



Cinderella Collections come to the digital humanities ball

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Abstract:

When the Cinderella Collections reports were released, in 1996 and 1998, 256 university museums and collections in Australia were identified as needing investment to aid in transforming research and teaching. Digitisation then was a functional extension of access to physical collections; however, 20 years on, a new paradigm for digitisation is emerging. This new paradigm is driven by strategic pragmatism and scholarly coherence through collaboration in digital scholarship, redefining collections “as data”, and in the use of new technologies and methodologies.



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Introduction

When the *Cinderella Collections* reports were released, (University Museums Review Committee, 1996) and 1998 (University Museums Review Committee 1996), 256 university museums and collections in Australia were identified as needing, to put it frankly, love and attention to be able to blossom to transform teaching and research. In that era, the value of collections was seen as fundamental to university competitiveness and without action the collections would deteriorate and die.

Taking a lens of research value and research infrastructure, the potential transformative capacity of the collections was enormous: care and digital solutions could give birth to new uses and bring a princess to the research ball. What are the tools and methodologies The GLAM sector need to underpin this transformation? Are significance assessment and review processes of the 1990s enough?

The sector initially approved the use of the online environment for access to collections with what we can now see as an “old digitisation” paradigm. Our actions were to scan, metadata in detail and provide access through traditional cataloguing outputs. The approach was based on the assumption that access would be primarily through these traditional in-house resource discovery services.

What has and must change in our thinking? The paper will propose a “new digitisation” paradigm, one where we are working with scholars to develop true scholars’ portals, with rich technology such as data visualisation and geographic information systems, in an environment of radical collaboration with researchers. There are significant steps we need to take to profoundly change the cultural approach of our institutions – to move from seeking to control access to one that is truly open and brings our best approach while radically opening up access. A new digitisation paradigm involves stronger engagement and communication with key audiences (researchers that benefit directly from the improved access to the collection), the preparation of the collection material in bulk “as data” (to support data and technology intensive reuse in research tools and platforms), and new data hosting arrangements and partnerships.

The paper will outline digitisation initiatives, including the PNG works of Elizabeth Durack Clancy (approximately 400 images, most never before made available to researchers). It will reframe access, through scholars’ portals and high researcher engagement. In addition, access is reframed through releasing bulk access to a digital corpus culture and packaging it up so it can be delivered all through fast networks and big data cloud storage, movement and sharing solutions, such as CloudStor. What emerges is that the changes in culture we need to make in libraries and archives are profound. Profound, in that selection of material for digitisation is closely linked to research enquiry and outcomes (and therefore impacts) and the digitised material will be processed for analysis either in the library and archive or elsewhere, rather than viewed item by item, in a web catalogue. We are on a pathway that cannot rely on the old paradigm. Cinderella must put on new clothes to go to the digital humanities ball – this is where all the action is, and we must take on a central role working with opportunities such as the Collections as Data project.

Digitisation Paradigms

Universities and research institutions are, without doubt, rich and strong components of the knowledge era. The nature of the “knowledge industry” is one that has evolved from activities and collaboration between individuals, academic institutions, industry and the state in collaboration. The modes of research collaboration and communication have been strengthened by the systems that have been developed to store and transmit knowledge across generations. GLAM institutions (Galleries, Libraries, Archives and Museums), have been a fundamental part of this treasuring and curating of knowledge and communicating the stories of our collections for research.

The knowledge environment in which our institutions sit has seen fundamental change in the past decades. This context is important for us to consider the value of the knowledge assets that we treasure. Schwab proposes that we are now in the era of the fourth industrial revolution (2017a), marked by emerging technology breakthroughs that are based on a revolution available through technologies such as robotics, artificial intelligence, The Internet of Things, 3D printing and autonomous vehicles. Within this framework, our collections can be seen in a new light, beyond the curation and digitisation paradigms that have characterised our thinking so far, to provide a new research component.

One of the major challenges, noting that there are many, has been to see the collections in a new light, opening up a philosophical and practical insight into their potential as research infrastructure and transformative solutions.

To consider the transformative approaches that are needed, this journey begins, conceptually, with the report, *Cinderella Collections*, produced over twenty years ago by the Australian Vice Chancellors, that showed great interest in special collections – in particular museum and art collections. The paper takes a path through reviewing the significance and scope of the “special collections” in universities, the concepts of digital access and collections taking a fourth industrial revolution framework and some examples of bringing these threads together with innovative solutions.

Cinderella and Research Collections

In 1996, the Australian Vice Chancellors’ Committee, the predecessor to Universities Australia, pondered the issue of museum and gallery collections in universities. What were their concerns? These collections, as with many GLAM collections, had developed opportunistically, reflecting personal interest of donors, predilections of university employees and highly variable funding over many decades. There was recognition that these collections were important, but had not been thought of as mainstream research and teaching components and were perhaps neglected, and that in a modern university system could be or should be managed in line with international good practice.

After much thought, a project was approved by the Department of Communications and the Arts, and Australian Vice Chancellors’ Committee University Museums Committee. It was funded by the Department and Committee and administered by Macquarie University. The University’s Professor (and Vice Chancellor) Di Yerbury was in many ways not just the sponsor, but the passionate intellectual leader through the process.

As libraries and archives were considered to be in general to be more consistently and carefully managed, they were not within the scope of the study. Archives are perhaps a special case. Although University archives, along with records management, are a consistent feature of universities, research archives are few in number and of great significance and have not achieved the institutional stability and recognition of libraries across the sector.

Insights from the *Cinderella* reports for today?

First, the philosophy behind the initial report that these collections and national and international research infrastructure that need to be brought up to twenty-first century standards is significant. Without a spotlight and focus on strategic issues, the risk to collections is important in framing a national approach.

Secondly, the overall finding in the second report that there was significant growth in the sheer number of art collections in the university/higher education sector is very relevant. It is worth noting the range of significant statements: “96 collections have been reported as containing material of national significance, 60 have material of international significance; a further 26 collections were reported as having no material of national or international significance” (University Museums Project Committee 1998).

The pressures on physical spaces, curation, record creation to support access and physical collection management from these new collections are significant. In a resource-constrained environment, taking stock will mean looking to international good practice for efficient and effective solutions to create sustainable programs for our universities.

Thirdly, the report noted that universities provide a particular strategic mission context for collections, one that is different from public collections such as those in national and state GLAM institutions where the focus is on the record of the nation or state.

In summarising the impact of the reports Professor Yerbury noted:

The 1980s and 1990s were difficult decades in most parts of the world, not only for universities, but also for the collections which they housed. They spawned a new era in which success in the higher education sector depended in large part on entrepreneurial initiative, relevance, self-promotion, strategic partnering, internationalisation and use of new technologies. The Cinderella collections in Australian universities...have learnt how to exploit these factors in order to add demonstrable value to their host institutions' key functions. (Yerbury 2001, p. 67)

Reviewing the reports 15 years on, Simpson suggest that growth remains a factor, together with changing pedagogical approaches and a need for a deeper understanding of the Distributed National Collection (Simpson 2013).

Digital Opportunities: a need for a new paradigm

The philosophy of GLAM agencies in this digital flowering of access and management has been evolving. Not only do we need to consider the rebirthing of physical collections, we need to seek new skills and solutions for those “born-digital” resources (which do not need to be digitised as they commence their lives as digital objects) that are intellectually part of the collection framework for our institutions.

Evolving a complex set of principles and practical solutions has seen the enthusiasm of GLAM employees, moderated by resource constraints, develop slowly to a new pedagogy. Much more, however, needs to develop for us to take a true research view of those collections.

The first concept explored, and still the major area of publishing and focus, has been the digitisation of collections. In some ways, it has been proposed as the solution which will deliver greatest value, and as the finalisation of a collect and access paradigm.

Works and guidance abound on digitisation. Initiatives such as the Digital Public Library of Americaⁱ, Europeanaⁱⁱ, Australian Policy Onlineⁱⁱⁱ, AustLII^{iv} and Trove^v have brought remarkable access. Many of the presentations at the VALA2016 conference focused on digitisation (e.g. those of Amanda Lawrence, Nicole Kearney and Elycia Wallis, and Courtney Ruge and Tom Denison). Writers on library digitisation are considering library theory in nascent ways and producing collaborative guides (e.g. Luo, Zhou and Zhang 2004, Digital Library Federation 2017).

But if as an exercise in philosophy we put a “digital humanities” hat on and consider the nature of the fourth industrial revolution digitisation becomes more than a technical process involving standards and technical outputs. It becomes more than a “build it and they will come” i.e. Google experience.

Public Discourse

To introduce the philosophy of digitisation of collections across the sector, it is useful to review the history of discourse on digitisation, scholars’ views, and compare these to the contemporary discourse in the Australian *2016 National Research Infrastructure Roadmap*, from a research infrastructure perspective.

In the past, strategic plans, particularly in national and state GLAM institutions, have described their digitisation priorities around the importance of improving access to collections through providing a digital copy, which can be findable through catalogues and resource discover services.

A second (sometimes equally important) objective has been the preservation of physical copies, so that these no longer need to be retrieved in order to provide access.

The quintessential example used in early digitisation discourse was the Wills diary at the National Library of Australia. Burke and Wills were early Australian explorers who in 1860–61 were the first white men to transverse the continent from south to north – specifically from Melbourne to the Gulf of Carpentaria in the north. While their journey saw them face many challenges successfully, they died at Cooper Creek on the return journey.

Wills' diary, kept from 23 April to 28 June 1861, was stored in the *Dig Tree* at Cooper Creek, to which he returned to put his diary, notebook and journals in the cache for safekeeping before dying. The National Library acquired the diary in 1909. Staff at the National Library were able to recall how clear the writing was in the 1950s. Over the years when the pages were opened a small amount of carbon left the pages, resulting in a noticeable diminution of clarity and strength in the pencil writing. By reducing the physical use of the diary, digitisation contributed to its preservation, albeit in a reduced state due to use over the decades.

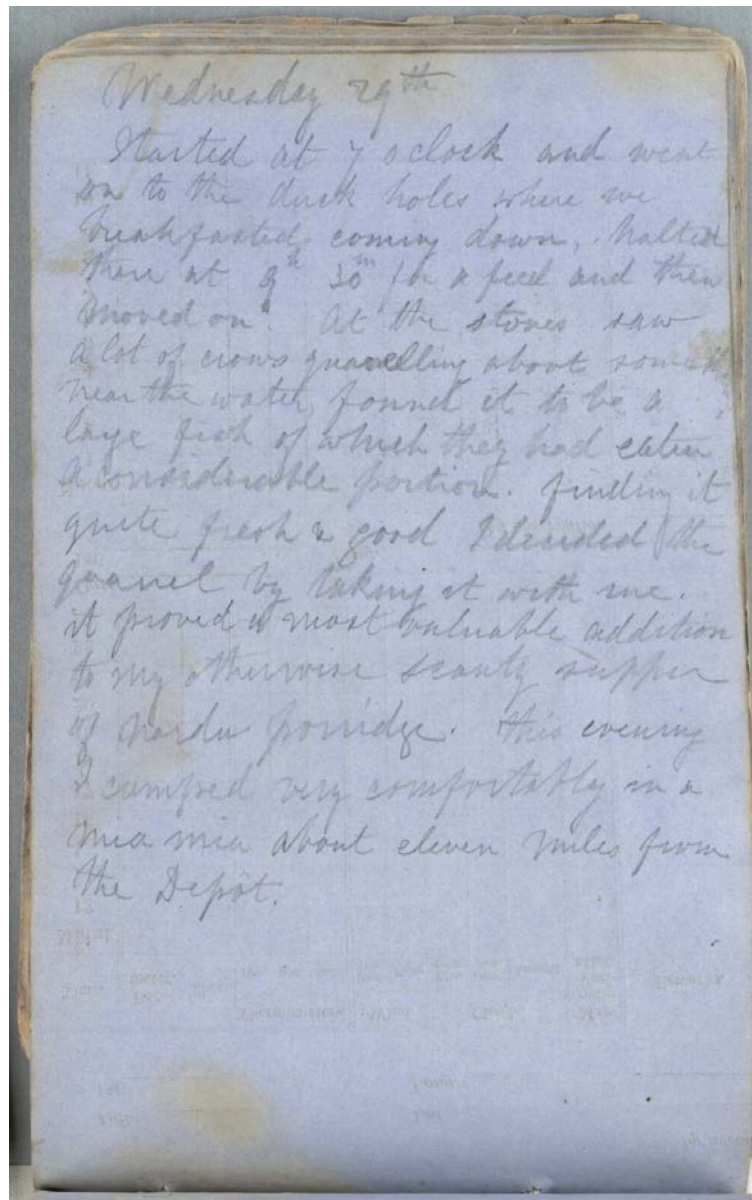


Figure 1: Digitised page from Wills' diary – Wednesday 29th May 1861

But what is the discourse of scholars on the issue of digitisation of original material? When scholars were asked in depth at the Australian National University (ANU) in 2017 about their digital identities and research lives, a number of strong themes emerged. Firstly, as a statement from Dr Benjamin Penny, Director, Australian Centre for China in the World, averred that “Digitisation is about survival not just access”.

standardisation of best practice for processes and interoperability with international research infrastructures” (Finkel, 2017 p. 36). It would be incorrect to say that the solution to all these issues is metadata.

Fundamental to considering the nature of the scholar-focused digitisation paradigm driving new industry opportunities are consideration of:

- The nature of the significance of our collections and its assessment
- Exploration of the scholar-centric information and knowledge flow
- The creative nexus between scholars and librarians and archivists and scholars
- The opportunity to unleash content in context, through initiatives such as scholarly portals
- New and more effective ways to reveal and curate our digital collections that challenge and liberate the resources through minimal separation of resources and metadata
- Opportunities to present whole collections for use and reuse through national infrastructure.

Significance

The *Cinderella* reports identified issues around the significance of collections, taking into account national and international aspects. Significance assessment has developed as a methodology to a great extent in the past several decades. Australian pioneers in this area include historian Roslyn Russell, and academics Stephen Foster and Linda Young.

Underpinning concepts assess the context of the collection broadly:

Significance means the historic, aesthetic, scientific and social values for an object or collection has for past, present and future generations (Heritage Collections Council, 2001, p. 11)

Later this was expanded and refined:

Significance refers to the values and meanings that items and collections have for people and communities. Significance helps unlock the potential of collections, creating opportunities for communities to access and enjoy collections, and to understand the history, cultures and environments of Australia (Russell and Winkworth, 2010, p. 1)

The significance concept and assessment method are transnational and “trans-collection”. The 10-step plan can be and is applied, often in relation to local history collections.

But what does that mean for digitisation? There is an argument that using the contemporary framework limits the ability to understand potential value and importance. Most metadata does not reflect, nor can it, the possible use frameworks. The use of contemporary significance assessment for selection for digitisation needs to bear in mind the relationship of whole objects to future research needs, rather than the resources for which metadata is available. Decisions are complex and need to balance current and future metadata and research significance.

An active debate also exists around what constitutes importance. Relevant factors include not just immediate use, future use is an important consideration.

Scholar-Centric Worlds

As noted above, scholars' perceptions of the nature of the digital corpus revolve to a large part around their current research interests and needs. They actively construct their own digital realms, merging parts of works, data, materials owned by different collecting institutions to meet their needs. How does our approach to digitisation address this?

GLAM institutions seek to gain some insights into need through discussions with scholars. Engagement requires a vision that is broad, but flexible. At the core of our principles has been a view that creation of digital whole items and collections constitute the framework for opening up access. There has been enthusiasm for reuse and the potential for reuse of parts is fundamental to opening up access. Reconstruction by scholars can be exciting (for example, scholarship around the White Australia policy with digitised archives maintained by the National Archives of Australia (Bagnall & Sherratt, 2017)). We are yet to embrace both taking into our collections the fragments digitised by scholars and bringing forward a flexibility that will suit the new scholarly digital world.

Nexus

This highlights the fundamental issue of the nature of the collaboration that brings together the perspectives of librarians, archivists and scholars. Librarians have focused on digitisation as a means of creating new relevancy and value in the online ecosystem. If resources can be found and accessed the problems of geography and complex rules of access are overcome. Archivists have a great critical eye for the components of collections much due to the nature of their collections. Digitisation has focused on exemplars and material that will engage and take scholars on a journey - as often as not to the doors of archives for the rich resources not yet digitised. For scholars the opportunity and engagement can bring different rewards.

The vastness of the challenge has focused the need for prioritisation for all parties. Even significant investments such as Europeana, together with GLAM investment in participating countries, have taken but a small step to opening up collections through digitisation.

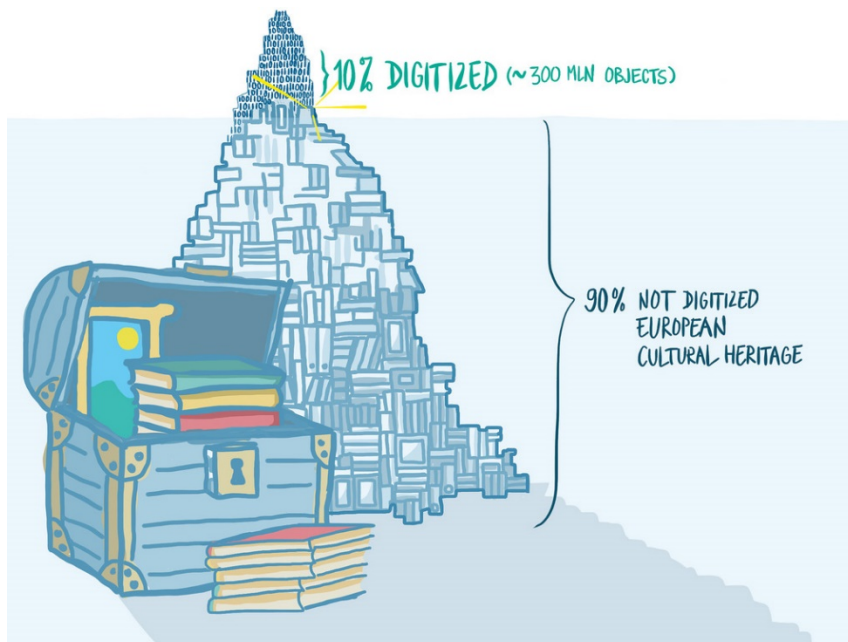


Figure 3. Elco van Staveren Europeana Digitization II ^{vi}

Establishing new means of dialogue is critical to engage in creation of new scholarly forms unleashing collection material in creative ways. The response to the roadmap suggests that the new platforms required, rather than digitisation, will springboard research for the future.

Scholarly Portal as a Model

Innovation in spaces connecting collections and scholars provides an opportunity to learn how digitisation can be transformed into scholarly services. At the Australian National University, experimentation with collaborative work with scholars has included two portals launched in 2017. The initial portal is First impressions: Elizabeth Durack, an artist in Papua and New Guinea, 1968 (<http://library-admin.anu.edu.au/collections/elizabeth-durack-collection/index.html>). Elizabeth Durack (later Durack Clancy), an eminent Australian artist, was invited by the Australian Federal Minister for Territories and Minister for External Territories to travel to Papua New Guinea (PNG) to record images of women as the nation progressed towards independence. She created insightful drawings and photographs together with observations of women, children and the environment within which these major changes were occurring. The collection of 410 works, 233 of which have never been available to researchers before, was acquired from Michael Clancy and Perpetua Durack Clancy, trustees of the estate of Elizabeth Durack. All images were made available online, together with nine detailed commentaries on the collection and its value to researchers and historians. Two commentaries are by academics, Professor Margaret Jolly and Associate Professor Chris Ballard.

Academics have identified the significance of the collection:

I'm very impressed with its completeness (of the collection) I think it's one of the more significant post-war collections by an Australian artist relating to the Pacific, and offers some very important insights into the colonial relationship between Australia and PNG in the years leading up to Independence. As you

know, we have a growing cohort of ANU scholars — staff and students — who are interested in drawing and art as forms of representation... This material would feature strongly in such an exhibition and in any publications associated with the project (a project in conjunction with the University of Sydney and the PNG National Museum and Art Gallery that will explore pictorial representations of PNG)

Associate Professor Chris Ballard, Senior Fellow, School of Culture, History & Language, ANU College of Asia and the Pacific

This was a crucial time in Australia's relations with its then dependency. The collection offers an artist's record of the country, its people and its political development. Though wide-ranging, the collection's particular female emphasis is distinctive. Aside from the collection's timeless worth (and Durack herself was a strong member of a family honoured for contributions to Australian culture) it would also be timely. Australians are increasingly exhorted to reengage with PNG and better understand our nation's past and present involvement with our closest neighbour. The role of artists such as Durack in this engagement offers great potential - as highlighted, by analogy, in the exhibition of William Dobell's PNG work at the C.S. Irwin Gallery in Sydney earlier this year.

Dr Vicki Luker, Executive Editor, The Journal of Pacific History; previously Lecturer, Pacific and Asian History, CHL, ANU College of Asia and the Pacific

The characteristics of uniqueness, contemporary research relevance, institutional alignment and extent of scholarly interest created a compelling case for the digital initiative. The resulting portal combines a technology solution including a GIS interface, digitised content and metadata retrieved dynamically from DSpace^{vii}, Drupal web technology and an area for active engagement with the wider community.

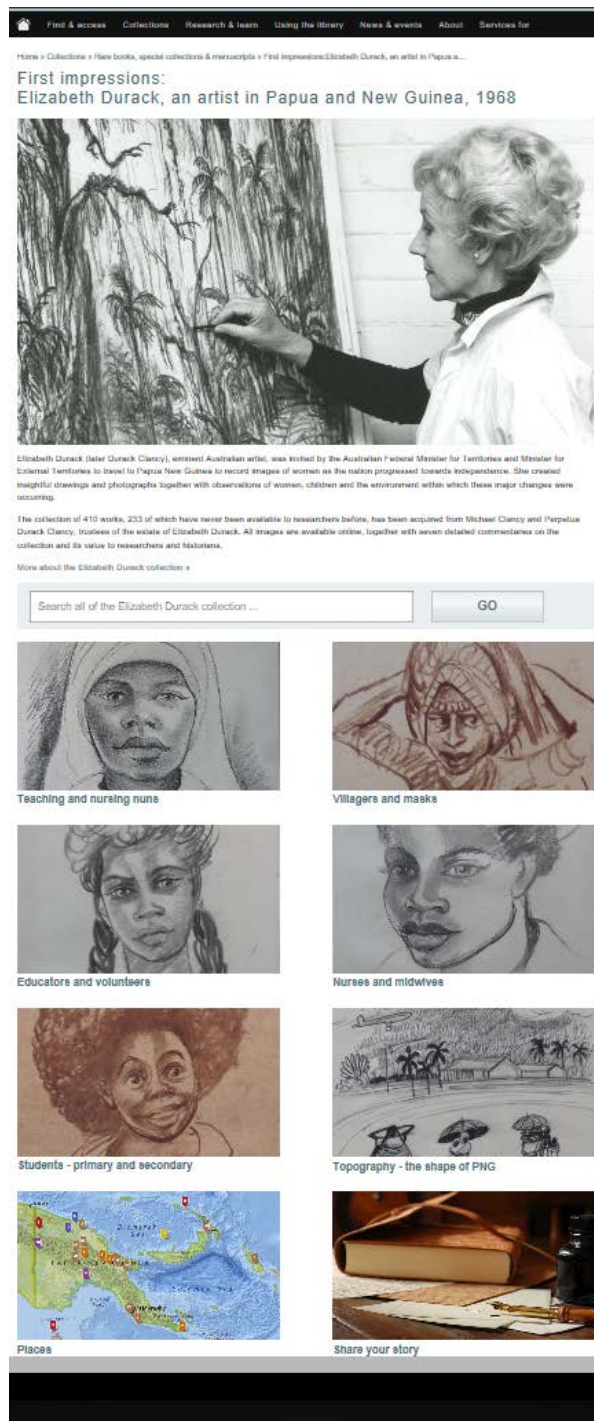


Figure 3: First impressions: Elizabeth Durack, an artist in Papua New Guinea, 1968^{viii}.

The collection offers a wealth of precious historical sources of original drawings and sketches that record the most critical phase in PNG's road to nationhood and the valuable and significant role PNG women and girls were playing in the development of their country. Elizabeth's journey into the interior of the country and her immersion into coastal communities enabled her to see first-hand the activities of PNG women. It was Elizabeth's records of her experience that provided the Australian Government with some understanding of the status and role of women in the 'colony'.

This invaluable collection of important historical sources on PNG will enable scholars across academic disciplines to research PNG women according to their own individual needs. This unique pictorial resource focuses on women at the most critical period of great change and transition from village to 'modernity'. The collection will be of particular interest to researchers interested in Australia's formal political, economic and cultural association with the people of PNG.

Liberation

A major driving force has been liberating resources from the physical barriers of their formats and construction within collections. The reuse of metadata provides an opportunity to achieve a greater value from the investment in data. Perhaps one of the more interesting issues within the scholarly portal was the fact that the critical metadata was remarkably small. The folders of the collection, curated by the artist, titles (generally including names of individuals) and place data were required for the search and display functionality.

Just as interesting is the liberation from the constraints of cultural practices and norms of our institutions. Research at Yale University (Hersey 2015 p 17-19) finds that doctoral students are greatly challenged by institutional practices in visiting other collections. The comments suggest that assuming that scholars are committed to understanding complex rules of times, copying restrictions and obtaining user cards is a relic of the twenty-first century.

Technology Transition

A transition in library and archive practice is underway that involves more than responding to changing expectations and reworking the logistics of library operations and a paradigm change in digitisation. Where collections and physical space were at the core of library and archive services, increasingly collections are enmeshed in the broader transition to user interaction with the library and archive collection using technology or through a technology layer.

As Schwab comments:

“In the end, it all comes down to people and values. We need to shape a future that works for all of us by putting people first and empowering them” (Schwab 2017b)

Digitisation Drivers

To summarise current accepted GLAM practice, digitisation is a convenience and proxy (through the use of computing technology) for physical access that has mostly replaced filming, photographing, photocopying, and microfilming. Drivers for digitisation have traditionally been:

Utilitarianism (many users want access to a digital copy or a digital version is useful in an exhibition or education program or publishing)

Preservation (a digital version of fragile physical material culture is created to perpetuate access to the content)

Opportunism (curatorial selection of material for intrinsic heritage merit or research value)

Consumerism (external investment in creating a digital version for private or public use)

These four drivers sit very closely to the core of cultural collecting practice; that is, the curator's role remains to care for and maintain the collection, anticipate need for access to collections or respond to requests for access. Requirements for collection access have however changed significantly over the last two decades and the financial reality has landed. Large physical collections will take many decades of investment to selectively convert to digital. Convenience (known ways to exploit the current collection access systems and quickly scanning and targeting material of value) has driven this decision, and the retrieval process remains very physical and inefficient.

Convenience and the call upon curatorial skills and time feature in new requirements for access to digitised collections. Manual digitisation and description processes are likely to be replaced by mass digitisation and machine learning coupled with annotation technologies and ontological mark up of content at a material level (e.g. the Venice Time Machine) and open digitisation partnerships (e.g. State Library of New South Wales). In this brave new world of machine augmented access to digital collections what impact does this have on the handing and processing of digitised collections. Collecting practitioners where investment and technology are available are tackling this problem head on.

We are yet to see the creation of Australian GLAM datasets for text, image and sound mining and annotation emerge as a broad pattern of providing access to digitised collections. However, we can see over the last decade tenacious researchers that have been doing this, e.g. AustLit^{ix}, Invisible Australians^x, the Prosecution Project^{xi}, and many more. At what point do these aggregations of digitised material, with that scholarly focus, become referenceable scholarly editions and digital scholarship? Where in GLAM collecting practices can we find information about the connection between digitisation, data handling, the corpora construction and the scholarly edition?

Data Curation

We see some exposure of this data curation and infrastructure problem space exposed through the Research Data Services, Cultures and Communities project with the Prosecution Project as the use case. At present, the data handling and movement practices, with the collation, arrangement, and batch transfer of digitised material, are not well documented or systematic. The researcher grapples with copying digitised material onto portable hard drive, using FTP services, wrestling with Application Programming Interfaces (APIs), learning to use cloud storage syncing and file sending functions, and commercial or academic networks to move this data quickly. For the future moving many data files ranging in scale from low megabytes each and amounting to 100s or 1,000s of gigabytes or occasionally terabytes, is no small task.

This terrain of GLAM collection management is ripe for stronger coordination and process improvement, so that access to GLAM data can be systematically arranged or conveniently set up for self-service. Pragmatic strategies are appearing as data and technology intensive research and recreational use of collections is growing. Data

curation skills are nascent in the GLAM landscape. Pan-European humanities research infrastructure programs and GLAM collecting communities are coming together to consider a “Cultural Heritage Data Reuse Charter”:

.. to set up principles and mechanisms for improving the use and re-use of cultural heritage data issued by cultural heritage institutions and studied and enriched by researchers. The first step in this endeavour is the definition of generic principles that CHIs and researchers could both adhere to. (CLARIAH 2017)

The mission statement outlines six principles upon which they seek to have agreements and commitments about enabling access to digital cultural heritage:

Reciprocity – to share content, knowledge and infrastructure

Interoperability – to make data accessible in forms that facilitate reuse

Citability – to make data citable to aid with visibility and impact

Openness – to licence data openly wherever possible as a priority

Stewardship – to preserve data and maintain legibility and accessibility for long term use

Trustworthiness – to build in data provenance into cultural heritage and research practice

In the United States, the Institute of Museum and Library Services, “Always Already Computational – Collections as Data” project:

...aims to foster a strategic approach to developing, describing, providing access to, and encouraging reuse of collections that support computationally-driven research and teaching including but not limited to Digital Humanities, Public History, Digital History, data driven Journalism, Digital Social Science and Digital Art History. (Collections As Data 2017)

The signs are plainly there internationally that a new digitisation paradigm needs to emerge to meet this growth in demand for access to digitised GLAM collections as inputs to research (that feed the outputs of research collected by GLAMs). The research and the data lifecycles need to spin more harmoniously and in concert.

Zwaard (2017) in her opening talk at the Collections as Data: IMPACT forum links, making collections available “as data”, to the national digitisation initiatives of the Library of Congress and the “Innovators in Residence” program.

Lastly, I want to mention... the Innovators in Residence program.... Our vision for the innovator in residence program is to bring bright minds and new blood to the library who can help create more access points to the collection.

The summary in the proposal to establish CLARIAH (Common Lab Research Infrastructure for the Arts and Humanities) in the Netherlands as large scale research infrastructure reveals how critical it is for libraries and archives to anticipate providing digitised material “as data” for research.

The availability of massive quantities of digital sources (textual, audio-visual and structured data) for research is revolutionizing the humanities. Top-quality humanities scholarship of today and tomorrow is therefore only possible with the use of sophisticated ICT tools. CLARIAH aims to offer humanities scholars a ‘Common Lab’ that provides them with access to large collections of digital resources and innovative user friendly processing tools, thus enabling them to carry out ground-breaking research to discover the nature of human culture. (van Voss 2013)

The approach to making the Durack and Tooth collections more accessible for research encompasses the development of a scholar’s portal – and – a second phase in 2018 that involves packaging the collections up “as data” in partnership with an innovative researcher and a research infrastructure provider. Libraries and archives will need to get used to new partnerships to support digital humanities research.

Are we ready to go to the ball?

The nature of digital humanities research is such that resources locked in our collections are needed more than ever before. To prosper in this networked world of technological opportunity the GLAM sector needs to take a new mindset. The creative spirit requires a new approach to risk and systemic change.

This is not a new issue:

While the study identified many examples of innovative practice from Australian organisations, Australian initiatives tend to be isolated, episodic and difficult to sustain in the long term. There were also areas where Australia is trailing international best practice, specifically concerning the digitisation and access to artworks, books and audiovisual collections, most of which require new approaches to managing copyright and other clearances. The study identified that only a few Australian GLAM organisations have made fundamental changes to their planning, structures and operations to place innovation and digital services at the core rather than as add-on activities. (Mansfield et al 2014, p. vi)

Collaboration and nexus is needed not just within the GLAM sector but beyond our boundaries with those creating scholarship. Our workflows need new APIs, liberation of digital collections as whole sets that can be harvested and reused rather than seeking single use on a needs basis.

The scholars' portal at ANU demonstrated that scholars are ready and willing to work with the GLAM sector, that a co-created research output can raise the digitised objects to a research output in itself, and that the creation of online journeys that go beyond traditional metadata can create extraordinary research experiences. It has been used in teaching and research. The Durack portal has won an ANU Vice Chancellors Innovation Award.

This is part of an international discovery:

Rendering collections as datasets benefits from an understanding of the intangible and uncertain benefits of releasing collections as data and of the barriers to uptake, ideally grounded in conversations with or prototypes for potential users. Library professionals are not used to thinking of developers as 'users' or lack the technical understanding to translate their work into benefits for more traditional audiences who may find this type of access challenging. (Ridge, 2017)

The benefits from the new approach re a collaborative ethos with greater value in terms of benefits from attracting researchers to our institutions and co-creating new scholars practices. How we work with our scholars will set the tone for new scholarship and practice. The GLAM sector is at the beginning of a road which, using the image from Durack, will see us rise above the dip.



Figure 4: Elizabeth Durack The Kassam Pass [with road sign “DIP”!] 1968.^{xii}

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ⁱⁱⁱ Australian Policy Online, <http://apo.org.au/>

^{iv} AustLII, <http://www.austlii.edu.au/>

^v Trove, <http://trove.nla.gov.au/>

^{vi} <https://www.flickr.com/photos/103454225@N06/14441368172/>

^{vii} DSpace <http://www.dspace.org/>

^{viii} <http://library-admin.anu.edu.au/collections/elizabeth-durack-collection>

^{ix} AustLit, <https://www.austlit.edu.au/>

^x Invisible Australians, <http://invisibleaustralians.org/>

^{xi} Prosecution Project, <https://prosecutionproject.griffith.edu.au/>

^{xii} <http://library-admin.anu.edu.au/collections/elizabeth-durack-collection/folders/?dimage=653uptr.jpg&folder=Topography - the shape of PNG>