government archives completely redundant, deserves some consideration?

Australian records continuum thinking is represented in chapter 7, "Multiple Rights in Records," by Barbara Reed et al. Recordkeeping informatics combines analyses of information culture, business processes, and access needs all made possible with metadata. The model is illustrated using a hypothetical case study of recordkeeping for childhood out-of-home care. Reed et al. point to recent scandals and commissions of inquiry in Australia that highlight the tragic deficiencies in legacy recordkeeping. The argument for pursuing a recordkeeping informatics approach is strong—at least in the case of such disadvantaged children. But our ability to pursue such approaches in other situations and contexts will inevitably be constrained by the host organization's willingness to empower the subjects of the records. Where control and power are at stake in the design of records systems (and they always are), we have to engage at the political level to ensure that the rights of subjects are protected and enabled in the design of such systems.

In chapter 8, "The Accidental Archive," Michael Moss and David Thomas provide an entertaining essay arguing that, regardless of what Brewster Kahle might think, the Internet cannot be archived because it is itself an archives. Moreover, all of our archival efforts are now being captured in the "archives" that is the Internet. The focus of Moss and Thomas is metaphysical, with the unfortunate Kahle being merely a patsy for their broader thesis, which is about the ontology of the archives. In their ontology, archives are free, organic, temporal, contingent, permeable, and in a constant state of metamorphosis; not closed, absolute, privileged, and fixed.

The final chapter 9, "The End of Archival Ideas?," is the most intriguing. Craig Gauld asks if we have reached the end of archival ideas on our collective journey. He portrays the era from the 1980s through the early 2000s as the archival age of ideas, when the established (and somewhat boring and predictable) craft of archival management was both unsettled and turbo-charged with hefty doses of theory (such as postmodernism, postcustodialism, continuum theory, and an explicit concern for social justice). What was once radical and confronting is now accepted orthodoxy ("cosy consensus" he calls it on p. 142). Despite the much larger number of graduates from archival programs, where, he asks, are the new Terry Cooks, Verne Harrises, Jeanette Bastians, Eric Ketelaars, Tom Nesmiths, Sue McKemmishes, and Randall Jimersons? According to Gauld, we have reached "peak theory" (p. 147).

Despite what one might think, this is not the hand-wringing of a member of an older generation despairing at the frivolities and shortcomings of the youth of today. One cannot expect to live in a state of constant epistemological flux. Gauld cannot resist worrying whether we have stopped thinking, because "knowing has more immediate value" (p. 144). But he acknowledges that the workplace reality of today's archivists is one where funders dictate that "the market language of use and efficiencies is key whilst an ethos of managerialism strips the ethical and moral away from public services" (p. 145). Epistemological flux, however, is a luxury (perhaps a necessity) that we can afford when archival services are on an upward growth curve.

Silences and omissions are inevitable in a book such as this. The shift of the archival endeavor away from big and powerful governments toward more grassroots, community-level archiving barely rates a mention. Absent also from *Archival Futures* are views from beyond North America, the United Kingdom, and Australia. Where are the authors from Africa, Latin America, Asia, and the Pacific Islands? Even continental Europe is missing! Perhaps a volume two will be in order once some of the crystal-ball gazing in this volume proves, as is probable, to be wide of the mark?

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Notes

1 David Bearman, "Archival Strategies," *American Archivist* 58, no. 4 (1995): 380–413, https://doi.org/10.17723/aarc.58.4.pq71240520j31798.

2 International Organization for Standardization, *ISO 15489:2016 Information and Documentation—Records Management—Part 1: Concepts and Principles*; *ISO TR 21946:2018 Information and Documentation—Appraisal for Managing Records* (Geneva: International Organization for Standardization, 2018).

3 David Bearman, *Archival Methods* (Pittsburgh: Archives and Museum Informatics, 1989).

4 David Bearman, "Documenting Documentation," *Archivaria* 34 (Summer 1992): 33–49, https://archivaria.ca/index.php/archivaria/article/view/11839.