

Conservation in Australian museums

by Ian Cook, Jan Lyall, Colin Pearson and Robyn Sloggett

Introduction

In Australia the concept of conservation can be traced back to 1827 when the Australian Museum in Sydney – the oldest in the country – was established to collect and preserve ‘many rare and curious specimens of Natural History’. [1] However it was not until the 1960s that conservation began to be regarded as a discipline in its own right. It is now a truly interdisciplinary profession strongly informed by cultural context, and with a major scientific element. [2]

Today the role of the conservator is integral to museum management and conservators are engaged with movable, immovable and virtual heritage collections. Many events have led to the incorporation of conservators into mainstream collections management positions. Contributing factors include research, disasters, application of the concept of significance, adoption of risk management strategy, economic factors, enhanced emphasis on access, an increase in the number of loans of important material, travelling exhibitions, and the opportunities and challenges presented by modern technology. Over 600 conservators are now employed in Australia.

Contemporary conservation is perhaps best understood in terms of the following definition:

Conservation: all actions aimed at the safeguarding of cultural material for the future. Its purpose is to study, record, retain and restore the culturally significant qualities of an object with the least possible intervention. [3]

Creating a genuine profession

Appointment of conservators

In 1953 the Art Gallery of New South Wales sent William (Bill) Boustead, then the in-house-trained assistant conservator, overseas to broaden his knowledge and experience. On his return he was appointed as conservator [4] and seven years later commenced his pioneering conservation training program.

Many of Australia’s early conservators including Alan Lloyd,[5] Ian Cook, [6] Allan Byrne, [7] and Chris Payne [8] owe their initial training to Bill Boustead. They have recounted in oral history interviews their tales of Bill’s sometimes radical approach to treatments and his unique teaching methods. Boustead put conservation on a sound footing in Australia. His opinion was respected in government circles in the national capital; when the Arno River flooded in Florence in 1966 he was sent by the Australian government to assist in the recovery process, so placing Australia firmly on the international conservation scene.

In the late 1960s and the early 1970s Boustead’s cadets moved into the workforce: four to Canberra to establish conservation programs at the National Library of Australia, the Australian War Memorial and the National Gallery of Australia. Other influential figures of the time included George Baker at the Art Gallery of South Australia, Harley Griffith, Maxwell Hall and David Lawrence at the National Gallery of Victoria, and Wallace Ambrose [9] in the Prehistory Department at The Australian National University in Canberra.

In 1970 Colin Pearson, a corrosion scientist, [10] was invited to set up the conservation laboratory of the Western Australian Museum. The initial focus of the new laboratory was the treatment of artefacts from early Dutch and colonial shipwrecks off the WA coast. Pearson had developed specialist knowledge during his time at the Materials Research Laboratories in Melbourne, where he conserved the six cannon and ballast jettisoned by James Cook during the *Endeavour's* first voyage of discovery in 1770.

The first tertiary trained conservation graduate to be appointed to an Australian museum was Susan Walston, [11] a graduate from the Institute of Archaeology at the University of London, who was appointed head of conservation at the Australian Museum by director Frank Talbot.

The increasing number of conservators was confronted with enormous problems, including lack of laboratory facilities, lack of conservation materials, and inadequate financial and human resources. Collections were poorly housed; collection managers and other staff were generally unaware of conservation procedures and did not accord appropriate recognition of conservation's importance. All of these problems were enumerated in the Pigott Committee Report. [12]

Creation of a professional organisation

The first National Seminar on Conservation of Cultural Material was held in Perth in 1973. [13] Whereas today the majority of papers at such conferences are from practising conservators, only 17 of the 52 papers presented at Perth were delivered by conservators. Moreover, there are now specialised conferences for specific types of conservation.

A major outcome of the Perth seminar was the establishment of the Institute for the Conservation of Cultural Material (ICCM) which gave conservators a voice and a sense of profession; most early council members were conservators in museums and similar organisations. An early development was the establishment of the *ICCM Bulletin*, a refereed journal, edited by Wal Ambrose and funded by the Australian National University, which established a notable national and international reputation. The Institute was incorporated in 1978 and the name changed to the Australian Institute for the Conservation of Cultural Material (AICCM).

When negotiations took place in 1990 between representatives of various museum professional associations concerning the establishment of a single industry body to represent museums, AICCM remained independent, taking the position that it represented a wider interest base covering libraries, archives, the private sector, historic places and archaeological sites as well as museums. Museums Australia was subsequently established, with some conservators joining as a special interest group. Today the AICCM has around 500 members including individuals and organisations; it has developed professional codes and charters, and is now an effective and cohesive organisation with 13 Special Interest Groups covering such topics as Antarctic heritage, books and paper, paintings, preventive conservation and conservation science.

Establishing a formal training program

Dr AEA Werner, Keeper of Conservation at the British Museum, was appointed by UNESCO in 1970 to conduct a survey of the state of conservation and the conservation needs of Australia and Papua New Guinea. [14] Werner's recommendations influenced the Pigott Committee in its Report. [15] In particular, one important recommendation, regarding the establishment of a postgraduate course to train professional conservators at a degree-granting institution, [16] developed momentum. [17]

Conservation training in Australia

The Pigott Committee's recommendation on conservation training was actively pursued by Sam Richardson, founding Principal of the Canberra College of Advanced Education, now the University of Canberra (UC). The course commenced in 1978 under the directorship of Dr Colin Pearson as the first tertiary-level program in materials conservation in the Southern Hemisphere.

In its 27-year life the course underwent many changes: a total of 367 people, including Indigenous Australians and practitioners from Southeast Asia and the Pacific, in particular New Zealand, graduated and gained employment across the broad spectrum of cultural heritage institutions in Australia and abroad. Other programs were developed and several continue.

For example, the University of New South Wales (in collaboration with the National Film and Sound Archive) offered a course focusing on film and sound archive preservation. This was established in 1996 and was transferred to the Charles Sturt University when the University of NSW wound up teaching programs in library and archival studies in 2000–2001. A Masters by coursework program at the University of Western Sydney began in 1997 and closed in 2003. The Canberra Institute of Technology program, still operating, provides training for conservation technicians mainly for the national collecting agencies in Canberra.

The closure of the University of Canberra course in 2002 resulted in a number of other universities expressing interest in developing conservation programs based generally on their experience with museum studies programs, or the fact that they taught both art history and chemistry.

In the meantime the University of Melbourne Conservation Service, directed by Associate Professor Robyn Sloggett, was approached by the University of Canberra to provide support for students who were completing the UC program. In 2004 the Centre for Cultural Materials Conservation (CCMC) established a new program at Masters level, incorporating a strong element of professional practice through teaching staff in the University's Conservation Service. [18] The first graduates of this course are now in the workforce.

In 2009 the University of Canberra re-established the degree of Bachelor of Cultural Heritage Conservation as part of the new Donald Horne Institute for Cultural Heritage launched on 30 July 2008. The conservation program works closely with the national collecting institutions in Canberra to provide the practical training component of the program.

Continued growth of the profession

Institutional conservation facilities

Throughout the 1980s Australia saw substantial growth in the number, scope and scale of both new and refurbished conservation facilities. There were major new laboratories established at the Australian War Memorial, the National Archives of Australia, the State Conservation Centre of South Australia and the National Gallery of Australia. Expansion of existing laboratories took place at the Art Gallery of NSW and the National Library of Australia. New museum facilities in Sydney, such as the Australian National Maritime Museum and the rebadged Museum of Applied Arts and Sciences as the Powerhouse Museum, created extensive conservation laboratories and workshops.

Staffing these laboratories was a challenge. Graduates from the Canberra conservation program quickly found employment and overseas conservators were recruited, such as Nathan Stalow (National Gallery of Australia), Julian Bickersteth [19] (Powerhouse

Museum), and Alan Howell [20] (State Library of NSW). All major collecting institutions now have conservation units staffed by trained conservators.

Private conservation practices and central conservation facilities

There is a long history of conservation work being outsourced by institutions to private practitioners, including artists, framers and other craftsmen. Many of these people did not always have the training or experience required, and this sometimes led to material being treated in ways that was at odds with conservation professional practice. With the increase in emerging graduates the ratio of trained conservators working privately increased with a commensurate alignment of private and institutional standards.

The majority of private restorers and conservators practising up to the mid-1980s were sole practitioners, but a major shift in the way conservation services were delivered was heralded with the opening in Adelaide in 1985 of the State Conservation Centre of South Australia (later renamed Artlab Australia, directed by Ian Cook), a government business enterprise operating in the public and private sectors. Similarly, Campbell Conservation – established in 1987 as a private company in Sydney, and officially launched as International Conservation Services (ICS) under Julian Bickersteth in 1992 – began a similar push to develop the market for a broad range of conservation services. [21] Artlab and ICS between them now employ some 50 staff, perhaps 10 per cent of conservators in Australia.

Regional programs

Owing to the widespread distribution of museums in Australia, the diversity of their size and varying levels of funding, many capital-city-based museums have offered outreach services to smaller museums. The Western Australian Museum initiated regional conservation services in the 1970s, and Karen Coote [22] and Phil Gordon at the Australian Museum in Sydney pioneered services to Indigenous communities during the 1990s.

Ideas for mobile conservation services, like those at the Canadian Conservation Institute in Ottawa, were embraced by Les Byron, one of Boustead's cadets who resigned from the Australian War Memorial to establish a mobile conservation service in the early 1970s. In 1980 the Regional Galleries Association of New South Wales, with support from the Art Gallery of NSW, employed Cathy Lillico-Thompson to provide regional conservation services. She travelled regularly, conducting basic work and transporting items requiring more extensive treatments back to the Art Gallery. [23] During the Australian Bicentennial in 1988 a fully equipped mobile conservation laboratory was constructed for the Regional Galleries Association of NSW, with funding [24] from the NSW Bicentennial Council and the National Australia Bank. The laboratory toured much of NSW and during its operation provided a great service to rural and regional NSW.

In Victoria, a regional conservation centre was established in Ballarat in the early 1980s. This was superseded by the Victorian Centre for the Conservation of Cultural Material which folded in 2002. [25] The National Library of Australia's Community Heritage Grants Scheme, initiated by Jan Lyall in 1994, continues to provide assistance to the small and regional museum sector. [26]

The Heritage Collections Committee

Conservators played a valuable role in supporting the establishment and development of the National Collections Working Group, later the Heritage Collections Committee (HCC), and its successor, the Heritage Collections Council (also HCC).

The HCC established the Conservation Working Party, later to become the Collections Management and Conservation Working Group, in 1993. Major achievements of these groups were the development of the *National Conservation and Preservation Policy for Movable Cultural Heritage* in 1995[27] and the *National Conservation and Preservation Policy and Strategy for Australia's Heritage Collections* in 1998.[28]

The 10 policy statements articulated in both the 1995 and 1998 publications provide a powerful set of overarching principles that establish foundations for developing strategies to manage national heritage collections. The principles were grounded on broad cultural issues, including community well-being, diversity and access, as well as cornerstone activities to improve and sustain the conservation of collections through intergovernmental coordination, the application of significance methodology, community awareness raising, education, and research and development. When the *Policy and Strategy* document was launched in 1998 copies were distributed widely throughout the country. It remains today as a benchmark document that offers professional frameworks for those working in and with museum collections.

The Conservation and Collection Management Working Party went on to develop a series of consultancies that resulted in important publications including *Significance*, [29] a ground-breaking publication that has been used by organisations worldwide; and the training package *re-Collections*, [30] *Be Prepared* [31] and *Guidelines for Environmental Control in Cultural Institutions*. [32]

Developments in professional practice

In the 1970s most conservation departments were little more than service components of museums with limited input to their general management. They are now integral to much of the work of museums.

Research

The reputation of conservation practice depends on the scientific research which informs it. Both Werner's 1970 UNESCO report[33] and the 1975 Pigott Report [34] recommended the establishment of a central conservation research facility. None has ever been established and opinion remains divided as to the merits of the proposal, both in respect of the conduct and the promotion of research.

Many Australian museums and other collecting institutions have active research programs and some Australian conservators have distinguished themselves internationally. Examples in traditional conservation fields include: the Western Australian Museum, in maritime archaeological conservation and marine corrosion science; the National Museum of Australia, the Australian War Memorial and the Powerhouse Museum in research on large items of technology; and the Australian Museum in its treatment of bark paintings and other Indigenous cultural items. The National Library of Australia, the National Archives of Australia and the National Film and Sound Archive are active in the newer field of digital preservation.

Cultural materials conservation is recognised by the Australian Research Council (ARC) as a high impact, interdisciplinary research area; conservators have received numerous research grants. In particular the University of Melbourne Centre for Cultural Materials Conservation (CCMC) has been successful in applying for these grants. The CCMC has also graduated conservators who have undertaken conservation study at doctoral level. In addition it is educating an increasing cohort of professionals enrolled in research higher degrees.

Minimal intervention is one of the important contemporary paradigms in the conservation profession. In the past, many items have been damaged by invasive treatments.

Classic examples of procedures no longer in use because of adverse long-term effects include the use of chloramine-T for bleaching works of art on paper, soluble nylon as a consolidant for stone, and certain acrylic polymers for consolidating pigments on bark paintings.

Research into the life cycles of museum pests, issues related to the toxicity of pesticides and staff and visitor health, and examination of damage to collections by pesticides has resulted in the widespread adoption of integrated pest management (IPM) in many museums. IPM places an emphasis on controlling and monitoring pest activity in museum environments such as storage and display spaces, and using least harmful chemicals to control pest activity. Safe alternatives to treat infested material include freezing, oxygen deprivation, and high temperatures. [35]

Research has also led to alternative means of controlling light, temperature and humidity in museums. The building of new museums and the refurbishing of existing ones saw an increased reliance on air-conditioning to provide safe, stable environments for the preservation of collections. However the expense and unreliability of many such systems has led conservators to explore the building envelope as the mechanism to buffer against adverse external conditions. Passive climate control is the term used to describe procedures relying on analysis of local climates and appropriate building strategies to minimise the reliance on full or partial air-conditioning. [36]

Disaster preparedness

Disasters placed conservation centre stage in the 1980s. The serious fire in the roof of the National Library in 1985 alerted the Australian government to the need to provide greater protection to its heritage collections. All federally funded institutions were required to develop counter-disaster plans, to implement them and to report annually on their status. Disaster preparedness has been a valuable means of integrating conservation with collections management. Developing counter-disaster plans around the country created an awareness of the need to identify the significance of collection items. [37]

Occupational health and safety

Awareness of occupational health and safety (OHS) issues was very patchy in the 1970s – some conservation laboratories practised procedures that conformed to the accepted standards of the day, but others fell dramatically short. This lack of awareness and/or lack of appropriate facilities resulted in some conservators suffering acute or chronic health damage. Examples of problems include repetitive strain injury (RSI), chronic back problems, respiratory illnesses, asthma, eczema and dermatitis.

At the same time, OHS issues barely rated a mention in conservation publications – they were usually covered in an appendix that merely listed dangerous chemicals. [38] No mention was made of how to work with these substances, nor was there any discussion of topics such as effective extraction systems, protective equipment, storage and disposal of chemical waste, the dangers of treating mouldy objects, dangers of pesticides and fumigation chemicals, safe handling procedures, or standards and regulations.

In line with more rigorous OHS requirements that have been developed across all industries, conservators are now required to have detailed relevant training. In addition they have to have knowledge of and adhere to relevant legislation, such as that for the storage of dangerous chemicals. Excellent publications that address the full spectrum of OHS issues are available. [39]

Significance assessments and risk management methodology

The use of significance assessment as a management tool for objects and collections was introduced to conservators in the late 1990s. Significance methodology in the collections sector evolved out of earlier work by Australia International Council on Monuments and Sites (ICOMOS) which developed the Burra Charter for places of cultural significance in 1979. The work of the Heritage Collections Council was instrumental in developing methodologies for museum collections.

Many museum professionals, now familiar with making significance assessments for specific items and collections, are still coming to terms with the concept of significance 'thresholds' and the specifics of its application in collections management. The concept of quantifying significance levels as an input to quantitative risk management methodology is at an early stage of development, both in Australia and internationally. Interestingly, the Australian/New Zealand Standard, Risk Management (AS/NZS 4360:2004), [40] developed by Standards Australia and Standards New Zealand, is being used both internationally and locally for conservation risk management work.

Risk management has been used in a number of conservation applications; for example, it has contributed to a relaxation of environmental standards in certain parts of museums such as those in exhibition and storage areas. The standards previously specified for relative humidity levels have been modified and fluctuations of $\pm 10\%$ RH or more are seen as an acceptable risk for some collections. [41] A risk management strategy accepts a calculated risk and an acceptable level of uncertainty. It also enables limited resources to be used more wisely. [42] The AICCM has recently set up a *Taskforce on Environmental Guidelines* to address these issues. It will report on its finding in 2011/12.

Economic factors

As a consequence of the increasing influence of financial considerations, preventive conservation occupies a more prominent role in modern day conservation than it did in the past. Such practices are generally less expensive than traditional conservation and restoration procedures. This is reflected in the *AICCM Code of Ethics and Code of Practice* (1999) which states:

The AICCM member should recognise the critical importance of preventive conservation as the most effective means of promoting the long-term preservation of cultural property. The AICCM member should provide guidelines for continuing use and care, recommend appropriate environmental conditions for storage and exhibition, and encourage proper procedures for handling, packing and transport to a level of detail as appropriate. [43]

Emphasis on access

A major recommendation of the Heritage Collections Working Group was to improve access for those living in regional Australia to the nation's cultural collections. Two developments have assisted in this regard: an increase in the number of travelling exhibitions featuring material sourced from widely dispersed institutions; and a massive expansion of digitisation activity in most institutions and the subsequent provision of free access to the resulting digital images. While a digital image is not the same as the real thing, it is becoming an accepted method of viewing collection material. Common sense decrees that not all material can or should travel, and a decision as to whether a valuable part of a collection can safely travel should only be made after a careful examination of the risks involved.

Conservators now play a vital role in managing travelling exhibitions. Decisions regarding the safety of travelling fragile objects were often contested among curators,

conservators and the senior managers of museums. Conservators on occasions assumed a right to veto the movement of works on conservation grounds, which sometimes led to conflict with other museum staff and management. On other occasions museum directors and curators found it expedient to ask conservators to provide evidence of fragility so that they could refuse the loan of specific works, thus politicising conservation practice. The adoption of clear guidelines and procedures related to loans has made this process considerably less fraught.

Digital preservation

Major Australian libraries and archives have been developing strategies for the preservation of digital material since the early 1990s. [44] For museums, awareness of born-digital preservation has been slow to develop, but increasingly born-digital material is being created by artists and is being collected by museums. For conservators the issues are twofold: preserving the information and preserving meaningful access to it. It is the latter which is the most challenging because of the need to manage frequent changes in technology.

Future directions and challenges

What are the fundamental challenges that museum conservators face in the twenty-first century? There are many, including managing technical, ethical and cultural issues, and their interrelationships. Some key challenges include:

- the complex and costly problems of caring for late twentieth and twenty-first century technological objects, from computers to machinery, vehicles, aircraft and vessels;
- the management of collections and objects broadly dispersed as a result of repatriation to originating communities, especially if this happens on a global scale;
- cultural impacts resulting from increasing community dependence on digital technologies;
- the costs of conserving collections and providing access to them in a world of global economics, fuel crises and global warming; and
- developing training models that are accessible and relevant across social and cultural communities.

The capacity of museums to manage technological objects in terms of costs and expertise represents an unprecedented challenge. Such objects not only include those that illustrate technological development, but also cover materials that constitute installations and other works of art that interpret our times.

Repatriation of collections to Indigenous and other communities will result in both positive and negative cultural and technical outcomes. The wider distribution of collections may have the potential to both increase and decrease risks related to their sustainability. Such analyses will become more complex, and the overall costs for the management of a distributed global collection will unquestionably rise. However, the politics and economics of caring for collections may be better supported across communities in the coming century because they are more widely ‘owned’.

Alternatively, as more collections are available digitally, the value of real objects for governments which have traditionally provided most of the funding for conservation may disappear. This is a debate about authenticity and significance versus substitution of the real with the virtual. It also covers the debate about virtual manipulation of images and the ethics of such practices, and the political will of the conservation profession to keep its agendas front and centre.

Will digital access increase the value of the authentic or render the original less valuable? Alternatively, will processes such as virtual repatriation of objects foster growing

support for museum collections and investment in conservation work? What are the consequences of such thinking for conservators and museums more generally? How will museums be able to justify the high costs of storing the real object versus the perceived relatively inexpensive costs of digital storage? How will art museums manage the long term preservation of digital heritage materials?

In a world faced by economic crises, diminishing fossil fuel resources and environmental challenges including climate change, will only those objects of high market value or some other popular criterion be considered to warrant costly remedial treatments? What will be the opportunities for conserving collections that sit outside national value systems or norms? What are the implications of such outcomes for, for example, social history collections versus fine art collections? Will escalating energy costs drive conservation research further towards preventive conservation solutions such as passive climate control? Will such developments prove too difficult for the profession to survive as we know it?

Nobody knows what the future will hold. The conservation profession today is concerned primarily with caring for collections in institutions and a change in the economy of any one country could impact on priorities there and elsewhere. The effects of civil unrest and natural disasters (which may or may not be a result of global warming) present immediate challenges to the preservation of cultural materials. Will the unique skills of conservators and their ability to find pragmatic solutions which are politically and economically acceptable be such as to allow museums to manage their collections effectively for the benefit of society? The Australian conservation profession, with 40 years of experience and a pool of university-trained conservators, is now in a strong position to tackle these challenges.

Footnotes

¹ A brief history of the Australian Museum www.amonline.net.au/archives/fact01.htm.

² *In an attempt to capture the recent history of the profession, the National Library of Australia has embarked on an oral history project involving interviews with a range of people who have been instrumental in shaping the conservation profession in Australia. References to specific interviews occur frequently in this chapter.*

³ Australian Institute for the Conservation of Cultural Material Inc., *Code of ethics for the practice of conservation of cultural material in Australia*, AICCM, Canberra, 1986.

⁴ Alan Lloyd, 'One hundred years of art restoration/conservation at the Art Gallery of New South Wales', *ICCM Bulletin*, vol. 7, nos 2 and 3, 1981, pp. 3–15.

⁵ Alan Lloyd, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5330, Record Id: 3296700, 4–5 November 2004.

⁶ Ian Cook, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 4795, Record Id: 1143255, 18 September 2001.

⁷ Allan Byrne, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 4843, Record Id: 23449079 26 March 2002.

⁸ Christopher Payne, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5592, Record Id: 40203832, 7 January 2006.

⁹ Wallace Raymond Ambrose, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5325, Record Id: 3296649, 15 November 2004.

¹⁰ Colin Pearson, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 4938, Record Id: 24538246, 24 and 30 April 2003.

¹¹ Susan Walston, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5329, Record Id: 3296625, 30 September 2004.

¹² Peter Pigott et al, *Museums in Australia 1975: report of the committee of inquiry on museums and national collections including the report of the planning committee on the Gallery of Aboriginal Australia*, AGPS, Canberra, 1975.

- ¹³ Cook, Byrne, Pearson, Walston, Ambrose interviews.
- ¹⁴ AEA Werner, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 4969, Record Id: 901595, 12 May 2003.
- ¹⁵ Pigott Report.
- ¹⁶ Pigott Report.
- ¹⁷ The Pigott Report noted that the Canberra College of Advanced Education had expressed interest in establishing such a course and recommended that it be established in 1977.
- ¹⁸ Robyn Sloggett, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5498-0000, Record Id: 28278729, 22 August 2005.
- ¹⁹ Julian Bickersteth, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5197, Record Id: 3229447, 20–21 July 2004.
- ²⁰ Alan Howell, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5002, Record Id: 2607498, 23 August and 1 October 2003.
- ²¹ Bickersteth interview.
- ²² Karen Coote, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5331, Record Id: 3296735, 9 November 2004.
- ²³ Catherine Lillico-Thompson, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5198, Record Id: 3240253, 20 July 2004.
- ²⁴ Lillico-Thompson interview.
- ²⁵ Jude Fraser, interviewed by Jan Lyall for the National Library of Australia's Oral History Collection, ORAL TRC 5497, Record Id: 3546701, 23 August 2005.
- ²⁶ National Library of Australia, Community Heritage Grants Scheme – www.nla.gov.au/chg.
- ²⁷ Heritage Collections Committee and Cultural Ministers Council, *National Conservation and Preservation Policy for Movable Cultural Heritage*, Canberra, 1995.
- ²⁸ Cultural Ministers Council and Heritage Collections Council, *National Conservation and Preservation Policy and Strategy: Australia's heritage collections*, Commonwealth Department of Communication and the Arts, Canberra, 1998.
- ²⁹ Roslyn Russell and Kylie Winkworth, (*significance*): a guide to assessing the significance of cultural heritage objects and collections, Heritage Collections Council, Canberra, 2001, <http://www.collectionsaustralia.net/search.php?search=significance&x=15&y=13>.
- ³⁰ Heritage Collections Council, *reCollections: caring for collections across Australia*, Heritage Collections Council, Canberra, 2000, <http://www.collectionsaustralia.net/search.php?search=reCollections&x=16&y=15>.
- ³¹ Heritage Collections Council, Söderlund Consulting Pty Ltd, *Be Prepared: guidelines for small museums for writing a disaster preparedness plan*, Commonwealth Department of Communications, Information Technology and the Arts, Canberra, 2000, <http://www.collectionsaustralia.net/search.php?search=be+prepared&x=13&y=15>.
- ³² Heritage Collections Council, *Guidelines for Environmental Control in Cultural Institutions*, Heritage Collections Council, Canberra, 2002, http://www.collectionsaustralia.net/sector_info_item/13.
- ³³ Werner, *Conservation of Cultural Property*.
- ³⁴ Pigott Report.
- ³⁵ Heritage Collections Council, *Guidelines*.
- ³⁶ Heritage Collections Council, *Guidelines*.
- ³⁷ Heritage Collections Council, *Be Prepared*; Heritage Collections Council, *Guidelines*.
- ³⁸ HJ Plenderleith and AEA Werner, *The Conservation of Antiquities and Works of Art*, Oxford University Press, 1976, pp. 356–9.
- ³⁹ American Institute for Conservation of Historic and Artistic Works of Art, Health and Safety Guides and Publications, <http://www.conservation-us.org/index.cfm?fuseaction=page.viewpage&pageid=751>; Heritage Collections Council, 2000, *reCollections*, Health and Safety, pp. 53–62, http://archive.amol.org.au/reollections/5/pdf/health_safety.pdf National Film and Sound Archive, Occupational Health and Safety, http://www.nfsa.gov.au/preservation/film_handbook/film_conservation_hazards.html
- ⁴⁰ Standards Australia and Standards New Zealand, *Risk Management: AS/NZS 4360:2004*, Standards Australia, Sydney, 2004.
- ⁴¹ Stefan Michalski, 'Relative humidity and temperature guidelines: what is happening?', *CCI Newsletter*, No. 14, September 1994, pp. 6–8.

⁴² Robert Waller and Stefan Michalski, 'Effective preservation: from reaction to prediction', *Getty Conservation Institute Newsletter*, 19.1, Spring 2004, www.getty.edu/conservation/publications/newsletters/19_1/feature.html.

⁴³ Australian Institute for the Conservation of Cultural Material and Heritage Collections Council, *Code of Ethics and Code of Practice*, AICCM, Canberra, 1999.

⁴⁴ The National Library of Australia established one of the first web archiving programmes in the world (PANDORA); and the National Archives of Australia has developed an open source tool to help preserve digital records (XENA). A large body of information is available from PADI – Preserving Access to Digital Information <http://www.nla.gov.au/padi/index.html>, which is a subject gateway to international digital preservation resources.