

years and populated with dates related to events or people of local, national and even international significance. ‘Hidden dates’ (p. 34) are mentioned and she emphasises that even the smallest detail or intersection can trigger a theme that might shine a light on the collection in a novel way. A ‘mini case study’ here relates to the author’s use of a ‘ma-shup’ technique, the intriguing idea of ‘juxtaposing collections in an exhibit with loose, tangential connections’ (p. 35). Case studies are provided throughout, including three major studies of exhibitions centred around Stonewall, slavery and Three Mile Island.

Further chapters expand on facets of the Exhibit Cycle. A chapter on policy and procedures strongly advocates embedding a section on exhibiting as a core activity in the overall mission of the institution, as well as looking at best practice around security, separation forms and item-use tracking. Chapter 6, ‘Labels, Design, and Layout’, enjoins the reader to ‘think like a designer and find a way to make your exhibits come alive’ (p. 76), and provides practical instruction on constructing professional-looking labels and experimenting with layout. Chapter 7 deals with standalone and complementary digital exhibitions, and the following chapters look at various community engagement strategies, including public programs. The final chapters suggest a number of tools for self-assessment, the final stage of Lacher-Feldman’s Exhibit Cycle.

Exhibits in Archives and Special Collections Libraries incorporates a substantial appendix with step-by-step instructions in making book supports and exhibit labels, and further ideas for case layout. Lacher-Feldman also includes a literature review by Fernanda Perrone and Flora Boros which underlines the relative paucity of publications focusing specifically on exhibiting in special collections and in particular archives. This being the case, Lacher-Feldman’s exhaustive manual undoubtedly fills a gap and will be welcomed by archivists working not only in educational institutions but also in government and private archives. Any criticisms I have of the work are small – the impact of the many photographs would have been greater had they been in colour, and the book is, perhaps inevitably, somewhat US-centric. Also, much is made of designing exhibitions around a message to be taken away by the audience, which seems, at times, an overly didactic approach.

Lacher-Feldman notes that in order to create a successful exhibition we are required to develop and deploy many of the same skills as historians, designers, writers and editors, and teachers. Rather than be intimidated, the author adopts ‘Proceed and Be Bold’ (p. 6) as her motto throughout and in this spirit provides the reader with a variety of practical skills while challenging us to consider new ways of viewing and presenting collections.

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Janet Delve and David Anderson (eds), *Preserving Complex Digital Objects*, Facet Publishing, London, 2014. 224 pp. ISBN 978 1 856049 58 0. GBP£59.95.

In Neil Grindley’s introduction to *Preserving Complex Digital Objects*, he explains that it aims to set out what is currently understood about dealing with complex digital objects and offer a broad framework for starting to manage and address relevant issues.

The book is the product of a number of symposia held in the UK in 2011–12 on different aspects of the preservation of complex objects, funded by JISC, a charitable organisation originally set up by the UK government as the Joint Information Systems Committee in the 1990s. JISC now champions and conducts research and development in the use of information and communications technology (ICT) in learning, teaching, research and administration. Formerly devoting much time to digital preservation research and information sharing, JISC is now more heavily focused on research data management and sharing for the universities and other higher education providers that make up the bulk of its members.

The Preservation of Complex Digital Objects Symposia were set up to investigate the preservation of three types of complex digital objects:

- simulations and visualisations;
- software art; and,
- gaming environments and virtual worlds.

The speakers at these events – the authors in the resulting book – came from a diverse set of backgrounds and include computer scientists, research data specialists, visual artists, academics, curators, digital humanists, gaming experts and a digital archivist.

The book is divided into six sections, starting with the ‘what’ and ‘why’ of preservation and moving through a number of perspectives on the problem; the role of institutions, tools and techniques, managing metadata and documentation, legal issues and a number of case studies. The final section, ‘Pathfinder Conclusions’, presents roadmaps for the three areas under investigation. It is also worth making particular mention of the glossary. You know you are in the world of digital preservation when you encounter an eight-page glossary almost entirely composed of acronyms. This has long been an obsession in this discipline: a catchy name that has to simultaneously stand for something (ENSURE, EPOCH, LOCKSS, KEEP, the list goes on). In this alphabet soup a reference like this glossary is a helpful thing if you want to know your SIARD from your SPEQS, or simply have something on hand for translation purposes when having conversations with digital preservation specialists.

In part 1, ‘Why and What to Preserve: Creativity Versus Preservation’, perspectives on the choices made in preserving artefacts from the creative arts, archaeology and games development are shared. It is interesting to compare these with the discussions on significant properties and ‘performance’ of digital records that have occurred in the records/archives world. Here, these considerations are extended to more anthropological ones, leading to proposals from Richard Bartle for the capture of video of people playing games, or interviews with game designers along with the games. Also familiar to archivists working with digital records, these experts struggle with issues of proprietary control over information and the loss of context when linked data sources are updated – as noted by Michael Takeo Magruder in a dense chapter of case studies on preserving digital art. Questions of what to keep, in a sense comparable with archival appraisal, are only really touched upon by Simon Biggs, in an interesting reflection on intended ephemerality in digital art making, making the preservation process redundant.

Part 2, ‘The Memory Institution/Data Archival Perspective’, includes chapters from a data archivist with the UK’s Archaeology Data Service (Jenny Mitcham), a team from the UK’s National Videogame Archive as well as an academic looking at museums’ and archives’ responses to the challenges of digital art preservation. Mitcham provides a useful set of criteria for assessing data prior to accepting it, which is essentially a combination of

appraisal and preservation planning. Here I liked her focus on ensuring re-usability and establishing clear migration paths upfront. It was also good to see Mitcham's acknowledgement that in digital preservation there is no 'one size fits all' and her emphasis on the value of open documentation. These both recognise a reality for those working in government or collecting digital archives – that you need to accept that each set of records you encounter will be different and come with a whole new set of problems to solve – and that only by collaboration can our discipline build solutions to those problems in a cost-effective way. Perla Innocenti, although speaking of digital art preservation, acknowledges the substantial work done in the archives and records community on authenticity and trustworthiness, noting the criticality of properly recorded provenance. This is one of only a small number of references in the book to work done over the past two decades on digital records preservation in the records and archives world.

Part 3 deals with approaches, practices and tools. Here we explore the challenge of preserving software, tools for special preservation challenges such as 3D, and the many ways in which metadata is critical to successful preservation activity.

The two chapters on the preservation of software were of interest because this is not typically within the stated preservation aims of government and institutional archives in Australia. Both chapters detail the '7 techniques': ranging from emulation (one of the better known approaches; software mimics the original tool and its operating environment), to 'hibernation' (preserving the knowledge so that a piece of software may be resurrected down the track) to procrastination (not recommended!). Matthews, Shaon and Conway, in examining how to measure the success of software preservation, borrow the concept of 'performance', developed by the team at the National Archives of Australia in 2002. This is not the only parallel with digital records preservation – these authors also examine the concept of authenticity; how much will a user trust that the software's provenance is uncorrupted and it operates within the parameters of its design, that its outputs are consistent with its original outputs?

In the chapters on tools and techniques, Delve, Denard and Kilbride outline discussions at the symposia on how to meet the challenges in preserving complex objects such as visualisations and simulations. Here, the issues of scale and complexity they identify would be well known to archivists working in all environments. In learning about preserving 3D digital content with the Image and Spatial Data Analysis Division (University of Illinois), it was very useful to come across their Conversion Software Registry, a very handy resource if looking for tools to create renditions of lots of formats, including the difficult 3D ones. This problem is only becoming more pressing as governments, local government and the private sector move entirely to keeping 3D models and plans in lieu of paper or scans of paper plans and schematics.

Jerome McDonough from the University of Illinois describes some of the practical obstacles faced by those preserving games (going as far back as 1962's *Spacewar!*) – including copyright infringement and the need to retain standards documentation for standards upon which games may depend. The EU-funded TIMBUS project is of interest for recordkeepers, with its emphasis on the preservation of business processes and their computing environments. Combining techniques from digital preservation, business continuity and risk management, it offers an approach to business process preservation which has many similarities with work process analysis for recordkeeping purposes. However, in defining metadata to represent the way digital 'objects' interact with these processes, TIMBUS presents a mixture of digital preservation standards (PREMIS, OAIS) and software registries. It would be interesting to see this work 'join up' with understandings of recordkeeping metadata to create a more flexible and business-centric framework.

In part 4 we are presented with a number of case studies. These are interesting, addressing preservation challenges in archaeology, feature film visual effects and 3D visualisation from the cultural sector. The overriding sense here, however, was of a variety of experts in their fields, all trying to solve the same problems that had been articulated throughout the book: documentation of context; determining what to preserve; making preservation technique choices; and, sustainability. They all seemed to have been working in isolation – a problem that the JISC symposia were perhaps set up to tackle. Part 5, ‘A Legal Perspective’, describes some of the copyright and information security issues affecting digital preservation activity.

The ‘Pathfinder Conclusions’ offered by Delve and Anderson at the conclusion of the book seek to summarise challenges and make recommendations. They separate out three categories of complex objects: visualisations and simulations; software art and digital art; and gaming and virtual worlds. However, the challenges and responses are largely compatible across all of these categories. They revolve around documenting context, tracking provenance, choosing appropriate preservation strategies and understanding the intention of the creators. The strategies are not limited to those to be carried out by memory institutions or others with a stake in longevity, but are also recommended for artists and games creators, with an understanding that it is vitally important that their preferences be accommodated.

In summary, I found *Preserving Complex Digital Objects* an interesting, if at times frustrating, read. Perhaps because it is essentially a set of proceedings from a series of events, with the editors having less control over the nature of the contributions than for another kind of text, the level at which the chapters are pitched varies significantly. So in some chapters we are given some pretty basic information on the main elements of (any) digital preservation program, while in others the author drills down into a much more advanced explanation of the issues and approaches in their area of speciality. Some of the frustration also came from the fact that there were many aspects of digital preservation relating to tests for authenticity, metadata and more discussed in this book which have been extensively researched and tested by projects such as InterPARES and others, while here they are raised as if new. We have not been doing a great job, as a profession, of ensuring that our findings, models and successes in digital preservation and recordkeeping are well understood in related disciplines such as librarianship, data archiving, games preservation and digital humanities. We should improve this if we are to pursue the collaborative approach which is recommended here and which will be essential for our continuing viability.

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Gillian Oliver and Fiorella Foscarini, *Records Management and Information Culture: Tackling the People Problem*, Facet Publishing, London, 2014. 165 pp. ISBN 978 1 856049 47 4. AUD\$109.00.

Without question, one of the biggest challenges faced by the recordkeeping profession is how to instil good practices into organisations and ensure these practices are