

THE TWENTY-FIRST CENTURY MUSEUM: THE MUSEUM WITHOUT WALLS

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This paper explores the impact of Web 2.0 across the museum sector, focussing on research about museum visitors' use of Web 2.0, and what Web 2.0 means for museum learning and organisational change. The paper invokes the spirit of Alma Wittlin (1970) who talked about museums as flexible spaces and George Browne Goode's (1891; 1991) notion of a museum as a house full of ideas. It concludes that in order to stay connected with audiences, twenty-first century museums must be flexible, vibrant and changing spaces, houses full of ideas, and museums without walls.

THE NATURE OF MUSEUMS

George Brown Goode, ichthyologist and former Smithsonian museum administrator in the late 1800s identified that the nature of museum work is not only around knowledge creation, but knowledge generation and, ultimately, learning, as Goode stated: 'The museum likewise must, in order to perform its proper functions, contribute to the advancement of learning through the increase as well as through the diffusion of knowledge.' (1991, 337).

In this global, wired, connected and technology-driven Web 2.0 world, what will the twenty-first century museum look like? What are museum audiences doing online and how might this be translated into the ways they interact with our physical spaces? With this era of Web 2.0, social media and citizen-led information retrieval and joint problem solving, how can museums take a leading role in maintaining their authoritative voice while moving towards a more equal relationship with their users wherever they may be and however they chose to access them, especially given museums' propensity to conservatism and resistance to change?

Alma S. Wittlin identified that museums are characterised by their flexibility as '... they allow a wide gamut of differences in the use people make of them' (1970, p.2). What expectations do audiences have of museums, given new ways of learning and engagement fostered by the underlying principles of how social media works and the evolution of the human brain? What "wide gamut of differences" will future audiences make of the twenty-first century museum?

And, what does this mean for how museums are managed and structured in the future, given that, as Elaine Heumann Gurian said ‘The use of the internet will inevitably change museums. How museums respond to multiple sources of information found on the Web and who on staff will be responsible for orchestrating this change is not yet clear. The change when it comes, will not be merely technological but at its core philosophical’ (2010, 95).

WHAT IS WEB 2.0 AND SOCIAL MEDIA?

‘The term ‘Web 2.0’ (2004–present) is commonly associated with web applications that facilitate interactive information sharing, interoperability, user-centred design and collaboration on the World Wide Web’¹. Web 1.0 was seen as having a primary focus on information provision – a one-to-many model where there was little in the way of feedback, sharing and conversation (Russo et al, 2008). Seely Brown and Adler feel that the most profound impact of the internet, and Web 2.0 is ‘... its ability to support and expand the various aspects of social learning’ (2008, 18) and therefore, the ability to solve problems together (Kelly and Russo, 2010, Noveck, 2009).

It is now recognised that the web is an inherently social space (Bearman and Trant, 2008), and it is well-recognised that museum physical sites are facilitators of social learning, so the fit between museums’ physical and online social spaces is a natural one.

‘Social media is a term for the tools and platforms people use to publish, converse and share content online. The tools include blogs, wikis, podcasts, and sites to share photos and bookmarks’². An important component of social media is the idea of social networking³, which refers to ‘... online places where users can create a profile for themselves, and then socialise with others using a range of social media tools including blogs, video, images, tagging, lists of friends, forums and messaging.’⁴

Examples of social networking activities and sites include⁵:

- Creating profiles or descriptions of yourself on Facebook , LinkedIn, and eBay
- Blogging on Blogger and Wordpress
- Video sharing on YouTube
- Photo sharing on Flickr and Google Images
- Saving your favourite websites (i.e. bookmarking) on delicious and Digg

- Microblogging on Twitter
- “Living” in virtual worlds such as Second Life and Habbo Hotel through creating a virtual identity
- Instant messaging (IM) or chat features on most social network sites including MSN, Facebook and ning
- Foursquare – a geolocation application that allows you to “check in” to places, earning points and rewards and competing against your friends

WHY DO MUSEUMS NEED TO DO SOMETHING ABOUT WEB 2.0 AND SOCIAL MEDIA?

The evidence is in – people are using social media in increasing numbers, and those who visit museums participate in the social media space in greater numbers than non-visitors. It is not only a museum industry imperative however. In her book *Wiki Government*, Beth Simone Noveck (2009) outlined the Obama Open Government initiative. She notes that the Memorandum states: ‘By soliciting expertise (in which expertise is defined broadly to include both scientific knowledge and popular experience) from self-selected peers working together in groups via the Internet, it is possible to augment the know-how of full-time professionals. ... Collaboration catalyses new problem-solving strategies, in which public and private sector organisations and individual solve social problems collectively.’ (2009, xii-xiii). So, now rather than any time in history the web enables us to be able to solve these problems, problems that museums have something to say, for example climate change, biodiversity, social justice,. In future (as now), social networking will increasingly be the ways citizens will come together to solves these problems.

What does research tell us about the use of social media?

The Museum conducted some early studies during 2007 to look at the potential impacts of Web 2.0 on museum audiences: an online survey of Australians’ internet behaviour; five focus groups with adults aged 18-30; and a workshop with high school students aged 12-18 years. The aim was to understand users’ motivations and behaviour in more detail in the online, as well as physical, context (Kelly and Russo, 2008).

An online survey of 2,006 participants across eastern Australia was undertaken in November 2007 asking about the kinds of online activities they had undertaken in the previous month, as well as where they accessed the internet, how comfortable they felt with technology and demographic information. The kinds of activities Australians were engaged in mostly related to watching videos; reading customer reviews; participating in discussions; and reading blogs. These findings were further unpacked to see whether those who interact with museums online were different to general internet users. In this survey 41% (n=829) reported that they had visited a museum/gallery in the previous six months. The data from this group was separated to compare against the rest of the sample to see if there were any differences in their online behaviour showing that museum/gallery visitors participated at higher levels across all activities. Apart from using social networking sites, statistical tests revealed that these differences were highly significant across all categories.

Activity	2007 study	
	Total sample (n=2,006)	Museum/gallery visitors (n=829)
Watch a video	43%	46%
Use social networking site	34%	36%
Participate in discussion board/forum	32%	39%
Read customer rating/review	37%	48%
Read blogs	27%	34%
Tag web pages	19%	27%
Listen to podcasts	16%	23%
Use a wiki	15%	20%
Post ratings/reviews	15%	21%
Comment on blogs	13%	18%
Upload video/audio they created	12%	15%
Publish own web page	10%	13%
Publish/maintain blog	8%	9%
Use RSS feeds	8%	11%

Since these results have been published, further research into the use of social media by Museum visitors was undertaken via three surveys. The first was conducted with 174 visitors to the Museum's College Street site during January 2010, the second a more in-depth study of 169 visitors to the Museum during April/May 2010 and the final study of 1,000 Sydneysiders undertaken via an online survey.

The evidence showed that visitors to the Australian Museum were using social networks in great numbers – Facebook was the number one site they accessed usually every day and often several times a day. The larger sample of Sydneysiders also showed that Facebook was the number one social media site accessed, more so than YouTube. Respondents across all samples felt positive about their general use of technology, 63% are comfortable/extremely comfortable with technology, 31% are OK with it all and 6% find it all a bit much. 55% described themselves as early adopters of technology, 38% dabble a bit but prefer to wait and see and 7% are later adopters.

In summary, visitors to museums are more engaged in the online world than those who hadn't visited the Museum. This resonates directly with our 2007 study of museum visitors generally and their online habits, again demonstrating that those who visit museums are using these tools in greater numbers than non-visitors.

INFORMAL LEARNING IN MUSEUMS AND SOCIAL MEDIA

As Goode noted museums are not just for creating knowledge but for disseminating that knowledge. In a literature scan of why people visit museums the main reasons people gave for visiting museums was to learn – both physical and online (Kelly, 2007, Kelly and Russo, 2010). However, what does learning look like in the Web 2.0 world?

There is increasing attention being paid in the literature to learning in the digital age. The Horizons Project, established in 2002 by the New Media Consortium, looks at emerging technologies and what these mean for teaching, learning and education, and also for museums. The 2010 report (Johnson et al, 2010) highlighted the following key trends with my commentary about what these mean for museums:

- ‘People expect to be able to work, learn, and study whenever and wherever they want to.’ (2010, 4). This means visitors will learn not only in our physical spaces even though they may be in our physical spaces. They will access content from wherever they are (and it will probably not even be our content).
- ‘It does not matter where our work is stored; what matters is that our information is accessible no matter where we are or what device we choose to use.’ (2010, 4). What are museums doing to enable their collection and scientific data to be available on any platform? How are they relating the physical objects on display with information across a range of online platforms, including mobile?
- ‘The work of students is increasingly seen as collaborative by nature.’ (2010, 4). The boundaries between visitors and institutions are breaking down – how are we encouraging social learning and collaboration in both our physical and online spaces?
- ‘The role of the academy – and the way we prepare students for their future lives – is changing. It is incumbent on the academy to adapt teaching and learning practices to meet the needs of today’s learners; to emphasise critical enquiry and mental flexibility ... to connect learners to broad social issues through civic engagement; and to encourage them to apply their learning to solve large-scale complex problems.’ (2010, 4) I suggest you replace the word “academy: with “museum”! Museums have always been about engaging audiences with big issues. Visitors have expressed an interest in being challenged and having their say on controversial topics (Cameron and Kelly, 2010). What better way than to harness the power of citizens to work together solving big issues facing humanity – ones that museums have something to say about (climate change, biodiversity and social justice spring to mind)?
- ‘Digital media literacy continues its rise in importance as a key skill in every discipline and profession.’ (p.5). How are we setting ourselves up to keep abreast of these skills? How are we changing the types of skill sets we recruit to our institutions, or change the ways that we work to work within a digital world? As they go on to say ‘... digital literacy must necessarily be less about tools and more about ways of thinking and seeing, and of crafting narrative.’ (2010, 5).

The Horizon Report details the technologies to watch in next 12 months. The first is mobile computing and increasing access to Smartphones: ‘The mobile market today has nearly 4 billion subscribers, more than two-thirds of whom live in developing countries.’ (2010, 9). The second is what they term “Open content”, as more universities offer their course content online for free there is a ‘... shift in the way academics in many parts of the world are conceptualising education to a view that it is more about the process of learning than the information conveyed in their courses. Information is everywhere; the challenge is to make effective use of it.’ (2010, 13) and museums can learn from this too.

The technologies to watch in next 2-3 years according to Horizon include electronic books, which will become easier to access, will lessen the environmental footprint and allow the individual to repurpose content in new forms. The other is Simple Augmented Reality (AR), with this technology being now easier to access even on a mobile device: ‘Applications that convey information about a place open the door to discovery-based learning.’ (2010, 22).

What are teachers saying about the internet and learning and museums?

In November 2009 the Australian Museum held *Web to Classroom* workshops with primary and secondary teachers⁶. The aim was to find out how teachers are using the internet in their classrooms and how we can work more closely with them via our own website. I asked them to identify the big trends/issues around the web that will impact on them for the future and they said:

- the Year 9 laptop program in Australia will impact on both teachers and students as there will be more two-way interaction and students working both with each other and with other schools across the world
- widespread prevalence of Smartphones for students (and teachers) so mobile web will become important
- wireless schools - no longer are students/teachers tied to a classroom or even their own school environment
- students value their social networks and peers’ opinions and information rather than “experts”
- teachers are no longer “repositories of information” but are facilitators of students’ learning - the relationship is more two-way and equal
- there is a move towards digital books primarily to reduce bag weight but also to save costs
- students expect instant feedback as they are used to this in their lives
- students want to learn and prefer sites that are interactive
- still some resistance among teachers who fear change, but all recognise that the change is coming!

The twenty-first century museum: the museum without walls. Alma S. Wittlin Memorial Lecture, ICOM Shanghai, November 2010

- we are now dealing with “digital learners” - kids in future will never not have had their hands on something that doesn't plug in
- need to address the needs for kids to be physical and outdoors - don't neglect this
- kids (and us I believe) are now totally multitasked - where in the past this would be seen as a negative we now need to see this as a normal part of learning
- social and collaborative learning is now the way we all learn
- childrens' brains are changing to accommodate the ways they now learn and engage
- they don't need to retain/remember information as they can just go back and access it again
- we have moved from a *one-to-many* form of teaching to a *many-to-many* approach and a more equal arrangement (and a more empowered one too I suspect)
- the beauty of sharing online is that students can see each others' work and learn from that

What did students say about the internet and learning and museums?

Given that learning through social media and digital resources is increasingly becoming a core function in the learning repertoire of today's students (Green and Hannon, 2006) it was decided to run an *e-Kids' College* with participants from the Coalition of Knowledge Building Schools to investigate how they were using the Web and in particular, social media. An important component of the research was to seek feedback and advice about how the Museum's research and collection could be better utilised through digital media to match audience needs and interests. Twenty-four students from nine schools across New South Wales attended a one-day workshop in November, 2007. Students were consulted on a range of issues encompassing their use of digital technologies in leisure and for learning. They undertook a behind-the-scenes tour of the Museum, spoke with a number of scientific staff and experienced the public areas of the Museum in order to provide feedback about the Museum's potential online offer (Kelly and Groundwater Smith, 2009, Kelly and Fitzgerald, 2011). There are two areas I want to highlight here.

When asked to complete the sentence “Not being able to access the web is like not being able to ...” respondents likened it to not being able to breath, live, eat, talk, socialise and *Get access to water*, as well as *Travel around the world, explore my inner self or broaden my horizon*. This shows how important and an essential part of life the web is for young people.

A number of others also made a distinction between visiting the Museum itself and visiting the Museum's Website. For example, one student who had participated in previous research projects with the Museum had this to say:

- *Last time I came here we focused mainly on new technology and we were constantly saying we needed more screens, games and interactive displays, but since then I have been thinking: I can do that at home, I can watch movies, play games etc at home. If I come to the Museum I want to be able to get information, read it and be able to learn from it. It is good to have these things (screens etc) but I guess, like all things, in moderation. The Website needs to suit all audiences. I got the feeling that you were trying to find out what we want but we are not the only people that use the Museum. A section on the site, with bright colours, games etc could be good, but it is unlikely that the reason we are at a Museum site in the first place is to play the games. We can do that anywhere. If we are there we are probably looking for information of some kind. So it needs to be easy to read and access without being too dry.*

MUSEUM LEARNING AND SOCIAL MEDIA

Scott Paris (1997) stated that to facilitate meaningful learning museums need to create environments that encourage exploration and enable meaning to be constructed through choice, challenge, control and collaboration, leading to self-discovery, pride in achievements, learning and change.

Like Paris, my own doctoral research (Kelly, 2007) although based in the physical space, also has resonance for online learning experiences. Some of the things I found were that visitors:

- will make their own meanings and construct their own narratives based on their experiences and interests
- expect that learning will build on what they already know
- want (and expect) choice and control over their museum experience and their learning through providing multiple pathways and a variety of interpretive experiences suitable for both individuals and groups
- want to engage in critical thinking and questioning, with programs that raise questions, point to some answers and addresses both facts and ideas
- access multiple points of view to enable them to reach their own conclusions and make their own meanings.

The emergence of Web 2.0 now means that individuals have more control over how, where and when they learn and consult a wide range of information sources in their own time and space (Kelly and Russo 2010). Old models of teaching and telling are no longer sufficient. As Cornu (2004) has observed in relation to schools, knowledge is now networked and requires an understanding of a collective intelligence over and above individual enterprise. The internet, and more specifically Web 2.0 has opened up a whole new way of engaging audiences, specifically educational audiences, who are taking up these tools in droves.

ORGANISATIONAL CHANGE IN MUSEUMS AND SOCIAL MEDIA

As Heumann Gurian (2010) noted the Internet is fundamentally challenging and changing the ways museums do business, what their role will be and what our jobs will look like in a networked world? The world of the internet makes it possible for a museum to be a place of ideas where visitors and museum staff work together to create and disseminate knowledge and engage with ideas. Heumann Gurian also stated that: ‘My fundamental assumption is that museums will soon need to shift from being a singular authority to a participants and encourager of intellectual and social engagement among its visitors. In doing so museums will have to look at the administrative assignments and responsibilities of staff in order to become this more responsive institution’ (2010, p.108).

Mike Edson, of the Smithsonian Institute in a recent interview published in O’Reilly Radar , said ‘In the last epoch, we were measured by the success of our internal experts. And in this coming epoch, we’re going to be measured by the success of our networks at large: our social networks, our professional networks. People are going to be connected. Ideas will be sharable and portable.’⁷

Many museums are getting better at their physical offerings (although some still have a way to go), the web environment is somewhat lagging, with a patchy uptake in social media tools and some (healthy and not-so-healthy!) scepticism about the role and value of these. Given that social media is a great way to fulfil these requirements – it supports learning objectives, is relatively low-cost, is being used, certainly by Australians, and has a close relationship with the physical site, then why hasn’t it been embraced by museums in greater numbers? MacArthur (2007) identified that *institutional bias* is the most pressing problem in the uptake of social media/Web 2.0 in museums. If this is the case, what can be done?

Some clues come from three sources: first a Harvard Business Review article interview with Mitchell Baker, chair and former CEO of Mozilla who created the open source web interface Firefox (Mendonca and Sutton, 2008). Second, a post at Mashable⁸ about how social media benefits an organisation, and finally a post sourced from the Gurteen Knowledge Website⁹ about the skills that knowledge workers will need in the future.

In reflecting on these, it is suggested that for museums to embrace a Web 2.0 mindset and develop new approaches to museum practice organisations will need to:

- be prepared to let go
- take risks
- give staff and communities permission to go for it, then learn from that
- encourage connections and networks both internally and externally
- provide scaffolding and support that others can work from, while recognising that they don't always need to innovate themselves, let others use material and do it instead
- acknowledge that a healthy community will self-monitor and self-correct
- take their place as the subject matter expert, while also drawing on the power of the collective community
- remember that some areas will still need “discipline” and organisational input, yet many more will need participation.

Web 2.0 is fundamentally challenging the nature of our institutions. Ellis and Kelly (2007) stated that ‘Web 2.0 puts users and not the organisation at the centre of the equation. This is threatening, but also exciting in that it has the potential to lead to richer content, a more personal experience’.

Many years ago now, Stephen Weil said that museums need to transform themselves from ‘... being *about* something to being *for* somebody’ (1999, 229, emphasis in original). Web 2.0 and particularly social media provide the perfect vehicle to take Weil’s ideas further, with the museum of the future enabling learners, users, visitors (whatever you want to call them) to become participants wherever they are and however they choose. Learning studies, audience research and certainly our social media experiments to date have demonstrated that our audiences want this kind of interaction and will participate. Given that this depends on how willing museums are to implement cross-organisational change and conduct meaningful two-way interaction and dialogue with their audiences through the tools of social media, will museums come on board and play in the digital space? It is worth noting that Weil also said over ten years ago that ‘Tomorrow’s museums cannot be operated with yesterday’s skills’. So what will tomorrow’s museum be?

My work to date has shown that the twenty-first century audience will be better connected, more informed, more engaged, older, more culturally diverse, more interested in ideas and architects of their own learning. They will be mobile, accessing information wherever they are and whenever they choose to. In this way, they will be active participants, rather than passive receivers of content and information. Given the opportunities provided in the virtual spaces via Web 2.0 and social media, the 21st century museum must be flexible, mobile, vibrant and changing spaces, accounting for a variety of uses, houses full of ideas, and, ultimately, museums without walls. Professor Stephen Heppell¹⁰, the noted digital educator, stated recently that, given the rapid changes in technology and education, the next ten years will be the most fun we'll have in our jobs. So, how we eventually end up as museums without walls is going to be challenging – but we'll be having a lot of fun too!

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¹ http://en.wikipedia.org/wiki/Web_2.0

² <http://socialmedia.wikispaces.com/ShortAZ>

³ In this paper the term “social media” is used to encompass the concepts of Web 2.0 and social networking

⁴ <http://socialmedia.wikispaces.com/ShortAZ>

⁵ Adapted from Australian Communications and Media Authority Quick Guide *Personal and peer safety: Safe social networking* (<http://www.acma.gov.au/WEB/HOMEPAGE/pc=HOME>)

⁶ <http://australianmuseum.net.au/blogpost/Audience-Research-Blog/Web-to-classroom-workshops>

⁷ <http://radar.oreilly.com/2010/05/how-the-smithsonian-keeps-up-w.html>

⁸ <http://mashable.com/2010/05/11/social-media-tips-execs/>

⁹ <http://www.australianmuseum.net.au/blogpost/Knowledge-Workers/>

¹⁰ <http://www.heppell.net/>