to honour its life member and secretary between 1909 and 1920, as well as a 'distinguished contributor to bibliographic guides' (see http://www.historians.org/prizes/AWARDED/LelandWinner.htm).

The SAA and AHA were blips on Leland's career radar; he was also involved with many other bodies, both national and international, usually in a key executive role. These included the Carnegie Institution, the American Council of Learned Societies, the Franklin D Roosevelt (FDR) Library Foundation and the International Committee of Historical Sciences.

For all this, it hardly matters whether Leland thought he did not qualify as an archivist or if we agree or not. We still seem unsure in the Australian Society of Archivists (ASA) today, and I know a number of senior people who have been in the National Archives of Australia for years who say, quite firmly, that they are not archivists. To be, by common historical agreement, a key player in the actual creation of a national archives and, even more significant, the conduit through which European standards and principles came to the US in the early twentieth century after the Dutch manual was translated into German is a unique combination and deserving of a profession's highest accolade. It also makes the writings on these developments far more interesting than some others that Wosh selected for republishing, such as Leland's 1908 thoughts on photography or even a 1941 paper on historians and archivists in World War I.

The anthology ends with a superb epilogue – 'Where's Waldo Now?' – in effect, a sophisticated reflection on archival history. Every paragraph carries insight. I hope, with the editor's indulgence, a quote from its last paragraph may stand as mine, too:

> In recent years, archivists have constructed a useful intellectual history of the profession. A generally accepted canon of published works has emerged, ranging from Sir Hilary Jenkinson through Theodore Schellenberg and Verne Harris, which most graduate-trained North American archivists have absorbed and digested. This intellectual history, however, largely lacks a social component. Archival history remains as much about flawed flesh-and-blood people as about disembodied theories and ideas (pp. 367–8).

Michael Piggott

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David Giaretta, *Advanced Digital Preservation*, Berlin, Springer, 2011. xxii + 510 pp. ISBN 978 3 642 16808 6. US$129.00

The editor of, and main contributor to, this book, David Giaretta, started his working life as a theoretical physicist, but has been involved in digital preservation for many years. He was a member of the panel that developed the Open Archival Information System (OAIS) in the late 1990s (now ISO 14721) and is currently Director of the Alliance for Permanent Access (APA). He directed the European Union (EU) funded CASPAR project (Cultural, Artistic and Scientific knowledge for Preservation, Access and Retrieval) 2006–2010 and is currently director of a number of other EU-funded digital preservation projects, namely, PARSE.Insight; SCIence Data Infrastructure for Preservation – with a focus on Earth Science (SCIDIP-ES); and the APARSEN Network of Excellence.

We all know the real solution to digital preservation, as the very first chapter of the book (before Part I) puts it: the really foolproof solution for digital preservation is 'MONEY … enough of it, and for an indefinite period' (p. 9). Failing that, the concepts and approaches presented in *Advanced Digital Preservation* are an important guide to establishing successful digital preservation initiatives.

The book is divided into three sections. Part I is a theoretical section and is really the core of this work, with chapters on the conceptual basis for digital preservation and a number of technical issues. An introductory scene-setting discussion of types of digital objects and threats to digital preservation is followed by a thorough investigation of the Open Archival Information System (OAIS) model (ISO 14721). The section continues with chapters containing in-depth treatment of concepts in the OAIS information model, such as 'representation information' and 'preservation description information', interspersed with more general discussions of digital preservation issues, including intelligibility of digital objects, re-use of digital objects, basic preservation strategies and a subject dear to this digital archivist's heart, authenticity. The final chapter of this section is a theoretical exercise in applying the OAIS model to the preservation of scientific data. The approach centres on a 'representation information network', ensuring that all the information necessary to understand the data in the future needs to be preserved and accrued with the data across time. Such an approach will not be new to archivists, to whom preservation of context is one of the crucial requirements for preserving records over time, whether they are analogue or digital.

Part II provides some practical examples of preserving digital objects, so as to show real-world use cases and to demonstrate the application of the theoretical approaches explained in Part I to actual preservation scenarios. The examples given demonstrate approaches involving digital objects that range from the simple to the highly complex. After a discussion of ways in which threats to digital objects can be countered, Part II continues with a detailed examination of the CASPAR project and its OAIS-based approaches for preserving digital objects from different communities. The bulk of the section following this discussion of CASPAR consists of reports on the use of various testbeds for 'accelerated lifetime' tests, in order to investigate the various preservation methodologies proposed by the CASPAR project. These testbeds include datasets collected by the European Space Agency and the United Kingdom Science and Technologies Facilities Council (STFC), which operates a number of scientific facilities across the UK, such as the Rutherford-Appleton lab near Didcot, where Giaretta has spent part of his working life. Two other testbeds involved in the testing work include a cultural heritage testbed and a testbed of contemporary performing arts data. Archivists may be surprised by the implicit view in the introductory part of the chapter on cultural heritage collections that we, as a community, consider 'that storing data on CD or DVD is good enough for its preservation!' (p. 388). This is a strange position, unless, of course, Giaretta does not class archival institutions as part of the cultural heritage domain?

Part III, the final, short section of the book, turns the discussion to some important non-technical matters necessary to ensure that the preservation strategies which are the main concern of the book have the right sort of environment within which to operate. In this part, there is an infrastructure road map setting out the sort of infrastructure needs envisioned by the CASPAR approaches and a good overview of the current work, which involves developing a trusted repository audit and certification approach – ISO/DIS16363 – with which Giaretta is also involved.

This readable and well-edited book features contributions from many of Giaretta's colleagues on the CASPAR project (both listed in the back of the book and named under each chapter heading, where appropriate) and is largely structured around the knowledge and experience gained through the project. Since the content has grown directly out of CASPAR, the focus of the work is on preserving databases, scientific data and software, rather than the document-like objects often dealt with in digital preservation articles and monographs, hence the use of the term 'advanced' in the title (p. vii). Nevertheless, the less experienced reader will find much valuable basic information about what digital preservation is and why it is necessary, as well as an excellent discussion of the functional and information models in the OAIS standard.

Much of the information in the book is unashamedly technical and not aimed at general and less experienced readers. When technical sections appear, the editor has inserted clear warnings that the non-technical reader should skip the particular chapter. This is useful and is an acknowledgement that the book is aimed at a wider audience than might be implied by its title.

The book has a long subtitle:

> 'How to preserve all kinds of digital objects' and 'OAIS: what it means and how to use it' and 'The CASPAR book' and 'everything you wanted to know about digital preservation but were afraid to ask' (p. v).

Although somewhat tongue-in-cheek, the statements indicate differing and competing views as to the aim of the work, which, even if detailed and technical, is not, by any means, 'all you wanted to know about digital preservation …', given that the subtitle explicitly places 'documents, images and web pages' (p. vii) outside its scope. Nor does the book tell the reader 'how to preserve all kinds of digital objects'.

My major reservation about this book is its very narrow focus on the CASPAR project and its outcomes. There is almost no acknowledgement of any other digital preservation projects, other than brief mentions in lists. The reader would be forgiven for assuming that CASPAR has been the only European digital preservation project of any importance. It is a particular omission (in my view) to ignore the results of the Planets project (also EU-funded over approximately the same period as CASPAR). It is as if there was nothing of note that came before, unless Giaretta has worked on it, and no need for much else, since CASPAR has solved the problem with the preservation of complex digital objects. The reader who is looking for a guide to advanced digital preservation thinking and experience, and a comprehensive description and analysis of the state of the art of digital preservation around the globe, will not find it here. That is not to deny the important contribution this book makes to advancing understanding of practical approaches to complex digital preservation problems and to dissemination of the results of the CASPAR project.

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