Introduction

THE PAST DECADES HAVE SEEN A NUMBER OF TRANSFORMATIONS AND expansions in uses of the web in museums. In the late 1990s, museums used websites to expand the outreach of museum education, conservation and marketing, to provide information about opening hours, tours, location, and new and past exhibitions, and to give access to specialized collection databases and learning resources (Marty and Jones 2012; Parry 2007).

For example, museums such as the University of California Museum of Palaeontology, whose website was launched in 1994, used the web to provide information about the museum, to present an online exhibition about fossil records, and to allow access to the museum's collections database (Bowen 2010; Paleontology 1994). In the UK, 1994 also saw the birth of the country's first web museum, hosted by the Natural History Museum (Bowen 2010).

The community of museum visitors was also creating their own online versions of well-known museums, as in the case of the WebLouvre, a virtual museum launched by a student, Nicolas Pioch. This virtual museum was later renamed as the WebMuseum for legal reasons (Bowen 2010). And in 1997, acknowledging the growing importance of the web for museums, David Bearman and Jennifer Trant started what would become one of the biggest museum technology conferences in the world, the Museums and the Web conference series. In the introduction, the conference presented what continue to be the great ambitions and challenges museums have faced since:

> Museums still have much to learn about the potential for using the Web. Move beyond institutional presentation of static page, to enable uses of museum information that are more than just browsing and looking. Truly lively Web sites will reflect an understanding of what people do with museum data. Our next generation of web sites need to create spaces that support activities such as comparison and analysis, and that provide means to integrate information provided by many institutions into packages defined by museum visitors. We also need to ensure that the communication enabled by the network is not one way. Museums can capitalize on the potential of the Web by using it as a means to discover how to become more relevant. (Trant and Bearman 1997)

In 1999, museums such as the National Museum of Science and Technology Leonardo Da Vinci in Italy were experimenting with creating virtual worlds (Alonzo, Garzotto and Valenti 2000). Many other museums across the world opened web portals during these years, and slowly but surely online activities became integrated into the more traditional activities of museums.

From 2000 onwards, new functions began to emerge. Museums started to use websites to facilitate social activities and debate, and to provide access to collection databases as well as avenues for the public to contribute to the interpretation of these collections. Major digitization projects were well under way around the globe at the time, as well as the deployment of these digital collections in publicly accessible databases. Museum blogging became a popular workshop topic in the Museums and the Web 2006 Conference. Its potential to deliver two-way or even many-to-many modes of communication featured in the agenda of the NODEM 2006 conference (Russo et al. 2006b).

Today, museums continue to explore myriad new forms of public engagement and participation. Museums are currently experimenting with hybrid physical–digital combinations enabled by mobile technologies (as we will see in one of the cases discussed in this book, the Museum of London, which placed its collections in the city of London via mobile applications). Learning activities have become a focus, and museums are also investing resources in the web as a space for education: social media help to create online education networks and to allow access in schools via remote sessions with museum educators. Other museums are going as far as letting visitors 'curate' whole exhibitions through social media (for example the Brooklyn Museum's 'Click! A Crowd-Curated Exhibition' exhibition). In addition, the shape of online narratives continues to evolve as new technologies develop, from interactive immersive spaces, to multi-story and multi-site mobile narratives where users are in command of story progression with varying degrees of freedom.

Scholars and museum staff address the effects of these changes in both optimistic and cautious terms. Some commentators praise the positive aspects of more enhanced participation via digital means, especially with the advent of social media (Kelly 2010; Russo et al. 2006a; Simon 2010). Lynda Kelly, Manager of Online, Editing and Audience Research at the Australian Museum, argues that

> Social media offer greater scope for collaboration, enabling museums to respond to changing demographics and psychographic characteristics of the public.

> Significantly, the tools of social media also provide new ways to learn about audiences through interacting with them directly, where curatorial and exhibition development staff can act as stimulators and facilitators. Audiences can invest in and contribute their ideas, with the subsequent interactions informing and shaping their exhibition experiences. (Kelly 2009)

She further argues that social media change museums in a positive way: they encourage the creation of exhibitions that provide richer experiences for visitors through backstage access and catering for the unexpected; they provide content that becomes more meaningful; they help connect with young audiences and bring more opportunities for socializing between museum staff and visitors and amongst visitors themselves (Kelly 2009).

Kelly's remarks show that the museum community sees great potential in these new tools. However, while remaining optimistic about the potential of these technologies, this book seeks to present more fine-grained understandings of the new forms of public engagement and participation that social media may help bring about. The time is right to reconsider the true impact social media have had on museum practice. The book's aim is to discuss how museums can truly engage with digital heritage, in contrast to the current trend of using digital technologies merely to develop a greater market share of audiences. Some assumptions about the potential of social media to foster broader public engagement and participation (and to therefore be always beneficial to museums, regardless of their type) need to be examined. Also, the sustainability of digital heritage, in terms of how the work of museums online contributes to sustainable development and how social media activities may be sustained over time, has emerged as a major concern.

Against this background, two broad questions serve as springboards for this volume:

- What new flows of information, participation and public engagement are emerging through museum websites and social media?
- How do museum websites and social media activities shape the potential of digital heritage as a tool for diversity, trust and sustainable development for the museum, its communities and its cultural resources?

Public Engagement and Participation Online

Museums are taking on new roles as brokers of culture, seeking to become sites that allow multiple interpretations of the objects they hold. As museums shift their focus from the conservation of material culture towards their role as forums for the negotiation of knowledge, the

development of appropriate forms of public engagement between them and their various communities becomes a main concern. The issue is not new. New Museologists raised similar issues in the 1970s; and the topic of communication in more general terms has been on the agenda of museums since at least the 1960s. In 2000, the Third Report to the Parliament from the Select Committee on Science and Technology in the UK cited Dr Bloomfield from the Natural History Museum, who raised similar concerns:

> Public access to 'knowledge resources' is becoming increasingly important 'as people take a more democratic role . . . in the decision-making process' (Q 239). He [Bloomfield] sees putting such resources on the Internet, and achieving international standards to allow data from different sources to be searched and correlated consistently, as a major task for the next few years (p 63, QQ 239, 269). (Technology 2000)

Bloomfield's words point to public access as well as to issues of democracy and participation in decision-making. This takes us into the concept of public engagement, which is central to the discussion about the role of the Internet in helping to fulfil a museum's social mission. Public engagement can be unpacked as ranging from communication, i.e. coming from the organization towards its communities, to consultation, i.e. coming from the communities to the organization, and to participation, a two-way flow between organization and communities (Rowe and Frewer 2005). Within these forms, the public becomes involved in agenda-setting, policy-forming and decision-making processes (Rowe and Frewer 2005).

Lukensmeyer and Torres (2006) offer a critique of the effectiveness of the various forms of public engagement, pointing out that 'to simply inform and to consult are "thin", frequently pro forma techniques of participation that often fail to meet the public's expectations for involvement and typically yield little in the way of new knowledge'. They also argue that 'collaboration is an essential but often too narrow, time-consuming, and expert-driven mode of participation to achieve the level of inclusiveness and awareness necessary for reform' (Lukensmeyer and Torres 2006).

Recent museum scholarship has also investigated in more depth public engagement and forms of participation. Goodnow (Skartveit and Goodnow 2010) analyses participation and argues that it involves access, reflection, provision and structural involvement. For her, access mainly refers to the availability of channels for a given audience to reach the museum and its collections if they so wish. Reflection describes attempts made by the museum to include members of the community in its galleries by way of making their stories part of the exhibition, without this necessarily

involving consultation or participation. Provision is equivalent to a flow coming from community to museum, differing from consultation in that it only has to do with collecting information or artefacts from the community (as opposed to collecting input for decisions made by the museum). Structural involvement refers to situations in which the community and the museum manage decision-making, agenda-setting or policy-forming as equal partners (Skartveit and Goodnow 2010). Applying these ideas to the digital domain, they argue that access, while seemingly limitless online, may be curtailed by issues of language and the categorization of information; reflection may be enhanced due to the bypassing of physical boundaries, but it may be shaped by the curator's interests, which will then be visible in the selection of online material; provision may be enhanced because certain material restrictions in terms of object transfer may be ignored when dealing with digital artefacts (for example, in the provision of images); and lastly, structural participation will be broader due to the fact that new communities may be able to create their own spaces, without needing support from the larger heritage institutions. In the digital domain, grassroots initiatives have as many chances of being a top hit in a web search as established organizations do (Skartveit and Goodnow 2010).

In their discussion on participation and the responsibilities of government and institutions in facilitating citizen engagement, Lukensmeyer and Torres distinguish between information exchange and information processing. For them, while exchange is necessary, it has to be conducive to allowing people to partake in information processing, which involves 'learning and involvement over the breadth and frequency of the exchange' (Lukensmeyer and Torres 2006). It is participation in information processing which will empower citizens to have a real impact in decision-making.

More specifically in the digital domain, Hoem and Schwebs (2010) present a short characterization of various kinds of user engagement with online content. They highlight three distinct roles, in growing order of influence: user-driven, user-created and user-generated. User-driven content points to the ability to customize one's online experience, for example through moving items in an interface until the user achieves a comfortable arrangement for themselves. User-created content encompasses all the media uploaded in sites such as YouTube, Flickr, etc. Users profit from existing content delivery platforms, but they have little influence upon the features offered by these platforms. However, users are able to re-contextualize (remix, share, bookmark) this content, moving it to different platforms and therefore creating new meaning. User-generated content includes both content and context, which is to say that when a message is disseminated via a platform, the message itself and the place where it

was broadcasted are important for an understanding of its meaning. User-generated context leaves a single user's machine to become part of a larger conversation in the social arena online (Hoem and Schwebs 2010). It is this last use that is most relevant for discussions of public engagement online, as websites such as Facebook, Badoo, Renren and Twitter grow in popularity due to their capacity to support a feeling of community amongst their users.

Other approaches to the issue of user participation in the creation of culture can be found in the work of Henry Jenkins, who defines 'participatory culture' as one with

1. relatively low barriers to artistic expression and civic engagement,
2. strong support for creating and sharing creations with others,
3. some type of informal mentorship whereby what is known by the most experienced is passed along to novices,
4. members who believe that their contributions matter,
5. members who feel some degree of connection with one another (at least, they care what other people think about what they have created). (Jenkins 2009)

Jenkins argues that with the new interactive technologies, participatory culture 'absorbs and responds to the explosion of new media technologies that make it possible for average consumers to archive, annotate, appropriate and recirculate media content in powerful new ways' (2009: 8), but it is not possible to fully understand this culture if we only focus on the technology without taking into account the cultural knowledge that shapes its uses.

The above concepts and discussions are key for an understanding of the role of social media in museum work. Fine-grained understandings of public engagement and of participation allow us then to see the online activities of museums with more precision, and to understand when, how and why these activities may have a positive, neutral or negative result. Technology is one of the tools through which museums, upon trying to achieve their social goals, explore how to encourage cooperative behaviour inside and outside their physical spaces. As any other tool that museums use for this task, new technologies present their own set of benefits, challenges and drawbacks. Social media technologies lend themselves to multiple uses as their features can be constantly improved or completely changed. They also provide a unique opportunity to make visible the museum's networks of social relations online. However, and departing from the above work on participation, providing increased access is not enough to claim that the creation of a museum social media service encourages public engagement.

It is necessary to distinguish between the various forms of engagement that social media may help foster.

Following Goodnow as well as Rowe and Frewer, to understand the spectrum of engagement that museum social media can support, we can categorize current digital media forms of public engagement in museums (the 'participatory culture' they are engaged in creating) into the following groupings:

- *Access*, such as the dissemination of collections via social network sites, or providing a 'behind the scenes' look at the work of museums, as well as making collection databases available to the public. One example that combines some of these features is the now closed Brooklyn Museum ArtShare Facebook application, which allowed users to create personal collections based on the museum's artworks and then share these with friends and family in the social network. This particular application went beyond access in that it let visitors have a small amount of involvement in 'curating' collections, although the user-generated selections in ArtShare were never meant to feed back into official curatorial work.
- *Communication and consultation*, such as blogs and online fora. These services encourage dialogues with curators about the inner workings of a museum or an exhibition. Museum blogs have almost become a requirement in museum websites; some blogs are about special objects, others are about the expertise of museum staff, and others are used to promote temporary exhibitions. They all share the ability to 'log', as in a diary, events around collections or the museum. As platforms for consultation, museums frequently use blogs to pose questions to the public, about their thoughts concerning an exhibition, etc. Some museums have used blogs to start a consultation process about upcoming activities, but this type of use is less common.
- *Reflection and provision*, such as digital spaces where the community might upload their own media (pictures, sounds, texts), or might annotate, rearrange, select and share favourite items. As we shall see in examples cited below, museums have started to promote the results of independent 'citizen science' websites in their own official pages, and are increasingly willing to incorporate (after some curatorial validation) material generated by the public into the metadata about collections.
- *Structural involvement*, such as systems where external individuals and communities curate digital and physical exhibitions, with the museum working as facilitator of the process. These experiments are much more radical in that the museum gives great control to the public over the functioning of the system itself. Visitors may be asked to 'vote' on

content or on features, to assess the work of other contributors, to participate as community moderators, and so on.

These new forms of online public engagement bring new layers of complexity. As Lukensmeyer and Torres argue, making information available, while necessary, is not all that is required to create the spaces for debate and engagement that museums are keen to foster. However, the move from access to structural involvement is far from straightforward. When experimenting with 'crowdsourced curatorship' and other new forms of structural involvement, voices of 'authority' are subverted. Issues of power, which have long featured in the agenda of museum scholars, surface once again as very sensitive areas: museums must rethink time and time again how to incorporate other voices while keeping their position as trustworthy institutions, as authoritative (yet not authoritarian) repositories of information, in sum, as places where communal knowledge thrives and grows.

Museum blogging is a good example of unexpected conflicts in the emergence of new forms of public engagement. On the one hand, museum blogs are praised as optimal channels to provide visitors with increased access to the work that goes on behind the scenes at the institution. Blogs are seen as places where curators and the public can engage in horizontal, open conversation about many aspects of museum work. On the other hand, blogs raise questions about the boundaries between a staff member's personal views and the institution's position. As Bilkis Mosoddik, in charge of web development at the Museum of London (MOL), points out:

> [In our blog] you are presenting MOL but is not MOL official presentation. . . Whereas press releases come from Corporate, when you go to the MOL blog it is each individual employee representing themselves . . . is their individual voices and that is why each of the persons who blogs there has a different tone or voice because it's them, the individual blogging and they have some interesting things to say and different ways of saying it. I say to people I don't moderate what people write on the blog, because to me it is their voice. . . [but] our website is our property. . . at all times yes, it is your voice, but you have to remember you are speaking as MOL employee. As long as you remember that, and remember all the core policies within the museum about communication, it's fine. (Mosoddik 2009b)

Mosoddik's comments highlight how changing informational flows challenge assumptions about the role of employees within the organization. It seems though as if these new forms of engagement challenge the traditional hierarchies of museum administration within museums (in addition to the more obvious discussions about participation from outsiders).

In addition, as Hoem and Schwebs (2010) point out, while blogs are seen as social meeting places, it is often the case that the blogosphere is most interesting for the owners of blogs themselves, since these platforms offer so many opportunities for commercialization via sponsors on the look for competent writers to endorse their products. In this case, blogs, far from being neutral forums for horizontal conversations, become highly commercial locations, perverting the aura of authenticity and independence that has been attributed to these media forms.

A second case is online museum curatorship. Radical experiments, such as 'Click! A Crowd-Curated Exhibition' by the Brooklyn Museum, place visitors in the position of curators, not only superficially as when users are offered the chance to 'make their own collections and share them with friends', but with a real power to make decisions about public exhibitions. Results are varied: while some visitors appreciate the invitation to take part in a more involved manner, others reject it, or even feel overwhelmed by the opportunity. In addition, while some curators are happy to let visitors temporarily act as curators, others are more critical about the way in which 'being an expert' is portrayed in these activities, feeling that their expertise is trivialized.

Digital Heritage and Sustainability

As was pointed out earlier, thinking about sustainability in the social media activities of museums requires a two-pronged approach. One needs to consider both the sustainable management of digital heritage and the role of digital heritage in sustainable development.

The first issue is preservation. The twenty-first century has seen an enormous growth of the generation of culture and heritage in digital format, to the extent that a large amount of contemporary culture now lives and evolves exclusively online. A pressing question for museums thus becomes preserving this emerging digital heritage. The pace of change from storing crucial information about our world in durable artefacts to storing it in the more ephemeral digital formats is fast. The call is then to understand what the sustainable management of digital heritage involves in terms of preservation.

The problem is well known. Since the early 2000s, heritage stakeholders and communities around the world have sought to address this, identifying the need to tackle the fast obsolescence of formats, data corruption, data loss due to compression, and the question of future-proofing artefacts, for example by providing hooks/metadata to facilitate future linkages and

use. The issue extends to what data should be kept when moving from the material to the virtual world and how to perform the digital recording of real world objects/sites (metadata, co-ordinates, snapshot in time), and also how to preserve the usability of these artefacts and the data generated around them for future generations. In 2003, the National Library of Australia prepared the 'Guidelines for the preservation of digital heritage' for UNESCO's Memory of the World Programme (Webb 2003). Amongst the issues addressed were the ephemeral nature of digital resources and how changes in technology would mean the loss of many expressions; the inadequacy of instruments such as 'legal deposit' in this new digital context; shortcomings in storage capacity to cope with growing digitized and born-digital items; and the need for a cooperative approach (in this document primarily between institutions) to tackle these issues (Webb 2003).

A case in point is digital media content produced around existing collections: can or should it become part of a collection, and under which criteria? Currently, curators and IT staff make decisions about what data will be preserved. For example, in the case of social media content produced from outside the institution – in blogs, forums, social network sites, etc. – it is necessary to ask whose experience should be preserved. Whose point of view should museums choose to represent, and why? We return to the problem of authenticity, the authority and credibility of museums, and the emerging challenges of expert vs. non-expert input in collections.

Local, national and international bodies continue to work on criteria for preservation, often attempting to deal with digital heritage as a form of intangible heritage. Work on documentary heritage encompasses digital material. The UNESCO documentary heritage policies make provisions for the safeguarding of audio-visual and digital material in programmes such as the Memory of the World Programme. To be accepted into the Memory of the World Programme, applicants have to comply with criteria such as authenticity, uniqueness and irreplaceability, and significance. In addition, matters such as integrity, rarity, threats and management plans are also taken into account.

'Authenticity' requires an external body to certify the source of the artefact. In the Nara Document on Authenticity, UNESCO guidelines state that identifying the sources of heritage as credible and truthful is essential to establish that heritage as authentic. The document also makes provisions to acknowledge a diverse range of sources (physical, oral, written and figurative) as well as their dependence on context (Lemaire and Stovel 1994). The Nara Document provides a general framework; it does not, however, provide tools to deal with particular cases. The assumption is that each case will be unique in its challenges concerning authenticity.

In the digital preservation domain, authenticity has been defined as requiring 'multiple preservation properties: that the digital record remains unchanged, that the preservation context correctly tracks information about preservation processes performed upon the digital record, and that the chain of custody of the digital record remains unbroken' (Moore, Jaja and Chadduck 2005). Furthermore, for Moore et al. (2005), authenticity requires that content (data), contexts (databases), and the systems to associate content with context (data grids) should enable the logging of all data acquisition, processing and archiving operations, so that the way in which a given piece of information came to its present state can be examined in the future. However, this digital preservation approach does not take into account systems in which information is being supplied by heterogeneous sources through technologies such as social media. Museums are experimenting with ways of incorporating 'citizen knowledge' while maintaining the authenticity of their collections and of information about these collections, and in this case, international policies are lagging behind.

'Uniqueness and irreplaceability' demand that the artefact is a document of restricted access, that it is representative but does not have a direct equal, and that its impact in a region of the world can be proved. Again, this is a complicated issue in digital material, whose main characteristic is its easy reproducibility. In fact, it may be more appropriate for the case of digital heritage to make multiple copies of materials, and to do so often, so as to keep data in the most up-to-date format. When it comes to digital material, irreplaceability may well be a problem for preservation.

'Significance' involves comparative criteria: time, place, people, subject and theme, and form and style. Within these, there is blurriness in the type of canon to be used to determine which time or place is important for the history of humanity (whose view should prevail upon this point?). With regard to form and style, similar problems emerge. What artistic canon is to be used? Does the programme appeal to some kind of universal consensus on what is aesthetically important?

Expanding upon significance, Australian approaches to valuing heritage have provided an alternative to the built-fabric conceptions of heritage that for some time dominated the field. Specifically, Australia's 1979 Burra Charter helped to establish a set of guidelines for assessments that corrected the bias towards the built fabric (which favoured the heritage of colonizers) implicit in the 1964 Venice Charter. The Burra Charter introduced the concept of significance, and became a step in creating pathways for the recognition of Aboriginal heritage, for which criteria based on the Venice Charter had proved insufficient. Briefly, significance assessments involve the non-hierarchical evaluation of aesthetic, historical,

scientific and social value (Australia ICOMOS 1988: 12, and interview with Ireland 2012). The definition of social value states that 'social value embraces the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group' (Australia ICOMOS 1988: 12). The spirit of the Australian approach is echoed in other countries around the world. In the UK, for example, the issue of more inclusive policies for heritage has recently been added to the agenda. A number of instruments have helped guide heritage policy to better address the issue of unequal power that biases in heritage protection reflect. Since 2000, the Race Relations Amendment Act has required public authority heritage institutions to promote racial equality (Cheddie 2012). According to the Greater London Authority Report on 'Delivering Shared Heritage: The Major's Commission on African and Asian Heritage' (2005), the case for more inclusive heritage policy needed to address a variety of fora: legal, ethical, human rights, intellectual, business and corporate responsibility (Cheddie 2012). The Act also included human rights principles from international frameworks (e.g. UN conventions that the UK abided to). As a result, definitions of heritage proposed by the commission 'moved away from concepts of materiality towards concepts of the ritual, memory, transmission and orality' (Cheddie 2012: 274). The resulting expanded idea of heritage 'guardianship' gave impulse to new spaces for dialogue about cultural diversity in the sector (Cheddie 2012). Speaking about significance, Mason (2003) argues that one of the things to bear in mind is why we preserve. For him, preservation has its origins in our desire to highlight the connection between memory and environment (2003: 64), and he adds that this connection is dynamic. An important point Mason makes in his evaluation of the concept of significance, however, is that it tends towards exclusion, as it leaves the task solely to experts who often fail to acknowledge community voices. Mason argues that if one wishes to undertake a complete significance assessment, it is necessary to establish a dialogue between architects, historians, city planners, community members who are experts on the site because of prolonged relations with it, and also stakeholders who may have little direct contact with a site but still value it highly (2003: 68). He calls for a more open process in which both the community and the experts engage in a dialogue in order to come to a fuller understanding of the reasons why a particular site should be preserved (2003: 66–68). In a review of the way in which the Australian NSW Heritage office was conducting its assessments of heritage value, Byrne et al. (2003) made a similar call, stating that 'the Service should encourage a culture in which the questions "Who values this heritage and how do they value it?"' should be the starting point

(2003: 141). Perhaps the collateral lesson from the Australian experience is that the task is not only to establish a clearer pathway or guidelines, but also to ensure that participation from a broad range of stakeholders is embedded in the process, and moreover, that the questions of unequal power in this dialogue are addressed.

'Integrity' involves proving that the artefact has not been manipulated or damaged. In the context of digital media, an appropriate consideration of integrity requires a distinction between digitized and born-digital material. Digital cultural resources are at times the product of digitization, at others a combination of born-digital material and digitized resources, and yet in other cases they are born-digital only. The Digital Preservation Coalition (2008: 24) provides the following definition of 'born-digital' material:

> Digital materials which are not intended to have an analogue equivalent, either as the originating source or as a result of conversion to analogue form. This term has been used. . . to differentiate them from 1) digital materials which have been created as a result of converting analogue originals; and 2) digital materials, which may have originated from a digital source but have been printed to paper, e.g. some electronic records.

When the resource is defined as the digitized material, museums tend to treat digital interpretations as temporary additions. However, when it is born-digital material, the boundaries between the artefact and other digital material added at a later stage (for example, user interpretations, tags, remixes) becomes fuzzy. Often, for digital culture resources that are the digitized version of a material object in the collection, the goals of using digital media (be it social media or other Internet services) is to make the resource available to the public while preserving its integrity.

In general, the Memory of the World Programme may be the most advanced global programme available at the moment to attempt to preserve digital heritage. However, it still has a long way to go in solving issues with its fitness for the kind of heritage increasingly seen in the digital domain. For example, irreplaceability or uniqueness may be hard to defend with regard to digital media, which as noted previously live in a kind of paradox: digital media are incredibly easy to reproduce, yet without multiple copies they run the risk of evaporating into binary oblivion. The problem of the sustainable management of digital heritage is one which the programme tries to address. However, at this point a crucial aspect in need of further development is how a decision is made to identify digital media as being worthy of conservation. Crowd-sourced consensus through social media might work for some digital heritage materials, but the voices of minorities may be muted, or worse, completely ignored.

Moving briefly away from the sustainable management of digital heritage and towards the role of this heritage in sustainable development, different questions need to be asked:

- How does involvement with digital heritage result in meaningful opportunities for participation for museum communities?
- What kinds of sociality can be seen around these media, and how do they reflect on the museum as an institution?
- What kinds of new museum community building functions, ethical, administrative and curatorial practices emerge through digital media?
- How does digital heritage reflect issues of diversity, social inclusion and sustainable development?

Museum Social Media, Inclusion and Diversity

The above questions and concerns have roots in the large body of scholarship that deals with the museum's social role and mission, in which a central question is the need to shift focus from the museum to the communities it serves. This questioning began long before the web, when, in the 1970s, the 'New Museologists' discussed the purpose of museums in society. In Australia and in the UK, Tony Bennett and Eileen Hooper-Greenhill criticized the museum 'as an ideological construct' (Moore 2000: 4) with 'regimes of knowledge' and 'constructed taxonomies' (Hooper-Greenhill 1992), an 'the exhibitionary complex' that constructed its visitors and regulated their behaviours, though perhaps, in so doing, becoming a productive force (Bennett 1995: 5–6).

Hooper-Greenhill (1992: 8) pointed out that museology had considered museums in view of their historic development, but the linear history used to explain them did not acknowledge the plurality, the historical specificity, and the political, cultural, economic and ideological contexts of the museums. In *Museums and the Shaping of Knowledge* (1992), she used Foucault's (1970) critique of systems of classification in *The Order of Things* to question the museum's orders of classification and regimes of knowledge. Hooper-Greenhill (1992: 5) asked whether museum taxonomies and documentation practices gave preference to particular ways of knowing at the same time that they excluded others, or whether these taxonomies were socially constructed rather than 'true'. Hooper-Greenhill (1992: 6) also cited Roland Barthes's statement in *Image, Music, Text* (1977) that 'there is little idea that material things can be understood in a multitude of different ways, that many meanings can be read from things, and that this

meaning can be manipulated as required . . . it is not understood that the ways in which museums "manipulate" material things also set up relationships and associations, and in fact create identities'.

In her 'holistic' approach, Hooper-Greenhill (1995: 2) felt it necessary to take into account the political and economic contexts in Britain during the 1990s in order to understand changes in museums during that period. She linked changes in museums to how these institutions were 'pushed by the government to think . . . as an industry', with museums hiring marketing experts, and shifting from 'visitors' (persons who do go to museums) to 'audiences' (persons who might come to museums) as the preferred term. At the same time, Hooper-Greenhill (1995: 7, 12) pointed out how the persons or institutions establishing the collection held the power over what was viewed, an issue that needed to be problematized, and also drew attention to the need to understand the 'epistemes' (the set of relations within which knowledge is produced and rationality defined, a concept she borrowed from Foucault) in which museums operated.

In contrast to Hooper-Greenhill's (1992) genealogy of museums based on classification and display, Tony Bennett (1995: 5–6) proposed in *The Birth of the Museum* his own genealogy, which took into account the development of other cultural institutions, even those that seemed alien or disconnected from it, such as for example fairs and exhibitions. He used Foucault's theories of disciplinary power in combination with Antonio Gramsci's theory of hegemony to develop the idea of 'the exhibitionary complex'. Bennett (1995: 7) also used Foucault's critique of how man is both the object and subject of knowledge (*The Order of Things*), transferring this critique to the tensions in the museum's attempt to construct their visitors and regulate their behaviours. In the US, Karp and co-editors (Karp 1992, 2006; Karp and Lavine 1991) focused on cultural diversity and 'the politics of public culture', including the role of museums in confirming or denying identity, and in acknowledging processes such as globalization. These critiques and analyses were based on historical accounts as well as case studies where exhibitions were 'read' and interpreted as representations of identity or expressions of power. In the main, these critiques have in common a desire to challenge traditional fixations on object collection, with theorists 'de-material(izing) these objects as mere semiotic indicators or rematerial(izing) them in social, political and economic contexts, or (doing) both' (Starn 2005). The goal is to replace 'object-centeredness with experience-centeredness' as the core business of museums (Parry 2007). The critiques have also resulted in increased pressure for understanding and managing the accountability and social responsibility of the museum.

More recently, digital media have reinvigorated the debate. In the US, practitioners have written compelling volumes about participation and community building in museums, especially about activities supported by social media (*The Participatory Museum* by Nina Simon, 2010, is a prominent example). A stream of research on the making of exhibitions off- and online (the focus of the majority of research about museum technology) has contributed alternative perspectives. Researchers from fields such as Human Computer Interaction (HCI), Interaction Design, Educational Technology, Media Studies and many more have used the museum as a playground and backdrop for concerns relating to views of museums as media forms. In Norway, for example, researchers have analysed museums by combining cultural theory, film studies and new media studies, and have highlighted concerns over diversity and the representation of minorities and migrants. Goodnow et al.'s *Museums, the Media and Refugees* (2008) is a good example of mixing media and communication concerns with museum studies. Other Scandinavian research has taken into account the points of view of designers and communities, and has gone as far as to enable and investigate museum communities as core members of the exhibition design team. Pierroux, Krange and Sem (2010) have investigated mobile technologies and learning in museum contexts within a socio-cultural approach to learning, and Wagner, Stuedahl and Bratteteig (2010) have used museums as contexts for understanding the design of digital media.

Digital media are having an enormous impact on our everyday lives. This is even more true of social media, which, as Hinton and Hjorth (2013) point out, bleed across platforms (from desktop to mobile to tablets and the internet of things) and across social and media contexts, thus 'colonizing' the web. Social media represent the promise that our participation will have as much impact on the production of global culture (and heritage) as that of the stakeholders of traditional media. Instead of mostly consuming visual media, we are now able to deliver our audio-visual creations to the whole world on YouTube. To register our thoughts on a topic of interest, we will now often start a blog instead of a diary, and make it available globally. Thus, as museumgoers, we expect increased input into museum collections, for example by having online tools to group our preferred objects and share these with friends in social media sites, and we might even find the curator's blog and engage them in conversations about these objects.

Digital media have also seemingly levelled the field between individuals and institutions and all voices are now supposed to have similar access and participation on the web. For instance, institutions like the Smithsonian have launched wikis, an eminently participatory and open

form of web collaboration, where they make their web design and policy process transparent to the public, and where they also embrace concepts such as ensuring that their websites are 'vast, shareable, findable, and free' (Smithsonian 2009). This marks a shift away from the idea of website design as the exclusive exercise of the museum towards the idea of community participation as a core web design value.

However, when museums join sites such as Facebook or Twitter, everything from time management to the more delicate art of community building needs to be rethought. Shelley Bernstein, Chief of Technology at the Brooklyn Museum, has described some of the dilemmas faced, in particular the difficulties of 'pulling the plug' on a social media platform. With their ArtShare application on Facebook, staff never expected the work overload involved in keeping up with the constant technical changes made to that social network, and yet were concerned that abandoning it would mean letting down the community of users they had nourished. In the end, as soon as the user base decreased, the museum discontinued the service (Bernstein 2011). Bernstein shares the Brooklyn Museum's thoughts on when to leave:

> Generally, you'll see us continue to jump into social platforms as we see our audience gathering there. We feel it's important to have a presence where people *know* they may not come directly to www.brooklynmuseum.org, but as with any technology we will watch the landscape and adjust as we go along. As audience moves from one platform to another or as platforms modify beyond recognition, we'll change with them and that can mean making difficult and carefully studied decisions about when to stay and when to go. (Bernstein 2011)

Holding a more optimistic view, Kevin Bacon, curator of the photographs at the Royal Pavilion and Museums, Brighton & Hove, states that digital media, in particular social media, are excellent channels to show people what goes on behind the scenes, and thereby thread museums into the public's imagination and build new relations, for example for funding or political support (quoted by Billings 2011).

Collaboration seems to be the key feature of the web, promising increased freedom and choice, and arguably enhancing sustainable development. However, taking into account issues of access (many communities in the world are underrepresented online), how can we assess the real potential of digital heritage for the sustainable development of communities?

In sum, in our digital age, the museum stores and nurtures heterogeneous sources of knowledge (from lay to curatorial) which both compete and collaborate to shape the legacy of contemporary societies – a topic to be developed more fully in the chapters that follow.

How This Book is Structured

The volume is intended as a resource for museum staff, students and researchers working at the intersection of cultural institutions and digital technologies. It recognizes the importance of bringing together curators, directors, educators and web designers, and is written therefore in an accessible manner for these various groups.

The volume offers extensive examples of museum web pages and the technology and thinking behind them, while discussion of the theoretical and technical issues surrounding museum websites and social media helps to outline the broad context within which technology developments take place. The aim is to provide an insight into the issues behind designing and implementing web pages and social media in this process, for the broadest range of museum stakeholders (communities of experts and non-experts engaging with museums at different levels). In so doing, the volume intends to offer a holistic picture of museum online activities that can serve as a starting point for cross-disciplinary discussion.

This introduction sets the tone of the book and provides an overview of its structure. The book is divided into three parts. Part I, History and Theory (Chapters 2 to 4), presents in more depth the three theoretical foci outlined above. Part II, Practice (Chapters 5 and 6), outlines practical considerations concerning the use of social media in museums. Part III, Cases (Chapters 7 to 9), uses the insights from the theoretical foci to discuss specific cases. Readers who are mostly interested in examples of contemporary uses of social media may prefer to go directly to the cases provided in Part III. Part IV (Chapters 10 and 11) departs from these perspectives and contemporary cases and presents emerging practices that help to portray what the future of digital heritage may be.

Chapter 2 provides our theoretical setting and offers an overview of the changing theorizations of museum communication. This overview reveals a transition in the literature from a focus on institutions to one on visitors. Previous conceptions of museums as senders of a clear and irrefutable message are contrasted with more recent calls for the inclusion of multiple voices, and the push for an ever-growing social mission for the museum. The emergence of the social web is discussed and connected to the uses of computing in museums, from early uses for cataloguing tasks to more recent experiments with visitor participation. The chapter intends to place these changes in museum websites within the context of larger shifts in the uses of the web. I briefly discuss authors such as Benkler and Bruns, who have provided the more optimistic interpretations of these changes, and contrast them with commentators from within museums who refer

to the way in which the Internet may threaten assumptions about the role of museums. As a counterpoint, the last section of this chapter looks at contemporary museum websites and their use of social media. Three foci for museum websites are identified: institution-oriented, collection-oriented, and user-oriented websites and social media. These call into question how effectively museums use their websites and social media to transform themselves from repositories to spaces for debate.

Following on the issue of how to understand and measure the degree in which museums can effectively engage audiences with digital culture, a framework for Digital Heritage Sustainability (DHS) is introduced in Chapter 3. The chapter presents an analytical framework for the cases that follow, which allows us to identify how museum social media and museum websites contribute to or detract from the sustainable management of digital culture and digital heritage. The DHS framework is inspired by other frameworks that have been used in the analysis of the sustainable management of digital commons, such as Ostrom's (2005) Institutional Analysis and Development Framework. One of the ideas put forth later on in this volume is that the Internet can be seen as a common-pool resource, that is, one that is horizontally and collaboratively managed by a community (see Benkler 2006). The DHS framework also builds on previous experiences with the analysis of physical museums (Sánchez Laws 2011). The framework uses three signposts to guide analyses: contexts, stakeholders and digital practices.

Chapter 4 closes the theoretical section of the book with a consideration of trust as a pillar of the sustainable informational flow between museums and their communities. In this chapter, the impact of digital media upon the trust relationship between museum and community is examined, with a discussion of the idea that current efforts of museums to connect to users online reflect a 'radical trust' approach where the potential benefits of broad engagement are considered to outweigh the possibility of abuse.

Part II, Practice, outlines practical ways in which museum staff can build up their social media skills. Chapter 5 includes a compilation of useful resources intended to invite readers to engage in hands-on-work with museum social media. Chapter 6 is a survey of the current uses of social media in museums, and establishes a common vocabulary of the various forms of social media. Amongst the various media discussed are blogs, social network sites, mashups and media sharing sites. The broad range of examples provided is intended to give readers a sense of the possibilities available; however, the emphasis is on uses that blur the boundary between curator and audience by expanding user-access to the curatorial process with the inclusion of user-generated content, filtering and social

curating. Cases include museums (Brooklyn Museum, the Museo Reina Sofia and Red de Conceptualismos del Sur, the Museu da Pessoa, amongst others), and networks that include new stakeholders as part of the institutional structure: Google Art Project, Flickr 'The Commons' and Digital New Zealand. These examples suggest that the move from museums to audiences is becoming a structural change in how stewardship for culture and heritage is institutionally organized.

In Part III, Cases, Chapter 7 is about the Museum of London's (MOL) website and social media services. The chapter examines how the MOL has attempted to strike a balance between building the image of the institution and strengthening a sense of community amongst its stakeholders online. At the MOL, this balancing involves clarifying some of the unwritten rules about how employees may represent the museum in social media such as blogs. It also touches upon the extent to which communities are invited to take part in decisions about the content and message of exhibitions, on and offline. As we shall see, while the MOL constantly creates opportunities to get involved, it does so within a well-established set of parameters that ensure the image of the museum will remain under the tight control of the organization. In this sense, the MOL is moderate in its use of social media.

Chapter 8 deals with a website and social media which focuses on diversity in knowledge about collections. The Museum of World Culture (Världskulturmuseet) uses social media to enhance user participation in provisioning, classification and interpretation. This case is of particular interest because of the mandate of the museum, which in effect demands that heterogeneous sources of knowledge are acknowledged and incorporated.

Chapter 9 is a comparative exercise where museums and galleries in Sydney and Panama City are examined for their similarities and differences in their treatment of Aboriginal, Indigenous and 'Ethnic' heritage, off and online.

In Part IV, Futures, Chapters 10 and 11 present a landscape of the future of digital heritage. The cases presented have as a recurring theme defiance in the face of boundaries between the digital and the physical. They portray a museum reality where hybrid spaces are the norm, and where the interplay between technology, audiences and contexts is much more transparent and acknowledged.

Chapter 10 presents research in co-creative digital practices, using as a case study the 'digital colonization' of the National Museum of Australia's 'Garden of Australian Dreams'. Working in collaboration with the museum's digital officers, over one hundred students and researchers from University of Canberra used Augmented Reality (AR) to produce in excess of 700 images, texts and sounds, which were displayed via mobiles and

tablets to created a 3D overlay in the physical space of the museum. Shared via social media platforms, the overlay complemented official curatorial information with unique personal stories and interpretations from the student community.

Chapter 11 represents a return to the topic of sustainability, this time from the more conventional environmental perspective, with the case of the Questacon National Science and Technology Centre in Canberra. Questacon has in recent years emphasized the need to adopt sustainable energy consumption practices in its building, and in this project, it sought to communicate this story via digital means, including social media.

The Conclusion draws together the cases and theoretical insights about the impact of social media in an attempt to redefine the role of museums in the conservation and dissemination of heritage. It is argued that new flows of information and therefore of public engagement, from communication to consultation to participation, are being explored by museums online to various degrees, with the general norm being a communicational flow (from museum to community) that allows some form of participation via provision. Cases where participation (on and offline) is structural become more visible thanks to exposure through social media, but from the examples presented in the book, it is argued that when structural involvement occurs online, it is because the institutional culture of the museum would have allowed it from the start, regardless of whether it was on or offline.

In terms of digital sustainability, it is argued that the problem of authenticity and the emerging challenges of expert vs. non-expert control over the experience continue to be key elements in the longer term strategies that museums may adopt.

As for trust, the various cases discussed in this volume show that a collaborative creation of heritage has become a core activity of museums, and that the transfer of power between stakeholders will continue to create challenges and opportunities for museums and communities seeking to build their trust.

Finally, considerations of issues of diversity seem to be lagging behind in the realm of museum digital technologies. Yet as the examples provided in the book show, it is precisely in this area that small groups who were previously limited in their access and control over their heritage are successfully adopting new technologies, thus creating new networks (both off and online) where their heritage has begun to thrive.