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Experiencing the Digital World: The Cultural Value of Digital Engagement with Heritage

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Abstract

Since the late 1990s the potential of the digital world for generating new ways of engaging with heritage, broadly defined, has been a key focus of academic work and cultural practice. At times, the emphasis has been on how the internet can provide a “shop window” for the sector, and how this might be translated into physical visits to sites. Elsewhere, scholars have argued that the digital sphere can provide a dynamic space for two-way engagement with heritage culture, aimed at providing a complementary experience to physical visits through a range of phenomena (e.g. user-generated content, online communities, crowdsourcing projects). Questions have also been raised about how to measure the value of this activity and what we mean by value in this context. We bring together literature on digital engagement, interactivity and participation within heritage, case studies of current practice, and a survey of heritage professionals to focus on six key areas:

1. Financial resources
2. Relative value of the digital experience
3. The location of culture value
4. Cultural value and time
5. Enhanced value through participation
6. Cultural value, space, and place

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We present strategies that heritage organizations of different scales might consider incorporating into new digital resources, while also suggesting further areas for research. Primarily, we suggest that there is substantial untapped potential to better understand the experience of end users by harnessing the vast amount of data that is available within heritage institutions, but which organizations frequently do not have the resources to exploit.

KEYWORDS: heritage, digital, museums, cultural value, resource management, engagement

Introduction and background

The last decade has seen a dramatic rise in the number of digital projects taking place on a variety of scales in a whole host of heritage settings around the world. From the use of 3D visual and aural modeling of archaeological sites to large-scale digitization projects for the long-term preservation and curation of material heritage, digital technology has the potential to offer new insights into our understanding of the past for an ever-wider section of society.

At the same time, there has been a growing emphasis, both within the published and gray literature, on how we measure the value of this activity and what we mean by value in this context. As Parry (2010:5) highlights, this is an area of activity that can easily “fetishize the future and neglect the past.” It also has the potential, somewhat counter-intuitively perhaps, to actually *limit* access to material culture, locking it away behind a “protective” digital wall (Cameron and Kenderdine 2010). This paper examines the tension between accessibility and openness¹ through the critical lens of cultural value. It places discussion of digital engagement within the broader literature on interactivity and participation within heritage, the potential for co-production in research, and the ramifications this has for the question of the ownership of heritage, indeed, for the very definition of heritage itself. These are all issues that shape current conceptualizations of the relationship between the physical and the digital sphere in a variety of national contexts. We aim to move away from the concepts of the “digital panacea” and “digital optimism” to forge a more responsive, considered, and measured view of digital tools and interfaces. We focus on key questions about why history and heritage are important and intrinsically valuable, while also addressing practical challenges around funding and capacity. In particular, we highlight the difficulties in securing funding and resources, the challenge presented by a perceived need for continual innovation and of persuading management and stakeholders to invest time and money into digital projects, noting that there is a clear demand within the sector for better evidence of the value of digital engagement with the past, in both economic and cultural terms.

Historically, notions of cultural value in the heritage sector have been determined by curatorial experts based at institutions with large collections of artifacts. Labadi

(2013) explored shifts in the sector's understanding of cultural heritage through an in-depth study of UNESCO, concentrating in particular on the changing criteria used for designating assets within that organization's framework. In this context, the dominant European discourse of cultural heritage has been challenged in recent years by alternative narratives. The rise of new digital technologies brings a different dimension to this discussion, offering the potential to enhance active two-way engagement with heritage and facilitate access. In particular, digital means enable the co-production of exhibitions, oral histories, and other forms of display and archives based on personal remembrance, recollection, and interactivity (Adair et al. 2011). This paper examines both the current literature and — via a survey of heritage professionals and an international practitioners' workshop — the state of practice within museums and heritage organizations, addressing the acknowledged need for more effective evaluation of interaction between museums, digital spaces, curators, and visitors (Economou and Tost 2008). Importantly, in our evaluation of contemporary practice, we aim to discuss — and learn lessons from — both successful and less successful digital projects. The value of exploring failure is often overlooked in the critical literature (Champion 2008), and this study will address this gap.

We regard digital spaces not simply as a pathway to physical interaction but as a new opportunity for a different kind of experience; as Hogsden and Poulter (2012:81) suggest, we need to move away from a binary opposition between real objects and their digital representations, and instead explore the possibilities offered for “an alternative reciprocal model of engaging with things.” We therefore challenge the received view of objects and their value within the sector, informed by scholars such as Söderqvist and Bencard (2010), as these objects have potential to take on new digital lives, informed and shaped by different social groups. At the same time, others have begun to explore the impact of the digital on the consumers of heritage culture, focusing on questions of sustainability and the difficulties of maintaining genuinely two-way participatory relationships between the public and heritage institutions (Thornham and Popple 2013). We examine the effects of user-generated content and the crowd-sourcing of heritage on museum practices globally — particularly on the politics and ethics of display — by reviewing (1) the existing body of literature on museums and the digital, and (2) current live digital content from a variety of international contexts.

By projecting objects into the digital domain, some have argued that they are freed from their museum context, thereby shifting the balance of power and authority associated with them (Hogsden and Poulter 2012). This offers the potential not only to open up heritage to new groups, but also to enable a restructuring of authority and the possibility for a more democratic engagement with history (Adair et al. 2011) and the creation of genuinely participatory organizations (Simon 2010). Furthermore, the opportunities offered by digital engagement through websites and social media can challenge received ideas about what is inherently valuable about the past, not just from the perspective of the curator or historian, but also from

the view of wider publics (Giaccardi 2012). At the same time, the cost of such engagement can potentially create a new form of exclusion for those individuals and organizations that cannot afford the means of (co-)production. The critical question of the cultural value of digital engagement in a heritage context thus relates to much broader questions about public history and history from below, and longer traditions in which the ownership of history and heritage lies not just within professional bodies such as museums and universities (Samuel 1994; Kean and Ashton 2009). In this sense, focusing on the cultural value of digital engagement can also address critical questions about how societies can best understand and make use of the past (Kvan 2008).

The current literature focuses a great deal on the relationship between “real” objects and their digital representations, the transcoding process that lies between the two, and the issues that arise when digital tools themselves age (Manovich 2001; Parry 2007; Kalay 2008; Cameron 2012). Thus, the spotlight has so far remained largely on objects, the key issue of whether digital representation enhances, or detracts from, the physical artifact and how best to disseminate knowledge of material culture digitally. The focus of this study is different. We are concerned less with objects, and more with experiences. We concentrate here less on the relationship between the physical and the digital, and more on the cultural value of digital engagement itself, that is the perception of “actual or potential benefit” arising from the processes and experiences of engagement (Poll and Payne 2006:2). In the UK context, Dave O’Brien has also noted the wider social and economic associations of cultural value, where the arts more generally — including the heritage sector — are having to provide new ways of demonstrating their value to society (O’Brien 2010). Our work therefore speaks to the increasingly sophisticated and nuanced understandings of heritage as “a process and a consumable experience” (Ashworth 2014:3). It is also worth noting that there is an almost universal underlying assumption that, irrespective of the overall *quality*, brute *access* to heritage is increased through the use of the digital. We take this to be a fairly unproblematic premise, given that digital-only programming, whether inside or outside the confines of heritage organizations themselves, is still in its infancy. However, the nature of any increased access is far from evenly spread either socially or geographically, and more work is required on the specific nature of such engagement in order to understand it. Consequently, our article hopes to move beyond the rather more narrow understanding of digital potential presented by Arts Council England in their 10-year strategic framework *Great Art and Culture for Everyone*, where the digital is considered in terms related almost exclusively to breadth of audience and reach, rather than quality of experience (Arts Council England 2013:23, 29).

The core question that drives our research is this: are heritage institutions across the world capitalizing on the potential for valuable digital engagement as discussed in the literature? With this question in mind, rather than simply mapping the potential of digital tools for increasing access and engagement,² this article will also

explore the practical implementation of these tools, assessing how the opportunities they present have been realized in practice, whether with positive or negative results. Digital technologies present colleagues in the heritage sector with an array of new possibilities for the creative interpretation and presentation of heritage. However, as resources become ever scarcer, particularly in the context of stretched public arts funding in many countries (Hutchison 2016), it is imperative that mistakes are not made twice. As Parry (2007) notes, a history of museums and computing can be seen as a history of disconnect. It is important to move away from an examination of mere potential toward a critique of the value of digital engagement in the context of how museums and heritage organizations are dealing with the digital today.

Methodologies

In order to critically review the state of the literature, the use of digital technologies in the heritage sector, and the (potential) cultural value of digital engagement, we conducted an online survey of professionals involved in the history/heritage sector. This was designed to provide some sample data against which to triangulate the major discussions emerging from the academic literature on digital engagement, digital heritage, and cultural value. Using the online platform SurveyMonkey, we invited heritage professionals to comment on both their current experiences of using digital technologies in their work and at their institution and their perception of how digital tools influence the cultural value of heritage encounters. We asked respondents to tell us what kind of institution they worked for (e.g. museum, gallery, heritage site, etc.), where it was located and what their role was within the organization. We then asked a series of multiple-choice questions to assess the level of current use of digital technologies for virtual and onsite engagement and future plans for deploying these further, including the relative importance of digital technologies when trying to engage new audiences, use of different digital tools in galleries/exhibitions and whether they felt that the deployment of digital modes of engagement enhanced visitor experience. Finally, we asked respondents what they considered to be the main challenges when using digital tools in a heritage context, and asked them whether they felt that the value of heritage is enhanced by using digital technologies (see Appendix for a full list of questions).

For the multiple-choice questions, respondents also had the opportunity to provide more detail in a free-text box, which provided us a balance of quantitative and qualitative data. We circulated the survey via email lists, making extensive use of the Subject Specialist Networks, established by Arts Council England (2014) “for the sharing of expertise, research, mentoring and developing best practice” in relation to “specialist collections and their contribution to public engagement, education and enjoyment.” We targeted groups such as the Museum Computers Group and the Group for Education in Museums, as well as partner museums and heritage organizations involved in the project. The survey received 125 responses between 3

March and 12 May 2014, and the initial findings of our questionnaire formed the basis of a discussion with heritage professionals from a variety of international contexts at a workshop. In order to ensure that respondents felt able to give a full and frank assessment of their institution's involvement with and competence in using digital tools, we preserved both their personal anonymity and that of their institution, instead working with a series of named project partners to fully contextualize personal experiences in their specific institutional setting. Within this sample, there was a relatively even distribution in terms of role between those working in curatorial/collections-related (25%), education/learning (21%), digital-specific (15%), and directorial (13%) posts. Smaller portions of our respondents had as their primary focus operations (10%) marketing/communications (9%), research (4%), and freelance design/consultancy (3%). Institutionally, 60% of our participants were based primarily within a museum, whilst others were affiliated with charities (11%) heritage sites (10%), libraries and archives (9%), and galleries (5%). The remainder worked on a freelance basis. Although a substantial majority (86%) of the survey respondents were based in the UK, we circulated details of the survey findings in advanced and sought comment from representatives of our project partners who represented heritage organizations in Britain, Europe, Asia, and Africa: Marks & Spencer, Thackray Medical Museum, DDR Museum, Nordiska Museet, Science Museum, Boots, National Museums Liverpool, South African Holocaust and Genocide Foundation, National Centre for Contemporary Arts (Moscow), and The National Holocaust Centre (UK).

Our survey offered both a starting point for discussion on the current state of the art in museum and heritage practice as well as a snapshot of experiences more widely. The workshop served the purpose of a "focus group" in the research, giving space for heritage experts to consider key issues and themes of this research, which we captured through film recording. This mixed methodology allowed us to capture not only initial responses to the current patterns of digital engagement within the sector, but also more reflective, iterative feedback on those findings. The survey itself was designed as a means through which we might generate a much more in-depth conversation with a range of heritage organizations, rather than a representative sample of international significance. In addition, therefore, we drew on the findings of far larger samples generated by the trans-European project, *Europeana*, whose major reports on cultural heritage provide similar reflections on heritage practice in an international context, with a particular focus on digital collections and engagement ([Europeana 2016](#)).

We also took as a baseline assumption a specific view of what constitutes heritage. There are numerous competing accounts of what the term might mean to different groups, and within the context of digital engagement its definition has broadened still further. Indeed, there is little in the way of consensus on the most useful definition. Cutting through this Gordian knot of discourse, UNESCO considers heritage in very broad terms, embodying cultural, natural, intangible, movable, and immovable, on the ground and underwater, as clearly highlighted by its different

international conventions (UNESCO 1972). Within this, cultural heritage spans monuments, groups of buildings, and sites, whilst natural heritage refers to natural features, geological and physiographical formations, and natural sites. We will concentrate here on a definition of heritage which broadly excludes what is sometimes termed “natural heritage,” yet goes beyond the parameters of cultural heritage associated only with particular places and locations. As Mason and Baveystock (2008), among others, have noted, heritage has been defined as “everything” but also “nothing.” For us, heritage encompasses experiences associated with buildings, objects, written documents, and intangible aspects involved in the process of a society making sense of and remembering its past. It is about the present as well as the past, and can also inform our view of potential futures. We use Ashworth and Graham’s (2005:8) definition here, of heritage as “knowledge, a cultural product and a political resource.” Or as Silberman (2008:81) characterizes heritage: a “social activity embedded in a changing contemporary context.” This definition of heritage builds on debates within public history; as Samuel (1994) has noted, history is a “social form of knowledge,” rather than a static telling of the past that does not change with the present.

The focus of this article is on the role of digital engagement in museums, libraries, archives, and heritage sites, but a broad definition of what “heritage” means is important for a full view of the cultural value of engagement with that heritage. Relatedly, it is clear that much more work is needed in examining how communities and individuals are engaging with heritage outside of institutional structures; from family history websites such as ancestry.co.uk in the UK to online groups exploring community identity and local heritage in many different parts of the world. To give another example, the Pararchive Project, through its digital platform, Yarn, provides an innovative and sustainable model for the coproduction of community heritage with a range of organizations but which sits outside any one single institutional structure (Yarn 2015). This is a crucial area of development in both practice and the literature, as the digital offers more and more ways in which individuals and groups can create their own heritage communities and cultures. It is worth noting that whilst the role and views of the non-professional user and visitor, rather than researcher or other heritage professional, is crucial in addressing the question of cultural value, as already mentioned, a thorough analysis of this aspect of engagement is not possible within the confines of this paper. Some of the literature reviewed does address aspects of such engagement (for example, Weller 2013), still more is needed on the value of non-professional, individual engagement with heritage within and outside institutional structures. We focus on professionals and institutions yet keep the individual user firmly in mind throughout, with the overall aim of better understanding the role of the institution within wider questions of the value of digital engagement for the lay public.

We take our understanding of “engagement” from the National Coordinating Centre for Public Engagement. The NCCPE takes a broad view of engagement activity, which is “by definition a two-way process, involving interaction and

listening, with the goal of generating mutual benefit” (National Coordinating Centre for Public Engagement 2016). We are therefore not concerned simply with communicating more widely or effectively to public audiences; the promise of enhanced engagement in the heritage sector is far more closely related to co-production and collaborative dialog. Finally, we define “digital engagement” broadly as any kind of engagement with history or heritage that uses a digital format, positioning it as both a means of engagement and a form of engagement in itself. Digital tools for heritage can be generative, preservative, interpretive, or administrative (Heritage Lottery Fund 2012); all but administrative tools are considered here within the context of engagement with heritage.

Financial resources

One obvious but important mantra emerging from our survey of heritage professionals is that “it must be done well.” As one respondent discussed, misguided but well-meaning attempts to include digital technology in exhibitions and heritage spaces can result in a lot of “expensive furniture,” that are designed to bring a new dimension to visitors’ engagement with the past, but that end up being used little or in inappropriate ways. This is especially important given that funding is one of the key challenges identified by respondents, and it leads us on to questions about economic value. It is clear that money is scarce and what there is, our findings suggest, is often wasted through under-funding of a project, not providing longer-term support and/or channeling dedicating funding toward the wrong areas. There were also concerns raised about a perceived need continually to innovate and the lack of funding available to share established technologies and practices, or even to continue successful projects. Throughout our questionnaire and the literature more broadly, there is a strong emphasis that the value of heritage is independent from its economic worth; yet, it is also clear that there is an important connection between these two dimensions of value. Indeed, in his recent pilot study of augmented reality in the Allard Pierson Museum, Van der Vaart (2014) notes explicitly that “visitors are willing to invest time and energy into using a system, if the following three questions are answered from the beginning: what does it do? ... How does it work? ... Where does it work?”

A particularly noteworthy example of this attendant difficulty when designing major, digitally-driven experiences for a museum arose from one of our collaborating institutions: the DDR Museum in Berlin. The museum “concentrates on everyday life in the GDR” and aims to give a “hands-on experience of history, [where] ... the visitor has to take part, to handle the exhibits and to look behind drawers and doors” (Geithner 2014). As Michael Geithner, the DDR Museum’s Social Media Manager, notes, one of their most ambitious digital tools — The Museum Game — turned out to be “one of those pieces of expensive furniture.” The game, which was based around a giant interactive board with screens, involved quizzes, running round the museum, and even elements of karaoke, in order to encourage

visitors to interact not only with the objects and exhibits themselves, but with each other. However, as Geithner reflects, “the game took ... too much time, was a little bit too complicated, and ... visitors did not really want to interact with each other.” Furthermore, when the game was not operational because of technical difficulties, it became “just a huge table, standing in the middle of an exhibition, that had nothing to do with DDR” (Geithner 2014).

This experience highlights two of the important elements that also emerged from both our survey and the literature. Firstly, exhibits which are solely reliant on digital devices or experiences have a higher risk than those which only require a digital dimension for enhancement. Secondly, levels of complexity must be very carefully managed. Geithner feels that the actual game itself was not particularly complex; however, this proved not to be the case for visitors, who were either not prepared or not able to allow sufficient time to come to grips with how the game worked. As a result of these difficulties, The Museum Game served largely as a distraction from the content of the museum, and for our purposes highlights one way in which an expensive and well-intentioned digital tool can impede the cultural value of a heritage experience.

On the other hand, the DDR Museum’s experience with the Trabant (“Trabi”) car-driving simulator has been overwhelmingly positive. Geithner attributes this to two factors: (1) the simplicity of the interaction, which is based around the normal operation of a car with a virtual reality screen; and (2) the fact that even when the digital technology is not working (ordinarily a perpetual source of annoyance for visitors), the Trabi is still an interesting artifact in itself, attracting visitor interest in other ways and stimulating engagement even in the absence of the digital. In the case of the Trabi, the economic value of engagement through digital means is clearly demonstrated, with the inherent cultural value of the artifact being preserved.

The relative value of the digital experience

Questionnaire respondents also discussed whether the use of digital tools (within a museum or heritage setting or remotely) represents a qualitatively different aspect of the curator’s role or whether the digital is merely another tool within their current remit. Indeed, for many practitioners, born-digital³ objects and documents have further muddied the distinction between heritage and the digital; much of the content now being used and displayed in museums, libraries, and other sites is originally digital. The potential use of the digital in contrast to other tools and formats also leads us to question whether certain socio-economic or cultural groups are excluded from digital experiences (Greenfield-Gilat 2008:54). For professionals — and for visitors — does digital engagement with history and heritage lead to a different kind of value proposition compared with doing so through other media? Here, respondents mostly emphasized the importance of using appropriate tools for the type of historical content and type of engagement required, tailored to the needs and expectations of visitor groups. The key ways in which digital tools were said to enhance individuals’ experience were by:

- providing additional and/or more in-depth information or to stimulate a process of finding out more;
- opening up new areas, such as collections not on display, or to visitors with different needs, such as access needs or for international visitors that did not speak the language of the domestic setting;
- encouraging input from visitors, and the possibility for dialog with collections, exhibits, and curators;
- encouraging a new type of close relationship with the history in question through greater interactivity, which in turn could lead to increased levels of engagement.

Some also noted that digital interaction could help make the case for the value of heritage and history more generally. Yet almost all of the potential advantages of using digital tools described here might be said simply to represent a different and perhaps easier way for visitors to engage with the history in question rather than a qualitatively different kind of engagement. This raises the question of whether there are valuable aspects of such engagement specific to the digital of which professionals are not as yet aware. Does the digital make more possible, or represent a wholly different kind of engagement with the past? One significant issue is that digital tools almost automatically invite a more interactive — and consequently active — engagement with heritage culture, whilst also offering the opportunity for museums to engage with different demographics. While it must be kept in mind that digital engagement remains a challenge for some parts of society, for either economic or cultural reasons, it is also important to recognize that, for a new generation, “the line that divides the physical and online worlds, particularly for younger audiences, is increasingly blurred” (MacArthur 2011:64). There must be recognition, therefore, that while in the minds of many scholars there remains a qualitative difference between physical experiences of heritage and those mediated digitally, some emerging audiences may no longer question digital content in quite the same way.

Projects that use digital tools as the principal medium of delivery are increasingly commonplace within the sector. One key example is RIOT 1831 an interactive extension to an exhibit at Nottingham Castle, in which a “state of the art augmented reality app ... offers visitors an active role in the exhibition. They are able to interact with museum objects and watch animated first-hand witness accounts of the attack on the Castle.” Visitors with their own tablets and smartphones take part in the experience and “make their own decisions about whose version of history they believe” (Nottingham City Council 2014).

Digitization itself is a highly transformative process, and we must recognize that any projects or programs of mass digitization of artifacts should consider not just the potential for longer-term preservation but also the effects on the inherent cultural value of the digital analogs of physical objects. We might therefore see digital heritage encounters themselves as a qualitatively different *kind* of experience, generating a set of values that are dependent on both the original material, place or object, as

well as the medium through which it is presented. This could be seen as both a negative and positive development for the user. We should not “give up on the idea of heritage as a cultural product, but ... acknowledge cultural materials in a digital form as having their own life force, significance and social value in addition to heritage characteristics” (Cameron and Kenderdine 2010:182). In other words, there appears not to be a binary opposition between the medium and the message: instead, and in answer to the question posed at the start of this section, it is indeed possible to think of digital experiences of heritage as being in an altogether different category from physical encounters, without necessarily making judgements about the value of those experiences.

In much the same way that virtual reality has been identified as providing the opportunity to make abstract ideas visual and concrete, it is primarily the interactive and immersive potential of the digital that allows it to offer a qualitatively different kind of experience and consequently new forms of engagement (Heim 1993; Levy 1998). As a consequence, the real value of digital engagement with digital heritage lies in a different *type* of encounter, which seeks not to replace the tangible aspects of material culture, but rather to add additional explanatory layers to visitor experience. This can be achieved in a number of ways: through the integration of digital tools within exhibits, by creating a community of remote users through forums such as Yarn, or by creating parallel digital content to operate alongside the material culture of heritage. One practical way in which this is manifested is through the potential of the digital to create interactivity and reciprocal dialog with the curatorial process through virtual co-curation during exhibition design. Digital tools can therefore unlock not just additional value in objects and narratives, but fundamentally different species of cultural value that are inaccessible through conventional means. This raises the question of precisely *where* cultural value is located, a point of significant challenge for museum and heritage professionals and one that has been a major source of contention within the field.

The location of cultural value

One important question for those interested in the cultural value of history, heritage, and the past — whether researchers or heritage professionals — is precisely where the inherent value of engagement with digital tools lies. Many questionnaire respondents noted that engagement through digital means could detract from the intrinsic value of the objects or histories with which they work. For example, one questionnaire respondent, who worked for a heritage consultancy, warned that the digital “must not however overshadow the USP of what museums and heritage sites are about—people, objects and narratives.” Might digital technologies distract visitors from the content itself, focusing attention instead on the nature of the technological medium? This raises wider questions around the role of museums, heritage spaces, and history more generally: What should visitors expect to get out of their engagement with the past in these contexts? Is the process of engaging and thinking about

the past or the content presented the most important factor in heritage encounters? And crucially, who — if anyone — should decide on this?

Some studies have suggested that while an initial “entrancement” with new digital tools themselves may take place, this is generally followed by a lengthy engagement of visitors/users with the *content as well as the medium* of heritage. Reflecting on the use of digital interaction at the Dulwich Picture Gallery and Kew Gardens in London, Walker (2008), for example, found that the young people involved were engaged with the content of their heritage experience *because of* the exciting medium through which the engagement took place. This tallies with the experience of staff in the Special Collections at the University of Leeds; Katy Thornton, Head of Special Collections, notes that they have witnessed “the digital driving physical interaction,” their interactive online collections pushing users toward accessing physical objects. Renewed excitement about physical engagement can be created or at least enhanced, it seems, through a digital experience. This relates to our earlier discussion of how content and form interact, and encourages us to think further about the precise location of value in the process of digital engagement. That said, again as mentioned above, it also encourages us to move beyond the idea of a binary opposition between physical and digital encounters with history, and see different possibilities in these different interactions (Hogsden and Poulter 2012).

For Parry, new forms of social media are

moving the museum towards building relationships with individuals and communities according to parameters (related to identity, disclosure, care, trust) that are yet to be fully realised ... Similarly, we see the heightened realism of the new sensory media producing images and simulations that have the potential to hide their artifice and engender belief – and, in doing so, bringing into focus new questions of trust and authority. (Parry 2011:327–328).

While the current visibility of digital media in the context of museums and heritage institutions is heavily debated, Parry’s (2011:328) “heightened realism” relates to emerging technologies expected to remove the sense of presentation from the viewer. Consequently, we might anticipate that digital tools will simply become a far more expected and embedded part of the museum environment, and therefore any distracting influence they might have will be gradually lost. Nordiska Museet, Stockholm, for example, attempts to make informal, digitally-driven discussion a core part of the museum experience across exhibits, including online social media material which engages audiences before, during, and after their visit. According to Kajsa Hartig, Digital Navigator at Nordiska Museet, this has resulted not only in enhanced reach, but a different kind of engagement with visitors. Their virtual competition, for example, to produce images and share them through the online platform Instagram resulted in visitors producing original artistic responses to Nordiska Museet’s exhibition “Stripes, Rhythm, Direction” (Nordiska Museet 2014), a creative activity simply not possible on that scale without digital tools.

There is some suggestion that while digital platforms enable the preservation and sharing of cultural heritage in digital form, the systems available for this process are themselves restrictive and can impose a “single unifying ontology rather than supporting diversity” (Stuedahl and Mortberg 2012:109). This is another example of how the medium through which digital engagement occurs can be just as important in defining the cultural value of heritage encounters as the content itself. Indeed, Simon has argued that museum professionals often focus too much on what users can do — click on things, bring up searches, rate, and rank — and not enough on creating a system that “adapts responsively to those participatory actions” (Simon 2011:22). In a sense, therefore, the cultural value of a digital encounter can only be fully realized if the digital system itself is designed to meet the needs of users appropriately; paradoxically, focusing on the digital experience would appear to be important in order to achieve an increasingly subtle and ultimately more “natural” (i.e. physical) experience. For example, we might look to immersive experiences such as planetariums, where technological mediation is fundamental and inescapable, to learn how digital content can be brought into sharper focus over the medium of delivery. Part of the appeal of interactives in museums is to offer a counterpoint to material culture, but this must be weighed up against the risk of making digital installations mere bagatelles.

It is also interesting that there were almost entirely congruent answers to our survey when respondents considered the potential of digital tools to enhance the visitor experience and to increase the *value* of that experience. For those working in the sector, it seems, the quality of the heritage experience is analogous to the value of the material culture of heritage itself.

Cultural value and time

When thinking about the role of the digital in the history and heritage sector, we also need to take into consideration tensions between past, present, and future — this has important implications for thinking about cultural value and time. For some questionnaire respondents, the use of digital technologies in a historic setting could appear incongruous. It is in this regard that Parry (2007) raises concerns about the danger of “fetishizing” the future through digital engagement. It is clear that for professionals the value of digital engagement depends strongly on the heritage context, and on the use of technologies sympathetic and appropriate to that setting. Here, a distinction between history, heritage, and the past is important; as Kalay (2008) notes, the notion of heritage includes the process of a society remembering and discussing the past, rather than being solely focused on a past unconnected to the present. In this way, the use of the digital in exploring the past is frequently not inappropriate or incongruous because it also tends to reflect present concerns and current tools for engagement. Digital tools, furthermore, are very diverse; it might be that digital auralization tools, for example, can offer opportunities for organizations keen to avoid incongruous digital displays (Kearney et al.

2014). Immersive sound and olfactory installations, such as those used at the Thackray Medical Museum, Leeds, in their Leeds 1842 gallery to recreate the atmosphere of a Victorian street, demonstrate the potential for digital technologies to enhance museum environments.

The appropriateness of digital tools to communicate the past is a common point of debate, not least amongst respondents to our survey. That said, the question of appropriateness was generally linked specifically to the level of technological integration at work in a given exhibit. Respondents tended to link this in their feedback to comments on how far digital experiences were either integrated into, or separated off from a physical interaction with a museum exhibit or heritage site. However, integration was valued differently by respondents. For some, integration was crucial to the successful use of digital technologies; through full integration, the maximum collective value of the digital and physical could be achieved. Yet others thought that some separation of the two, through a physical interaction preceded or followed by a separate digital experience with related historical content, provided for a more “authentic” heritage experience, although there is of course considerable debate about whether heritage itself can be described as “authentic” (Hewison 1987; Wright 1991; Smith 2006). This, it is suggested, may allow the value of both the historical content and digital engagement to flourish. Implicit in this debate is the idea of the digital as a secondary adjunct; there remains for many respondents an inherent respect for the objects, sites, and “real thing” in terms of engagement with history and heritage. For example, very few respondents even mentioned the idea that digital tools could either protect or provide a replacement for interaction with physical objects in any sense. This contrasts with much literature on the possibilities of digital-only content in the form of virtual 3D modeling and printing, which argues strongly for the advantages of increased access to, and yet the preservation of, heritage sites. The lack of appetite for online-only content among heritage professionals we surveyed is also demonstrated by the launch and subsequent rebranding of the UK’s “national virtual museum,” which now focuses on reviews, news, and event listings rather than specifically providing a dedicated heritage space that might seem to replicate the experience of a museum online (Culture24 2016). This raises the question of historical value: what precise value does the public get from interaction with “the real thing,” and how can digital engagement complement this without acting as a detractor? One prominent, large-scale example of virtual artifacts used as surrogates for the original is the Google Art Project, in which users can take a virtual tour of over 400 art collections from around the world, with ultra-high resolution images offering users the opportunity to “[e]xplore artworks in incredible detail” (Google 2014). There is still an open discussion, however, about whether there exists an irrevocable dichotomy between the original artworks and their digital surrogate, and what the relative cultural value might be of encounters with these two kinds of artworks experienced by very different means.

In addition to this public utility dimension, discussion about the relationship between digital technologies and heritage has had, as one of its main foci, the preservation of cultural artifacts for the long-term security of collections and archives. There is a sense in which this maps onto questions around cultural value and time, especially as digital tools continue to develop, potentially allowing the construction and dissemination of more accurate replicas of original objects. However, scoping exercises such as *ENUMERATE* have centered largely on the way in which mass digitization is affecting “online access to the rich heritage contained in museums, galleries, libraries and archives,” rather than enhancing the cultural encounters themselves (*ENUMERATE* 2014:1). It is therefore important to make a clear distinction between what might be considered digital *accessibility* and digital *engagement*. The former pertains to availability and reach, while the latter is more properly a measure of the *impact* of digital encounters on heritage audiences. Issues of accessibility are therefore related to yet independent of those of preservation, where the primary focus is not on reconfiguring the relationship between heritage and observers but on enabling the objects that constitute heritage to persist over time in a digital form (Conway 1996).

Enhanced value through participation

It is clear that professionals see the potential for digital engagement to open up new spaces for visitor participation and engagement in the museum/heritage site. It is in this area where a new kind of engagement might lie, allowing the possibility for enhanced value through participation and co-creation. This focus on non-professional participation and contribution to the construction of knowledge capitalizes on much older ideas within public history literature about sharing authority and ownership of the past with all sorts of individuals and groups, not just academic historians and heritage professionals (Kean and Ashton 2009). As those involved in the history from below movement have noted for years, the potential for participation is an inherently valuable part of our negotiation of the past; history is “the work, in any given instance, of a thousand different hands” (Samuel 1994:15). The History Workshop Online Forum now continues this work in the digital era. On their website, the editorial team notes that “[t]oday, with the help of the internet, history can be ‘made’—collections displayed, manuscripts and documents downloaded, results published—by anyone with access to a computer” (History Workshop Online 2016). Digital tools for engagement offer the possibility of opening up a number of different histories and historical truths about the past, and therefore can offer an opportunity for democratizing the production of historical knowledge. That said, this approach does present potential challenges too; certain ways of recreating the past, such as through augmented realities, might actually reinforce a vision of one historical truth. Or the results of such projects might present political positions that some audiences find problematic. As Croke notes in her examination of co-creation and engagement with heritage in Northern Ireland, the co-creation of

community heritage can be an extraordinarily enriching experience for all concerned. However, it can equally raise important ethical issues that must be negotiated with sensitivity, and this is an area that requires much more sustained investigation (Crooke 2013).

However, for most questionnaire respondents, such issues are largely immaterial because the type of participation presented by digital tools is beyond the reach of their organization, due to perceived or actual lack of capacity to achieve this level of engagement. One blog post for our project website by Lorna Cruickshanks explores this potential; the Talking Objects project at the British Museum involves digital engagement to draw together a new “collective” of users around certain British Museum collections in order to produce a whole range of creative responses to historical objects (Experiencing the Digital World 2014). But this kind of project is only likely to be possible for organizations as well funded as the British Museum. Even Talking Objects was reliant on major support from the Esme Fairbairn Foundation and John Lyon’s Charity, and many such projects require substantial expertise in income generation alongside the requisite digital skills (The British Museum 2011:9). Nina Simon’s work on the participatory museum is crucial here; she argues that while many institutions offer the possibility for visitors to contribute, the “feedback loop” in such scenarios is frequently broken. Visitors are often given the opportunity to have an input, but there is little evidence that this feedback has any impact, or even goes anywhere or is read by anyone. Such data are frequently either not collected, or are collected but remain unused. Here, the value for visitors might well be enhanced if they were able to see that their feedback was having genuine and meaningful impact on the future development of an exhibition, rather than, often at best, simply being displayed as “visitor opinion.” Simon (2011:20) is particularly enthusiastic about the opportunities that such approaches can and should offer, arguing that the participation of users in a museum “leverages the knowledge, experience, and passions of everyone who walks through the museum doors to provide a diverse set of interpretations for each exhibit, object, or story presented.”

This kind of engagement is clearly not necessarily dependent on the effective deployment or even the presence of digital tools, but there is a sense within the literature that digital technologies have the power to move beyond more traditional forms of participatory experience. For Simon, the potential of participatory systems through digital technologies lies in finding ways for institutions to leverage the knowledge, views, and experiences of all visitors. Furthermore, by opening up content for anyone to consume, use, and reinterpret, a new depth of engagement and new kinds of cultural value can be generated. This means working out not only how to create and manage content online but also for professionals to concern themselves with building systems in which users can select and tailor the right content for them, while also contributing to curatorial practices and strategy (Simon 2010). This theme is also central to the aptly titled *Letting Go? Sharing Historical Authority in a User-Generated World*. In their introduction, Adair, Filene, and Koloski point out an obvious but important aspect of digital participation in

the present, that “Web 2.0 invites ordinary people to become their own archivists, curators, historians, and designers as they organize images on Snapfish, identify artifacts through Flickr, post texts on wikis, and create websites with Wordpress and Weebly.” The changing context beyond the museum means that digital engagement with history and heritage is happening in a whole range of scenarios anyway (Adair et al. 2011:11). Here we might again mention Yarn, which is exploring co-design approaches to many of these issues and is seeking to develop open source tools so that communities can curate their own resources and engage in empowering relationships with major cultural institutions. Working with the BBC and the Science Museum as well as an increasing number of local and community organizations and groups, Yarn is exploring how the public can engage with major collections and how genuinely collaborative curatorial and contextualizing dialogs can take place. The future evaluation of this project, which is still at an early stage, will present one potentially rich source of information. Many of the challenges around questions of IP and the “ownership” of co-produced heritage artifacts remain to be solved. That said, such projects provide a wealth of practical examples for how we might better understand, and engage with, what end users consider to be the real cultural value of heritage.

As Kathleen McLean notes, “[t]he issue isn’t *whether* we should provide opportunities for people to choreograph their experiences in museums; it’s how we embrace these opportunities *ourselves*” as curators, academics, and other kinds of heritage professionals (McLean 2011:79). This might mean a shift in the role of the museum professional, but it is clear that the expertise of the professional is still crucially important. Adair et al. (2011) argue, for example, that the most valuable kind of engagement comes within clear boundaries and facilitated frameworks, orchestrated by curators to allow for a more personalized visitor experience. Structure is important for the most creative and valuable engagement (Walker 2008; Adair et al. 2011).

Meanwhile, according to Giaccardi (2012), digital technologies themselves have the potential to undermine the museum as a centralized controlling force in heritage, allowing participants to record, share, and remember heritage experiences in new ways. One major shift has been the ability of visitors to photograph and share instantly objects and artifacts whose reach was previously defined by curators, librarians, and archivists. Whilst this might appear to signal a ceding of authority on the part of museum professionals, it can also be viewed as an enabling tool, allowing institutions, their collections, and their stories to reach new audiences and facilitate more open and personal discussions about heritage and its role within society, both past and present. Indeed, as Simon argues, “[p]articipatory websites are built to harness the power of diffuse collections not by refining what’s offered, but by making it easy for people to consume exactly the content they want” (Simon 2011:19). In a digital world, therefore, there is still a critical role for the curator, one which allows retention of some degree of curatorial discretion,

while at the same time acknowledging that user communities are increasingly able to select their method, extent, and form of engagement with heritage.

We can see then that there is a mismatch here between options presented in the literature and what museums and heritage sites think they are able to do in terms of participatory digital engagement. Yet, it is not a barrier that is insurmountable; as Oliver Cox commented in a blog post for our project, something as simple as a “retweet” from a heritage site can be enough to start breaking down the barriers of communication between professionals and visitors (*Experiencing the Digital World 2014*). Nonetheless, from the responses to our questionnaire it can be seen that there are challenges for professionals to find the capacity and resource to create the right systems from the start (“it must be done well”) and for those involved in more senior management positions to move past fears about relinquishing authority when inviting participation.

Cultural value, space, and place

Finally, a key question around digital engagement with heritage focuses on the role and significance of place. Does a physical sense of place matter in heritage engagement, and, if so, does it get lost in a digital encounter? While this theme was largely imperceptible in the questionnaire responses, it is an important subject within the literature. Hogsden and Poulter suggest that when an object is removed from its original context, ideas can be liberated from “authority,” raising the question of whether physical distance from an object affects the value of engagement (*Hogsden and Poulter 2012*). It is important to note that objects presented within a museum context are themselves already decontextualized, having been removed from their original setting. In this sense, digital tools are used primarily to provide an alternative, no less artificial context for display and engagement; it is the digital engagement itself that can produce new forms of personal display, removed from the professional confines of the traditional museum. Other projects have examined this more specifically (*Affleck and Kvan 2008; Mason and Baveystock 2008*), with some finding that despite the ability of the digital to free up and decontextualize a wealth of global heritage culture, the most highly prized kind of engagement for users remains one rooted in a specific sense of place, frequently connected to a personal/family/local version of the past. That said, as Joanna Royle of the National Trust has highlighted, meaningful engagement with a place does not have to mean the individual is in that place at the time, an important point for accessibility to certain groups and audiences (*Royle 2014*). Thus, the question is raised: can user-specific systems facilitate effective digital engagement that is personalized in a way appropriate to that individual rather than wider and more general social groups?

According to *Taylor (2010)*, there is something inherently space-specific about encounters within the context of a museum, which cannot be captured by the process of digitization. Whilst this speaks to concerns about the current limitations of creating digital surrogates, it also highlights, he suggests, the importance of space

to cultural value, which we take to be the actual or perceived benefit of engagement. The spatiality of the heritage encounter, for Taylor, is a critical feature of its cultural value, and the use of digital tools in the context of a gallery should take this into account in order to maintain the integrity of both artifacts and their setting:

Rather than yielding several generations of anaemic surrogate images, we might have developed websites or viewing mechanisms that captured—or at least acknowledged—the complex confluence of cognitive and affective responses evoked by physical space and personal circumstance within the museum gallery. (Taylor 2010:175)

Similarly, others emphasize that while new media can offer

enhancement and enrichment of heritage experience and interpretation, the question is how to make best use of new media in ways that also maintain the integrity of heritage artifacts and sites, that maintain a sense of distance and difference between the past and present, between the original and the reconstruction, between the object and its interpretation. (Malpas 2008:24)

Implicit here is the understanding that digital tools should enhance rather than replace the cultural value located within objects, artifacts, and places. For Malpas (2008:26), heritage is deeply connected with place, and we are therefore urged to “deploy new media in ways that maintain, and do not obscure or dissolve, a sense of place.” Finally, some projects are indeed creating a whole new ability for users to engage with places; Catherine Clarke’s (2016) work using digital tools to re-engage people with the medieval heritage of Chester and Swansea is a clear example of this (see also *Medieval Chester 2008* and *Medieval Swansea 2014*).

Conclusions and further questions

Toni Weller has noted that “[t]he digital age has often been championed as a great democratizer of information and access and, while that may be true, it is rather more complex than that when we come to the historical record and the public sphere” (Weller 2013:202). While digital tools might well have the ability to generate empathetic connection between different audiences and heritage, the use of digital technologies to open up the past to wholesale personal interpretation is not without attendant difficulties.

For most institutions, there is something of a discrepancy between the theory and literature on digital heritage, on the one hand, and the potential use of these tools in practice, on the other. One obvious yet hugely significant factor is that the large-scale projects often profiled in the literature are beyond the means of many institutions. There is a broad feeling that genuine participation by members of the public, through remote and on-site digital engagement, might well be able to relieve rather than add to the workload of museum/heritage staff. However, this is rarely realized in practice. Are there ways of making this more possible? If there is an

inherent value in users co-producing histories in conjunction with museums and heritage institutions through the use of digital technologies, can institutions find sustainable ways of making this happen? Might the digital world provide a space for experimentation, in which institutions and professionals can facilitate a freer “playing” with history and heritage without this leading inevitably to a questioning of the integrity of the institution and the story it tells? In order to achieve this, it is clear that new digital tools and platforms are needed, perhaps in the shape of Yarn or similar new projects. Further to this, and perhaps more importantly, it is clear that to capitalize on the theoretical potential of digital tools for participation and co-production identified in the literature and by professionals (in our questionnaire and our partner organizations), we need to rethink what the moderation of user content and visitor participation should look like within museums and other heritage organizations. Is there potential for institutions to move away from a perhaps rather risk-averse stance in their current approach to inviting other voices into the museum, and in doing so create a shift in power relations between heritage users and professional institutions?

We have focused here on the relationship between current academic and professional practices in the heritage sector, and how current academic debates can speak to practical challenges faced by heritage professionals. However, as we have also suggested throughout, it is important to acknowledge that on numerous occasions such discussions can be rendered redundant if audience groups representing wide cross-sections of society are not included. If certain audience groups feel marginalized, this can lead to digital tools being deployed in inappropriate ways (leading to our concern about “expensive furniture”). This, in turn, can lead to the further centralization of authority over heritage in the very institutions that seek to use digital tools to democratize engagement with the past. It is therefore of paramount importance that academia and the heritage sector engage wholeheartedly in open discussion with various publics about the different ways in which digital technologies can and should be used in a heritage context. This may well necessitate an expansion, or realignment, of existing audience consultation practices when designing new content or evaluating exhibitions. Or it might simply involve making better use of the wealth of visitor data heritage organizations themselves regularly collect. Clearly analyzing the wealth of user data that is potentially available is very resource intensive. However, in an age of research tools increasingly designed to mine “big data,” undertaking such an analysis is more realistic than ever before. Engaging with such data more effectively and systematically might well be the most effective way of ensuring the integration of digital tools into heritage in such a way that the cultural value of the heritage in question is not only preserved, but also enhanced.

To return to our central question: are heritage institutions across the world capitalizing on the potential for valuable digital engagement as discussed in the literature? It seems clear that amongst heritage professionals a wide range of new and increasingly refined digital tools are being mobilized in order to increase the value

of digital, virtual, and remote offerings for public audiences. In these terms, responsive practices and user engagement is moving at a much faster pace than much of the discussion in the academic literature, leading to an imbalance between digital developments and the reflective case studies such literature generally employs. In effect, the cutting edge of exploring digital possibilities in heritage is now firmly in the realm of practice. Nonetheless, we suggest, there are still valuable lessons to be learned from engaging with more theoretical considerations of what the digital may offer and how its implementation can enhance the cultural value of heritage experiences. Bridging between the practices of both heritage professionals and their audiences as well as theory remains not just a practical possibility, but a necessity, if we are to fully understand whether users are becoming more engaged by digital tools, and if so, what the value of this engagement is for their experience of heritage.

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Notes

- 1 For us, openness implies transparency and fairness as well as the ability to actually access heritage. We think that accessible heritage is already widespread, whilst there are issues of decision-making which remain closed.
- 2 Mapping the potential of digital tools for increasing access and engagement is, again, a common approach in the literature in this area (Leese 2008).
- 3 “Born-digital” content is content which is digital in its original form, as opposed to having been digitised from a physical object.

References

- Adair, Bill, Benjamin Filene, and Laura Koloski (editors) 2011 *Letting Go?: Sharing Historical Authority in a User-Generated World*. Left Coast, Philadelphia.
- Affleck, Janice, and Thomas Kvan 2008 A Virtual Community as the Context for Discursive Interpretation: A Role in Cultural Heritage Engagement. *International Journal of Heritage Studies* 14(3):268–280.
- Arts Council England 2013 Great Art and Culture for Everyone. 2nd ed. Electronic document. http://www.artscouncil.org.uk/media/uploads/Great_art_and_culture_for_everyone.pdf, accessed July 1, 2014.
- Arts Council England 2014 Subject Specialist Networks. Electronic document. <http://www.artscouncil.org.uk/funding/apply-funding/funding-programmes/renaissance/subject-specialist-networks/>, accessed August 17, 2015.

- Ashworth, Gregory J 2014 Heritage and Economic Development: Selling the Unsellable. *Heritage & Society* 7 (1):3–17.
- Ashworth, Gregory J., and Brian Graham 2005 *Senses of Place, Senses of Time*. Ashgate, Aldershot.
- Cameron, Fiona 2012 The Politics of Heritage Authorship: the Case of Digital Heritage Collections. In *New Heritage, New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 170–184. Routledge, London/New York.
- Cameron, Fiona, and Sarah Kenderdine (editors) 2010 *Theorizing Digital Cultural Heritage*. MIT Press, Cambridge.
- Champion, Erik 2008 Explorative Shadow Realms of Uncertain Histories. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 185–206. Routledge, London/New York.
- Clarke, Catherine 2016 Imagining medieval Chester: practice-based medievalism, scholarship, and creativity in *Studies in Medievalism XXV: Medievalism and Modernity*, edited by Karl Fugelso, Joshua Davies and Sarah Salih, pp. 115–134. Rochester NY, Boydell and Brewer.
- Conway, Paul 1996 *Preservation in the Digital World*. Commission on Preservation and Access, Washington, DC.
- Crooke, Elizabeth 2013 The Politics of Community Heritage: Motivations, Authority and Control. *International Journal of Heritage Studies* 16(1):16–29.
- Culture24 2016 Culture24ArtHistoryScience. Electronic document. <http://www.culture24.org.uk/home>, accessed June 14, 2014.
- Economou, Maria, and Laia Pujol Tost 2008 Educational Tool or Expensive Toy? Evaluating VR Evaluation and its Relevance for Virtual Heritage. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 242–260. Routledge, London/New York.
- ENUMERATE 2014 Survey Report on Digitisation in European Cultural Heritage Institutions 2014. Electronic Document. <http://www.enumerate.eu/fileadmin/ENUMERATE/documents/ENUMERATE-Digitisation-Survey-2014.pdf>, accessed September 30, 2014.
- Europeana 2016 Europeana Collections. Electronic Document. <http://www.europeana.eu/portal/>, accessed July 3, 2014.
- Experiencing the Digital World 2014 Digital Tools in the Service of Difficult Heritage. Electronic Document. <http://www.digitalheritage.leeds.ac.uk>, accessed July 28, 2014.
- Geithner, Michael 2014 DDR Museum. Paper Presented at the Experiencing the Digital World Workshop, Leeds.
- Giaccardi, Elisa (editor) 2012 *Heritage and Social Media: Understanding Heritage in a Participatory Culture*. Routledge, Oxford.
- Google 2014 Google Art Project. Electronic Document. <http://www.google.com/culturalinstitute/project/art-project>, accessed April 23, 2014.
- Greenfield-Gilat, Yehuda 2008 Through Form and Content: New Media Components and Cultural Heritage Sites Management, in the Jewish Traditional Society. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 53–66. Routledge, London/New York.
- Heim, Michael 1993 *The Metaphysics of Virtual Reality*. Oxford University Press, London.
- Heritage Lottery Fund 2012 Using Digital Technology in Heritage Projects: Good Practice Guidance. Electronic Document. http://www.hlf.org.uk/HowToApply/goodpractice/Documents/Using_Digital_Technology_Good_Practice.pdf accessed July 1, 2014.
- Hewison, Robert 1987 *The Heritage Industry: Britain in a Climate of Decline*. Methuen, London.
- History Workshop Online 2016 History Workshop Online. Electronic Document. <http://www.historyworkshop.org.uk>, accessed July 19, 2014.
- Hogsden, Carl, and Emma Poulter 2012 Contact Networks for Digital Reciprocity. *Museum & Society* 10 (2):81–94.
- Hutchison, David 2016 Local Authority Arts Funding ‘cut by more than £56m’. The Stage. Electronic Document. <https://www.thestage.co.uk/news/2016/local-authority-arts-funding-cut-by-more-than-56m/>, accessed August 24, 2016.

- Kalay, Yehuda 2008 Introduction: Preserving Cultural Heritage Through Digital Media. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 1–10. Routledge, London/New York.
- Kean, Hilda, and Paul Ashton 2009 Introduction: People and their Pasts and Public History Today. In *People and their Pasts: Public History Today*, edited by Hilda Kean, and Paul Ashton, pp. 1–20. Palgrave, Basingstoke.
- Kearney, Gavin, Marcin Gorzel, and Frank Boland 2014 On Audio-Visual Immersion in 3-D Digital Heritage Presentations. Paper Presented at Digital Heritage: Digital Communities in Action, University of York.
- Kvan, Thomas 2008 Conclusion: A Future for the Past. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 304–313. Routledge, London/New York.
- Labadi, Sophia 2013 *UNESCO, Cultural Heritage, and Outstanding Universal Value: Value-Based Analyses of the World Heritage and Intangible Cultural Heritage Conventions*. Alta Mira Press, Lanham.
- Leese, Alexander S 2008 *Social Media and the (Re)interpretation of Digital Heritage*. University of Manchester Press, Manchester.
- Levy, Pierre 1998 *Becoming Virtual: Reality in the Digital Age*. Plenum, New York/London.
- MacArthur, Matthew 2011 Get Real! The Role of Objects in the Digital. In *Letting Go? Sharing Historical Authority in a User-Generated World*, edited by Bill Adair, Benjamin Filene, and Laura Koloski, pp. 56–65. Pew Center for Arts & Heritage, Philadelphia.
- Malpas, Jeff 2008 Cultural Heritage in the Age of New Media. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 13–26. Routledge, London/New York.
- Manovich, Lev 2001 *The Language of New Media*. MIT Press, Cambridge.
- Mason, Rhiannon, and Zeldia Baveystock 2008 What Role can the Digital Play in the Re-imagining of National Identities?: England and its Icons. In *Heritage and Identity: Engagement and Demission in the Contemporary World*, edited by Marta Anico, and Elsa Peralta, pp. 15–28. Routledge, London/New York.
- McLean, Kathleen 2011 Whose Conversations, Whose Questions? In *Letting Go? Sharing Historical Authority in a User-Generated World*, edited by Bill Adair, Benjamin Filene, and Laura Koloski, pp. 70–79. Pew Center for Arts & Heritage, Philadelphia.
- Medieval Chester 2008 Mapping Medieval Chester. Electronic Document. <http://www.medievalchester.ac.uk/>, accessed July 2, 2014.
- Medieval Swansea 2014 Place and Perspective in Medieval Swansea. Electronic Document. <http://www.medievalswansea.ac.uk/>, accessed July 2, 2014.
- National Coordinating Centre for Public Engagement 2016 What is Public Engagement? Electronic Document. <http://www.publicengagement.ac.uk/explore-it/what-public-engagement>, accessed August 18, 2015.
- Nordiska Museet 2014 Stripes, Rhythm, Direction. Electronic Document. <http://www.nordiskamuseet.se/en/utställningar/stripes-rhythm-direction>, accessed May 3, 2014.
- Nottingham City Council 2014 Project: Riot 1831. Electronic Document. <http://www.nottinghamcity.gov.uk/Riot1831>, accessed June 11, 2014.
- O'Brien, Dave 2010 *Measuring the Value of Culture: A Report to the Department for Culture, Media and Sport*. Department of Culture, Media and Sport, London.
- Parry, Ross 2007. *Recoding the Museum: Digital Heritage and Technologies of Change*. Routledge, Oxford.
- Parry, Ross (editor) 2010 *Museums in a Digital Age*. Routledge, Abingdon/New York.
- Parry, Ross 2011 Transfer Protocols: Museum Codes and Ethics in the New Digital Environment. In *The Routledge Companion to Museum Ethics*, edited by Janet Marstine, pp. 316–331. Routledge, London/New York.
- Poll, Roswitha, and Philip Payne 2006 Impact Measures for Libraries and Information Services. Electronic Document. http://conference.ub.uni-bielefeld.de/2006/proceedings/payne_poll_final_web.pdf, accessed August 24, 2016.
- Royle, Joanna 2014 National Trust. Paper Presented at the Experiencing the Digital World Workshop, Leeds.
- Samuel, Raphael 1994 *Theatres of Memory: Past and Present in Contemporary Culture*. Verso, London.

- Silberman, Neil 2008 Chasing the Unicorn?: The Quest for “Essence” in Digital Heritage. In *New Heritage: New Media and Cultural Heritage*, edited by Yehuda Kalay, Thomas Kvan, and Janice Affleck, pp. 81–91. Routledge, London/New York.
- Simon, Nina 2010 The Participatory Museum. Electronic Document. <http://www.participatorymuseum.org/>, accessed July 3, 2014.
- Simon, Nina 2011 Participatory Design and the Future of Museums. In *Letting Go? Sharing Historical Authority in a User-Generated World*, edited by Bill Adair, Benjamin Filene, and Laura Koloski, pp. 18–33. Pew Center for Arts & Heritage, Philadelphia.
- Smith, Laurajane 2006 *Uses of Heritage*. Routledge, Abingdon.
- Söderqvist, Thomas, and Adam Bencard 2010 Do Things Talk? *Max Planck Institute for History of Science, Preprint Series* 399:92–102.
- Stuedahl, Dagny, and Christina Mortberg 2012 Heritage Knowledge, Social Media and the Sustainability of the Intangible. In *Heritage and Social Media: Understanding Heritage in a Participatory Culture*, edited by Elisa Giaccardi, pp. 106–125. Routledge, Oxford.
- Taylor, Bradley L. 2010 Reconsidering Digital Surrogates: Towards a Viewer-Orientated Model of the Galley Experience. In *Museum Materialities: Objects, Engagements, Interpretations*, edited by Sandra Dudley, pp. 175–184. Routledge, London.
- The British Museum 2011 Report and Accounts for the Year Ended March 31, 2011. Electronic Document. https://www.britishmuseum.org/pdf/TAR10_11.pdf, accessed August 25, 2016.
- Thornham, Helen, and Simon Popple 2013 *Content Cultures: Transformations of User Generated Content in Public Service Broadcasting*. I. B. Tauris, New York.
- UNESCO 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage. Electronic Document. <http://whc.unesco.org/en/conventiontext/>, accessed May 7, 2014.
- Van der Vaart, Merel 2014 Using Augmented Reality in the Museum. Electronic Document. <http://mesch-project.eu/using-augmented-reality-in-the-museum/>, accessed June 24, 2014.
- Walker, Kevin 2008 Structuring Visitor Participation. In *Digital Technologies and the Museum Experience: Handheld Guides and Other Media*, edited by Loic Tallon, and Kevin Walker, pp. 109–124. Alta Mira Press, Lanham.
- Weller, Toni 2013 Conclusion: A Changing Field. In *History in the Digital Age*, edited by Toni Weller, pp. 195–205. Routledge, Oxford.
- Wright, Patrick 1991 *A Journey Through Ruins: The Last Days of London*. Oxford University Press, Oxford.
- Yarn 2015 Yarn. Electronic Document. <http://yarncommunity.com>, accessed February 25, 2016.

Appendix

1: Survey Questions

[* - free text comment available]

1. What kind of institution do you work for (e.g. museum, gallery etc.)?
2. Where is your institution based?*

 - UK
 - Europe (other than UK)
 - North America
 - South America
 - Africa
 - Asia
 - Australasia

3. What is your role within the institution?
4. How important are digital technologies to your institution when trying to engage new audiences?

- Extremely important
 Very important
 Fairly important
 A little important
 Not important at all
5. What kinds of digital platform does your organization use to try and engage audiences?*
- Twitter
 Facebook
 Blog
 Virtual exhibit
 nline catalogue
6. Do you currently make any/all of your collections freely available online?*
- Yes – all of our collections
 Yes – most of our collections
 Yes – some of our collections
 Yes – a few objects/items
 No
 Not applicable
7. What kinds of digital technology do you use in galleries and exhibitions? (tick all that apply)*
- Video (with audio)
 Video (without audio)
 Audio
 Interactive (e.g. touchscreen)
 Live comments (e.g. integrated social media)
 QR codes
 Audio games
 Video games
 Not applicable
8. What are the major challenges/difficulties that you face when using digital technologies to try and engage new audiences?
9. Does the use of digital technologies either in galleries/exhibitions or online enhance visitors' experiences?*
- Always
 Sometimes
 ccasionally
 No
10. Do you think that the value of heritage is enhanced by using digital technologies?*
- Always
 Sometimes
 ccasionally
 No

Notes on contributors

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