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MUSEUMS, MULTIMEDIA AND HISTORY EDUCATION

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Abstract

The development of digital technologies, particularly multimedia, has been a site of intense activity for museums over the past decade or so. While the impact of multimedia on museums and museum interpretation has been widely debated, their use in museum education programmes those designed against specified curriculum outcomes has received less critical attention. Multimedia have radically altered relationships between education authorities and museums, teachers and learners, the physical museum and the virtual. The Australian National Inquiry into School History, which reported in 2000, called for the increased use of the resources of museums and other cultural heritage institutions in the teaching of school history, particularly through online programmes. While this call requires renewed consideration of the distinctiveness of the museum learning environment, the Inquiry's conceptualisation of historical literacy and the pedagogical uses of new communication technologies can assist the work of museums in their response to these contested domains.

The impact of digital technology and multimedia on museums has been profound and unsettling, highlighting the complexity and variety of museums as institutions and the dynamic cultural and political domains they inhabit. During the 1980s museum policy and marketing rhetoric in many parts of the globe began to trade heavily on the arrival of new media as a sign of museum democratisation, accessibility and excitement. Digital technology, with its diverse programming outputs, underpinned a shift of resources from collections and research divisions to public programmes and display and, for some, supported an epistemological move from object to information. The use of multimedia in museums became central to a debate between advocates of a traditional museum focus on research and artefacts, and those who seek greater engagement with popular culture, media and consumption (Witcomb 2003).

The impact of digital technologies on museum education programmes has received less critical attention. Museum educators have been particularly active in using multimedia, especially web programming, to enable seamless connections between classroom teaching, student visits to museums, and unstructured or what Dierking and Falk refer to
as 'free-choice learning' (1998). On one account the 'delocalising' of educational transactions made possible by the virtual museum creates new opportunities for the construction of meaning and the development of fluid learning communities (Dillon & Prosser 2003). The pluralist emphasis of this pedagogy has been endorsed by the national inquiry into the teaching of Australian history (Taylor et al. 2000), which calls for greater use in teaching programmes of the resources of museums and other cultural heritage institutions, to enliven the subject and speak more directly to the diverse experiences of its students. A more conservative reading of the educational and civic role of museums is offered by the report of the committee appointed to review the National Museum of Australia's opening programmes, which argued for a more canonical narrative of Australia's past, accessed through the direct experience of 'numinous' objects (Review 2003, pp. 42, 68).

In this article I examine the role of multimedia in museums, with emphasis on museum education programmes. The introduction of multimedia, particularly web technologies, has strengthened the connection of museum educators with schools and the development of a community of practice (Kelly & Gordon 2002) in the area of history education. There is an extensive literature on the distinctive learning environment of the museum (Kelly 2000). Some commentators worry about museums following the 'safe path' of school-based learning, arguing instead for schools to acquire 'museum literacy'. For Castle this revolves around the work of the skilled human communicator in the museum, facilitating the negotiation of meaning through material evidence (2002). However, museums have been less adept than the school sector at articulating new relationships between multimedia and history and defending pluralism against calls for more objective modes of historical narrative. In this light, I argue that the report of the National Inquiry into School History (Taylor et al. 2000) and the work of the National Centre for History Education (NCHE) on teaching history through multimedia provides a lead in assisting museum educators to respond productively to these areas of continued controversy.
Theorising Museums and Media

With their roles of entertainment, instruction and patrimony, public museums have complex and often uneasy links to the domains of education, leisure, commerce, technology and cultural policy. Museums, and other cultural heritage institutions, have experienced dramatic changes in collection management, thematics, interpretative styles, and orientation to audiences over the past three decades or so. The development and use of multimedia has been both catalyst and outcome of these changes.

Two theoretical approaches to the development and cultural positioning of museums assist in tracing these changes and understanding the role of multimedia in museum programmes today. The first strand, taking its theoretical bearings from Foucault, connects contemporary museums with the nineteenth century liberal reform movement that located museums alongside other civic institutions as agencies of civic improvement and public instruction. Public museums advocated new forms of conduct (such as family visits) and new forms of truth, displaying collections in classificatory schema that deployed narratives of scientific advancement and national and imperial progress (Bennett 1990, 1995, 1998; Hooper-Greenhill 1990). By the late twentieth century, the influences of postcolonialism, environmentalism and cultural pluralism had thoroughly renovated museum thematics. However, new museum concerns with cultural diversity and accessibility are, for Bennett, further evidence of the governmentality of museums, new ways in which culture is brought to act on the social.

A second theoretical approach stresses the role of museums as sites of pleasure and consumption, pointing to their relationship to popular entertainment, media and tourism. The positioning of museums within popular culture and the economy, argues Witcomb, makes it increasingly difficult to articulate their role in civic reform and to perceive visitors solely as citizens (2003, pp. 6, 17). Witcomb rejects what she sees as Bennett's reduction of cultural practices to an effect of government, arguing for the agency of museum visitors and the connections between museums and 'irrational' popular culture (2003, p. 17). Rather than confine visitors to a disciplinary setting, Witcomb invokes
James Clifford's elaboration of museums as 'contact zones' and emphasises their dialogic rather than didactic qualities. Museums, argues Witcomb, are now continuous with media. This enables them to break free from associations with the nation-state, hierarchical power, and distinctive claims to knowledge through the authenticity and aura of material culture, and opens up new possibilities for democratic discourse and cultural exchange (1997). Witcomb's work draws on Walter Benjamin's theories on reproduction and authenticity, as well as the 'New Museology' writers who in the 1980s began questioning what they perceived as museums' objectivist and hegemonic representations of the social world. Multimedia, argues Witcomb, questions the status of objects in museums, introducing greater possibilities for plural narratives (1997, p. 8). Yet an increasingly mediated world, she argues, ensures the continuing relevance of the material world. The relationship between the virtual and the real, indeed, what we mean by a museum, requires re-conceptualising.

It is beyond the scope of this article to explore the complex interplay between these two theoretical positions. However, over the past two decades the digital domain has been a site where new policy interests have acted significantly on traditional museum practices; an area that has brought together new theories of public sector management, new alignments of culture, education and the economy, and new perceptions of audience interests and needs.

**Museums, Policy and Multimedia**

The revival of policy interest in Australian museums during the 1970s focused on thematics and collection management, influenced by growing interest in environmental, Indigenous and social history and concern over loss of the nation's heritage. In 1975 the Whitlam-commissioned Committee on Museums and National Collections, chaired by toy entrepreneur Peter Pigott, produced an expansive argument for the supplementation of taxonomic museum science with a more sociologically-based and human-centred approach (Committee of Inquiry on Museums and National Collections 1975). However, where the Pigott report emphasised the value of museum collections, policymakers and
museum executives in the 1980s were more inclined to focus on their costs. During this
decade, particularly through the influence of the Director of the Canadian Museum of
Civilisation (and later of Museum Victoria) George MacDonald, the museum's
communicative role was asserted. Museums were no longer seen as repositories of
objects but of information, made accessible through the new global architecture of
electronic technologies. Switching on the museum was also designed to cultivate a new
type of visitor, one seeking a high quality leisure experience as well as demanding a
higher level of visitor comfort. These shifts in perception chimed with a prevailing
climate of public sector management that favoured reduction in funding outlays and
exposure to public choice and other market-style policies. MacDonald portrayed the
effect in graphic terms:

> Collections have suddenly become something of a burden to museums. Most museum directors
> now feel like directors of geriatric hospitals whose budgets are devastated by patients whose
> survival for another day depends on expensive, high-technology support systems (cited in
> Witcomb 2003, p. 114).

This opinion echoed around the world. Museum natural scientists, emblematic of the 'old'
museum, countered by pointing to the value of taxonomy and systematics for research in
environmental change and agricultural economics and, more recently, in countering
threats posed by biological terrorism (Suarez & Tsutsui 2004). However, the suggestion
that museums should be liberated from their collections created a discursive space in
which a new relationship between museums and technology could be articulated.

The cultural policy statement Creative Nation, released in 1994 by the Commonwealth
Labor government led by Paul Keating, enthused over the strengthening connections
between culture and the information economy. Openness, diversity, pluralism and
accessibility were the policy's keywords. 'New communication technologies', asserted the
document in language that betrayed a last-minute rewriting, 'will enable Australians to
have access to cultural material which until now have been largely inaccessible. It will
enable us to experience our history and look to their future through multi-media
applications which will offer interactive access to the nation's cultural collections and
research facilities' (Commonwealth of Australia 1994, p. 69). Former Keating adviser Don Watson's account of the Keating government's plans for the National Museum of Australia provides an insight into how radically this new convergence of collections, access, and technology might shape museum forms:

...there would be no mausoleum, or any other kind of public building...we would build half of it in cyberspace and put the rest on permanent tour. A virtual museum linked to every community in the country, every school and public meeting place. It would have found favour with new information industries and old intelligentsia; it was an investment in technology as much as heritage; it combined the national with the regional, fostered a sense of national unity and greater understanding of Australia's history; it was postmodern in the best way possible-and in all this it was a perfect fit with government policy (Watson 2002, p. 134).

During the 1990s policymakers turned to emergent web technologies to improve access to collections, unite the regionally and institutionally diverse museum sector into a single professional community, and respond to earlier arguments for a more equal distribution of cultural goods (Commonwealth of Australia 1989). The most significant Australian initiative in this area was the establishment in 1995 of Australian Museums Online (AMOL) (www.amol.org.au). AMOL was proposed by the Heritage Collections Council (a State-Commonwealth ministerial council) as an electronic register of moveable cultural heritage material—a facility that, in addition to access, promised increased institutional accountability and easier administration of heritage legislation such as the Protection of Moveable Cultural Heritage Act 1986. Initially, the concept of an electronic window to the vast collection holdings not on public display sought to diffuse debate over public funding and value for money. By 2000 AMOL was envisaged as an interactive learning environment, using avatars to interrogate user subject interests and provide access to collections and interpretive material (Sumption 2000).

However, by 2005, AMOL, rebadged as Collections Australia Network (CAN), was directed to support the collection management and website infrastructure of small institutions, through the provision of free software and webpage hosting (Australian Museums and Galleries Online 2005). This renewed focus on collections management
and assistance to smaller museums reflects the importance of federal politics in the cultural sector and concern about a digital divide between large and small museums. It also suggests a renewed policy focus on the civic, educational and economic value of cultural institutions, as evidenced through volunteering, lifelong learning, and cultural tourism indices (Deakin University 2002; Scott 2002; I&I Management Services 2005).

CAN was also directed to assist with collaboration between museums, libraries, archives and galleries, reflecting new institutional alliances at professional and policy levels. The development of multimedia has contributed significantly to this convergence of interests over the past fifteen years or so, questioning the usefulness of conventional industry demarcations. This point was recognised by Museums Australia, the museum industry's professional association, when in 2002 it modified its definition of a museum to include virtual display environments and 'other entities that facilitate the preservation, continuation and management of tangible or intangible heritage resources (living heritage and digital creative activity)' (http://www.museumsaustralia.org.au/aboutus.htm).

Although libraries and archives exist in separate professional domains, they have, like museums, responded to accountability and cultural rights claims, as well as new collecting challenges, through the development of multimedia. Indeed, it should be remembered that the Australian libraries and archives sectors pioneered the use of electronic technologies as collection management and access tools within the cultural 'industry', and continue to advocate open source protocols in the face of proprietary commercial pressures (McCarthy & Evans 2002).

During the 1990s the collecting interests of the library and archive sectors broadened: from paper, sound and moving image collections to the storage and access of electronic records (Koerbin 2004). The establishment of 'museums' devoted solely to media (http://www.newseum.org/) raised further questions about institutional typology. The most significant difference between the institutional types may no longer centre on collection type but on collection interpretation. This can be illustrated by examining the issue of controversy. Where controversy has arisen recently in the library and archive sectors, it has generally been related to managerial or commercial issues-the National
Library of Australia's aborted development of the WorldOne catalogue is a suitable Australian example. Whilst not immune from administrative scrutiny, most recent and significant museum controversies have related to their programme choices and interpretive positions. These controversies have, perhaps without exception in Australia, been enacted in the physical space of the museum (Ellison 2003). Despite the expanding online presence of museums and the increasing infiltration of multimedia within museum galleries, it is not the relationship between objects and electronic media that has been contested. Rather, it is the museum's narrative and what Kohn refers to as the symbolic valency of that narrative in public spaces that is most under scrutiny (2003).

**Museum Education and Multimedia**

Museum educationists—the staff responsible for the development and provision of programmes designed to meet specified learning outcomes—operate within an area that has also witnessed significant change during the period under discussion. In particular, developments in learning theory and audience research have seen wide acceptance of the concept of informal learning and re-alignment of museum education units within broader customer and visitor service areas. While the administrative nexus between education and museums has weakened, through the transfer of major state museums from education to arts portfolios, the development of a national curriculum framework has enabled museums to supply targeted curriculum products to an education market. The large museums, archives and libraries, with their diverse collection media and in-house technological capabilities, have been well placed to respond to government requests for digital content to use in schools (Trinitas 1999). Now, increasingly sophisticated and interactive museum websites both prepare for and offer rival experiences to the physical visit (see, for example, http://www.phm.gov.au/teachersguide/).

The development of digitised educational products by cultural heritage institutions hinges on agreement on metadata standards and the arrival of online delivery capacities. During the 1990s major Australian cultural heritage institutions were actively competing with other government authorities (with, for example the New South Wales Board of Studies)
and private providers to produce CD-ROM content for education and leisure markets. Royan observed that the technology of CD-ROM products obliged delivery of 'a pre-defined experience in a completely closed environment' (2003, p. 9). The interoperability and durability of online products, underpinned by Dublin Core metadata protocols and permanent URL access, brought a capacity to update and re-use digital material (a favourable contrast to expensive and obsolete CD-ROMs gathering dust on shelves) and the flexibility to adapt new 'learning objects' to specific learning situations. An understanding of the history and operating conditions of museums suggests that it was not only the technology that created the 'closed environment'-it was also the strategic positioning of the institutions themselves. A tradition of institutional 'ownership' and careful curatorship of collections joined with new imperatives to seek audience share to emphasise the hermetic character of these efforts. However, as Royan suggests, the online environment brings increasing demands for cultural heritage institutions to put aside insular tendencies in favour of developing products with qualities described by the acronym RAID-Reusable (able to be modified in different learning environments), Accessible (can be indexed and found as needed), Interoperable (functions across platforms, hardware configurations and delivery environments) and Durable (continuing despite software and hardware changes) (Royan 2003, p.7; see also Sumption 2000).

In the late 1990s Australian education authorities expressed concern about the lack of digital content to match the significant Museums, Multimedia and History Education investment of schools in information technology, a concern also voiced in information economy policy (Trinitas 1999; National Office for the Information Economy 1998). In response, the Commonwealth and State governments, along with the New Zealand government, set up The Learning Federation (www.thelearningfederation.edu.au) to oversee development of online curriculum content. Content will eventually be accessible from a national web-based repository—an echo of AMOL's aspirations. The resources invested in this enterprise are significant-$34 million from the Commonwealth Government between 2001 and 2006, matched by state government contributions.
An example of a museum-produced Australian Studies learning object that focuses on the journey of a Vietnamese refugee boat to Australia in 1978 can be viewed at http://www.thelearningfederation.edu.au/tlf2/showMe.asp?nodeID=550#groups. This module enables learners to construct a narrative by adopting a curatorial persona and choosing objects and interpretive elements. This is an interesting example of the capacity of multimedia to assist in the re-negotiation of conventional museum relationships between museum display and viewer, yet at another level it reinforces a pattern of reliance by virtual programmes on symbols of the physical museum to structure narratives (MacDonald & Alsford 1997, p. 272; Witcomb 1997, p. 7).

In the history discipline, a substantial exercise to produce Australian web-based educational products is directed by the National Centre for History Education (an outcome of the National Inquiry into School History) through its production of a best-practice guide to history teaching (Taylor et al. 2003) and development of an online web journal at http://www.hyperhistory.org/index.php?option=displaypage&Itemid=222&op=page. NCHE has also established the History Education Network of Australia, a new professional forum which brings together history educators and the staff of cultural heritage institutions. However, the case for 'rapidly expanding' digital curriculum resources has prompted at least one manager working in a cultural heritage institution to emphasise the tensions that exist in these institutions in meeting the demands of a wide and diverse constituency (Hicks 2004).

These technological, policy and administrative developments suggest a substantial change to the production co-ordinates of museum education, the significance and limits of which have yet to be explored. The guiding presence of state education department teachers seconded to museums has been overtaken by a neo-liberal framework of national curriculum goals. A new market for online curriculum resources has opened, supported in the area of history teaching by sophisticated arguments for the use of interactive multimedia. Yet school visits to museums, now subjected to new risk assessment protocols as well as standard consideration of logistics, cost and effectiveness, remain popular. The new policy emphasis on online education calls for re-examination of the
relationship between physical visits to museums and access to museums and museum resources through websites.

**The Return of the Teacher?**

Despite the longstanding perception of museums as sites for public instruction, the conceptualisation of museums as an informal learning environment appears to have developed only around 1980 (Ramsay 1998, p. 2). Informal learning covers the educational transactions of all museum visitors: individuals, friendship and family groups (who comprise the majority of museum visitors) and school groups. The 1980s also saw the inception in Australia of audience evaluation and research, a new and powerful professional domain that combines influences from marketing, psychology and cognitive studies, communication theory and leisure research. Over the past two decades or so there has been considerable attention to the museum as an informal learning environment. Much of the research effort has focused on class visits to science museums, reflecting the early development of concerns around science communication and science literacy. The now extensive corpus of studies on child and adult learning in museums provides evidence of the unique contribution of museums to learning. In particular, studies show the persistence in the learner's memory of affective or emotional learning, the significance of kinaesthetic learning, and the importance of the social setting to the learning process (Kelly 2000).

The conceptual and practical bases of both school-based and museum learning have been strongly influenced in recent years by the work of Howard Gardner and by Deweyite notions of experiential and constructivist learning. Gardner's theory of multiple intelligences (1983) suggested both the relevance and complementarity of museum learning to classroom learning. Gardner's refusal to distinguish hierarchically between intelligences gave museum learning-particularly that oriented towards visual and kinaesthetic intelligence-renewed legitimacy and pedagogical direction. Constructivist theory rejects or at least heavily qualifies the notion of objective knowledge (suggesting that learners make meaning out of experience) and focuses research on the conditions under which learning takes place (Hein 1995, 1998).
Alongside this social construction of learning sits a second, more technologically determinist perspective on the contribution that museums can make to learning. This perspective argues for the engagement of museum pedagogy with popular culture and, observing the salience of technology in youth popular culture, argues for an approach to learning through this familiarity (see for example Beatson et al. 2003). Support for this view is found in studies which suggest that multimedia resources provide incentives to engage with or re-examine object displays, rather than serve as substitutes (Dierking & Falk 1998, p. 8). It is also found in studies which demonstrate the ability of learners, including children, to make successful learning choices in hypermedia without explicit teaching (Hall et al. 1999). However, a more critical literature connects multimedia to a longer tradition of museum interactivity, arguing that interactivity has hampered the acquisition of critical reasoning by situating viewers as passive receivers of knowledge (Hughes 2002; Witcomb 2003, p. 128). This line of thinking holds that the 'hands-on' emphasis of museum interactives has been developed more in response to a market positioning of museums as fun rather than on the basis of research findings. The limited choice and linear direction of museum interactives hampers the acquisition of metacognitive skill, or the capacity to reflect on the process of learning. However, it is important not to draw too sharp a contrast between the free and perhaps aimless wandering of the learner in hypertext, the unreflective experience offered by mechanical interactives, and visitor behaviour in gallery settings. Semper argues that physical and virtual navigation may not be wholly dissimilar. 'The public space is non-linear', says Semper, arguing that people browse with their feet, influenced by spatial cues. 'People's behavior in museums is more like sightseeing or window shopping than reading or touring' (Semper 1998, pp. 120-1).

Hein described a 'paradox' of constructivism which aptly summarises content and delivery decisions made in both museums and classrooms every day. The paradox is put roughly thus: a rich learning environment contains a variety of foci and ways of interacting and, although maximising the conditions for learning, increases the possibility
that the learner will focus on aspects that are not the prime concern of the teacher. A more didactic approach with precisely specified goals may assure concentration on a particular task, but may result in the loss of effective conditions for learning (adapted from Hein 1995, pp. 191-2). This unsettled field of inquiry suggests the continued relevance of Hein's challenge for more qualitative research to discover learning conditions in museums (Hein 1995, p. 200).

The initiatives to produce and co-ordinate Australian web-based educational products respond to debates around the amount of web-based educational products developed in isolation from one another and from an understanding of how teachers and students use web technologies (Korteweg & Trofanenko 2002). NCHE identified four problems arising from the increased use of primary sources by history teachers over the past decade:

- the 'add-on' use of sources;
- the primacy of text over other (visual, aural, artefact) sources;
- the use of primary sources at the expense of understanding secondary sources; and,
- the limits placed on 'authentic learning' by the editorial selection process (Taylor et al. 2003).

NCHE's case for developing online history teaching resources drew on an array of historiographical, pedagogical and citizenship arguments. Increasingly, NCHE argued, students used non-textual and primary sources-image, sound, artefact, physical environment, oral history-in the study of history. As well as presenting new sources of information, new communication technologies facilitate interaction with students or other interlocutors around the globe, bringing new collaborative and dialogic possibilities. Yet these possibilities alert us to the requirement for students to develop new techniques of evaluating and interrogating evidence and information, preparing them to 'engage thoughtfully with the numerous messages they encounter in their media-filled lives' (National Centre for History Education, n.d.).
Despite the emphasis on the development of online resources and the use of computers in teaching, pedagogical debates over the past few years, as evidenced by the National Inquiry into School History, have focused on the role of educationists rather than technology in the learning process. This emphasis sits alongside a wider intervention by Australian governments into school education in areas such as funding allocation, curriculum initiatives, assessment, citizenship and 'values', and teacher training.

The history inquiry echoed an important theme in recent North American and European literature about school history: history teaching must acknowledge the complex identities of students in a culturally diverse society. In its support of constructivist learning, the Inquiry acknowledged the challenge to find a 'useable past', or historical themes or episodes that speak to the experience of all learners. This is where museums which have developed interests and collecting strengths in social history, Indigenous studies, migration and cultural identity can make a particular contribution. The capacity of multimedia to present diverse primary sources within overarching narratives provides structured access to collections that may otherwise be difficult or impossible to examine, because of their geographical remoteness or fragility, for instance. Within the physical gallery setting, in particular, the capacity for multimedia to enliven a subject through an 'immersive' presentation of objects, oral histories and images, can be unique and memorable. However, the 2003 review of the National Museum of Australia's opening programmes provides an example of the difficulty of resolving conflict between pluralism and coherent narrative in the face of demands for museums to present an authoritative story.

As with multimedia, debates around pluralism, cultural diversity and national identity have been more fiercely conducted in museums than in the formal education sector, at least in the recent past. Whereas these differences can be tied back to the different political and cultural positioning of the sectors, the more adept handling in the schools education sector of controversial issues such as cultural identity and pluralism-
particularly through their articulation to wider educational outcomes and new media environments can provide important lessons for museums. At the same time, museums should stress their complementarity to school-based education, by continuing to articulate the pedagogical significance of social learning, the evidentiary role of material culture, and the importance of museums in civic discourse.

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**Additional websites**

http://www.museumsaustralia.org.au

http://www.newseum.org/


http://www.thelearningfederation.edu.au

http://www.thelearningfederation.edu.au/tlf2/showMe.asp?nodeID=550#group