Abstract

This article is an attempt to frame a way of seeing museums after the digital revolution. By introducing the concept of the 'postdigital', its aim is to evidence a tipping point in the adoption of new media in the museum—a moment where technology has become normative. The intention is not to suggest that digital media today is (or, indeed, should be) universally and equally adopted and assimilated by all museums, but rather to use the experience of several (national) museums to illustrate the normative presence digital media is having within some organizational strategies and structures. Having traced this perceived normativity of technology in these localized institutional settings, the article then attempts to reflect upon the consequences that the postdigital and the normative management of new media have for our approach to museological research.

Keywords

Introduction

This article is an attempt to frame a way of seeing museums after the digital revolution. By introducing the concept of the 'postdigital', the aim here is to evidence a tipping point in the adoption of new media in the museum—a moment when technology has become normative and an "instrumental ought" (Barham 2012: 93). The intention is not to suggest that digital media today is (or, indeed, should be) universally and equally adopted and assimilated by all museums, but rather to use the experience of several (national) museums in the UK to

illustrate the normative presence digital media is having within some organizational strategies and structures. Drawing upon the concept of technological 'capture' from Friedel (2012), what we will see in these museums are traces of this 'normativity' (a term used advisedly in this context) in their preparedness for a postdigital organizational structure, in their blended approaches to media and production, in their multiplatform vision and brand, and in the influence of digital thinking on (in some cases) nondigital activity in the institution. Having traced this perceived normativity of technology in these localized institutional settings, the article then attempts to reflect upon some of the consequences that the postdigital and the normative management of new media have for our approach to museological research. It will be suggested that digital heritage research (in this postdigital condition) can be characterized by an alternative set of starting points and theoretical frameworks, in particular how acknowledging blended and embedded new media negates neat distinctions between 'digital' and 'nondigital' and how overcoming a discourse of 'technological revolution' can situate our research inquiry, as well as our theoretical reference points, outside a paradigm of 'change' and 'progress'. This article may also stand as a response to the challenge for more theorized readings of museum institutional change with digital technology. Peacock (2008: 345) calls for an extension of the "cultural turn" (Parry 2005) in museum computing research to include a theorization of "change": "What is also needed in the discussion of technology-related change in museums," he explains, "is theory which explores how organisations themselves mediate, shape and create the effects of technology." In its consideration of the organizational capture and normative management of digital technology there is a conscious attempt in this article to contribute to what Peacock (2008: 346–347) calls the "missing links" (as well as the need for more "critical scrutiny") of our understanding of museums' relationship with new media.

The discussion here is informed partly by a series of in-depth semistructured interviews carried out over a two-month period by the author with senior managers of new media in six different national museums in the UK: Carolyn Royston (Head of Digital Media, Imperial War Museums); Dave Patten (Head of New Media, The Science Museum); John Stack (Head of Tate Online, Tate); Fiona Romeo (Head of Design and Digital Media, National Maritime Museum); Matthew Cock (Head of Web, British Museum); and Andrew Lewis (Digital Content Delivery Manager, Victoria and Albert Museum). The work also stems from three two-day residential 'sandpits', convened and led by the author, at which participants from over twenty cultural heritage organizations, academic institutions, and commercial organizations reflected upon their experience of integrated and embedded digital media in museums. Furthermore, as well as looking at its subject through the prism of the history of technology, philosophy, and the philosophy of social sciences literature, the research also crucially draws upon a substantial body of archival and documentary evidence from the institutions themselves (including formal annual reviews, strategy documents, and minutes of board meetings), both published and unpublished.

Visions of Digital Normativity

From the moment first adopters began to use computers in museums, there have been visions and projections of a future profession in which the digital is naturalized. In the late 1960s academics such as William J. Paisley (from Stanford University's Institute for Communications Research) were imagining the experience of future visitors to museums:

> Sometime in 1980 a scholar will enter a major museum, set himself at a computer terminal in the research room, and ask to review all works depicting, say, sailing vessels . . . He will expect to see works from all significant collections around the

world, including works currently in storage in the museum, and those out in travelling exhibitions . . . At another terminal in the research room, an art student is reviewing treatments of the running human figure from several cultures . . . At a terminal in the museum lobby, a visitor scans the daily notices of special exhibits and events. When he encounters an unfamiliar term, he queries the computer. An explanatory footnote is slipped into the text as it pages across his scope. When he is finishing reading, the computer prompts him to stop at the terminal again on his way out, to answer a few questions about exhibits he enjoyed and other exhibits he would like to see in the future. (Paisley 1968: 195–197)

Paisley's vision extended further, to terminals underpinning administrative systems, acquisitions, and accounts, and embedded within the learning opportunities of the museum: "In the Children's Gallery one grade-school visitor is completing an instructional program on colour relationships," he explained, "[a]nother is playing a quiz-game with the computer on the names of famous statues. A third is creating a composition." Paisley, though only at the early dawn of museum computing, nonetheless envisaged a museum utterly automated and digitized, where digital technology is pervasive and embedded. Paisley's contemporary Edmund A. Bowles (from the Department of Educational Affairs at the IBM Corporation) poignantly referred to the way the computer would one day be embodied in a "new physiognomy" of the museum (Bowles 1968: xix). For practitioners and writers such as these, as indeed for Everett Ellin (from the then newly formed Museum Computer Network), it was "not . . . outrageous to dream of the day when museum information may be delivered electronically from a computer centre directly to the home or classroom," and when "we might hope to orient and serve the museum visitor in a variety of modes keyed, under computer control, to . . . individual requirements" (Ellin 1968: 332). This reverie became a

recurring motif in the museum computing literature that followed over the subsequent ten years. Manuals looked to "forecast" a future where uses of computing in museums would be "commonplace," where computers would be used by staff "routinely" (Chenhall 1975: 2–5). In 1976 the team at the University of Kansas Museum of Natural History (keen to share with the sector their "exciting but often frustrating" process of implementing the automated cataloguing for collections) were sustained by "visions of trouble-free instant access to the data associated with the collections of the world," with curator-researchers "in constant communication" via "digital technology." "Perhaps someday," they mused, "this vision will become a reality" (Humphrey and Clausen 1976: 4). Even a generation later we find writers such as Julian Spalding anticipating a future in which the digital is integrated into all aspects of the visitor's experience and the institution's public engagement offer. Writing in 2002, he plays with the possibilities for a family group visiting the British Museum a decade later, in the year 2012. From the decision to visit the museum to the different pathways and experiences that each visitor chooses, to leaving the museum (completely satisfied and inspired by their visit), the family group's experience is utterly enmeshed, enhanced, and enveloped by responsive, personalized, and ambient digital interpretive media (Spalding 2002: 156–167).

In each of these visions of a heritage sector within an "increasingly digital life" (McKenzie and Poole 2010: 4), the description is of digital technology that has become more than just widely adopted and commonplace. These, in fact, are visions of digital technologies that "pervade" the operations and strategies of museums (Peacock 2008: 333), where digital media has become part of the body of the museum—expected, routine, integral. These are imagined scenarios of not just adoption and widespread use, but of what Chatterjee, Grewal, and Sambamurthy (2002: 66) call "assimilation"—where new technology "diffuses across organizational work processes and becomes routinized in the activities associated with those

processes." What the authors attempt to chart and measure in their research (and what our past museum computing visionaries, before them, were attempting to predict), is a condition in which digital media has become normative within the institution.

The Concept of Normativity

The term 'normative' is used advisedly and deliberately here in our discussion, mindful of how it is considered and debated within the history of technology (Harbers 2005), philosophy (Barham 2012), the philosophy of social sciences (Turner 2007), the philosophy of language (Wikforss 2001), and analytical philosophy (De Caro and Macarthur 2010). *Normative* is a term with an important (if not always straightforward) set of referents and implications that are of use to us in this context. To say that digital media is *normative* (or is being managed *normatively*) within the museum is to imply more than just *adoption* and *acceptance*. First, normativity is situated; something that is *normative* is a localized construction (a representation in one context), and not a universal reality (Turner 2007: 72). In other words, to say that digital media is normative is to comment on how it is perceived to be the norm in one situation, and not how it is the global standard. Second, the normative is constructed; as Hans Harbers (2005: 268) has shown in his study of the politics of technology, *normativity* speaks to a set of values that are "actively created, constructed-in-practice." To say digital media is, therefore, *normative* in a particular context such as a museum (rather than *adopted*, or *assimilated*), is to acknowledge that a set of judgments have been made by a particular community. It infers the presence of values. Third, the normative is instrumental; to evoke the term *normative* is (to many writers on normativity, if sometime problematically) to imply an "ought," and that there is a "right" (Wikforss 2001: 203). The philosopher James Barham (2012: 93) alerts us to how "[t]he paradigm case of 'normativity' is undoubtedly moral prescription and proscription, expressed through the terms 'ought,' 'should,' 'must,' and

related locutions." To use the terminology of *norms*, *normative practice*, and *normativity* is, therefore, to invoke "what we should or ought to do" (De Caro and Macarthur 2010: 1). In other words, 'norms' are, as Barham (2012: 93) puts it, "instrumental in character":

> They seem to be essentially involved with furthering the actualization of ends by specifying actions conducive to such actualization. That is, norms connect ends to the appropriate means, and wherever there is a means-end relationship, there is normativity in this sense. (ibid.: 93)

Therefore, to say that the digital is being treated *normatively* in the museums in question here means (in philosophical terms) much more than just implying the digital is accepted or assimilated. Rather, it is to signal that the normative digital is knowingly (in this local context) an agent to something good. Or, to follow Barham's formation, the presence of digital media (the norm) connects the museum's goals (the ends) to the museum's activity (the means). The presence of digital as a *norm* furthers the actualization of the museum's ends. In essence, arguing that the digital has become *normative* (and specifically to use that word) in the museum is not to say that it is widespread or accepted (even though both of these may or may not be true); it is rather to say that digital has become logically wired into the reasoning of the museum—what Barham (2012: 93) would call the "instrumental ought." In other words, it is understood that the museum (the agent) should use digital in order to meet its goals. Our discussion here, therefore, advisedly uses the term *normative* to describe the presence of digital media in these museums to evoke the philosophical connotations that the digital is not only typical and standard, but indeed perceived to be how things ought to be, while also recognizing that these arrangements might also be situated (local) and constructed (a value judgment).

Evidencing Normativity in the Museum

How, therefore, might the normative management of the digital manifest itself in museums? If normativity is present, where do we look in organizations for evidence of it, especially in regard to digital technology? In this respect technology assimilation theory provides a useful apparatus to give us direction and clarity (Chatterjee et al. 2002; Hossain et al. 2011). Building upon the earlier work of Wanda Orlikowski (produced in the School of Management at MIT), these approaches from business studies offer a structurational model with a (largely) common nomenclature and differentiation that is particularly helpful and persuasive in conceptualizing how and where technology becomes assimilated into organizations. Informed by the sociology of Anthony Giddens, the structuration of Orlikowski (1992: 404) sensitizes us to what she calls "the reciprocal interaction of human actors and structural features of organizations," and the assumption that human actions are both "enabled and constrained by structures." Practically, it is the distinction between the structures of *signification*, *legitimization*, and *domination* that are of particular use to our study of normative digital media in the museum. Within this model, each of these institutional 'metastructures' are seen to influence the behavior of individuals inside the organization (Hossain et al. 2011: 580). In the case of the museum, the *structures of domination* could include the rules that regulate actions in the institution as manifest, for instance, in the museum's organizational shape or its mission; these are structures that might reveal how digital is part of what the museum considers itself to be. Distinct from these are the *structures of legitimization* in the museum, which might be seen as those that validate behaviors, such as the allocation of resources to particular digital projects or value given to digital skills or to working in a digital way; in other words, these are structures that might reveal how digital is embedded in how the museum functions. Finally, the *structures of*

signification are those visible and meaningful directions captured in the museum's strategy; structures, in other words, that indicate how the digital is critical to how the museum wants to develop. Together these metastructures not only help to explain the assimilation of technology into organizations, but also provide the tools by which we can begin to evidence the normative management of digital media within museums.

Normativity Through Structures of Domination

Let us consider, therefore, the first of our three metastructures—*domination*—and, specifically, the concepts of mission and organizational structure. Acknowledging, as McKenzie and Poole (2010: 58) do, that "it seems more the case that heritage organisations have evolved to deliver their content and operations using digital technologies," it is not too difficult to find evidence today of digital being naturalized within museums' visions and articulations of themselves. This is sometimes an overt acceptance of digital normativity. For instance, on receiving the results of its institutional digital review, the board of trustees of the Victoria and Albert Museum (V&A) concluded that "the physical success of the Museum" was now "linked to its successes in digital spaces" (V&A 2012: item 5). This digital review, undertaken internally by the museum and discussed at its board of trustees meeting in March 2012, was unequivocal in underscoring how "[p]roviding access to the V&A's collections is central to the Museum's mission" (ibid.). Yet elsewhere, digital normativity is perhaps played out more subtlety. It is revealing, for instance, to consider the language within the succession of annual reports of another national museum (the British Museum) over the last decade and trace the change in prominence and expression around digitality. The British Museum's review of 2004–2006 gave a short passage (part of one paragraph within a seventy-eight-page document) to the challenge to "transform the website into a public space for multifaceted cross-cultural enquiry, to make it not merely a source of information about the collection and

the Museum, but a natural extension of its core purpose to be a laboratory of comparative cultural investigation" (British Museum 2006: 9). For the 2006–2007 review, digital then became a full paragraph (entitled "Website") emphasizing its importance in "allowing the public much greater access to the BM's intellectual resources" (British Museum 2007: 53). But subsequently, in the following two years, we can see the prominence of digital in the museum's annual public self-reflection growing to a whole section, in 2008 celebrating how the "BM's digital presence extends to many projects internationally" (British Museum 2008: 55) and in 2009—with reference to its 6.5 million website visits—describing how online access had become for the museum an "increasingly significant doorway to the BM collection" (British Museum 2009: 40). Yet, significantly, just as digital begins to rise in visibility in these institutional statements (gaining its own sections and chapters), so then in subsequent years do we see these references beginning to become more pervasive. Just as the 2010–2011 review makes separate reports on its "engagement online" and "Apps and downloads" (British Museum 2011: 37), so the following year, in 2012, digital is spread right across the review. Indeed, part of the key message conveyed in the foreword by the chairman of trustees (British Museum 2012a: 5) is a reflection on the institution's social media presence (ibid: 40), and its "Digital Campaigns" (ibid: 41). In other words, across these reviews by the British Museum (from a passage, to a chapter, to multiple separate references) we see digital gaining prominence in the institution's expression of itself, but significantly (latterly), we also see this prominence becoming more diffuse and differentiated—expressed more in terms of the museum's core activity rather than as just siloed digital activity in itself. This idea of digital now "often brought into the articulation of the museum's vision" (Cock 2012) is evident in other national museums as well. For Tate (at least from the perspective of the head of Tate Online) "digital is becoming a dimension of everything that happens" (Stack 2012). Tate recognizes today that its mission "will be played out in many platforms" and that

"the digital space" is part of that (ibid.). More explicitly still, the head of new media at the Imperial War Museums (IWM) goes further in expressing the normative function of digital within the institution's articulation of what it does and what it is for: "We do not mention digital anymore. It is taken that there will be some digital activity even if people are not quite sure what that is" (Royston 2012). We note here a senior manager of the museum acknowledging how digital is implicit in the way the museum is "more open and participatory with audiences," as well as its "brand reputation and global reach" (ibid.). In each of these prominent examples we find evidence of digital becoming normative within the museum's vision of itself, of digitality entering the essential grammar and logic of these institutions.

Organizational shape is also revealing when considering the extent to which digital is being managed normatively within museums today. In the museums considered here we can evidence recent changes to where digital sits within the organogram. An institution such as the National Maritime Museum has seen its digital team move from IT to within a division concerned principally with public engagement. This is a relocation that signals a shift away (according to its head of digital media) from digital "being defined solely in terms of the materials rather than the processes and the outcomes" (Romeo 2012). To her, it marks "the normalisation or naturalisation of digital" within the organization, to a condition where digital "just becomes a part of all the products that you are delivering" (ibid.). The movement of the Web Team at the British Museum is equally revealing. In 2000 the members of the museum's digital team were largely to be found within the parameters of a specific project (COMPASS—tied to the opening of the museum's Great Court and the refurbishment of its Reading Room), and managed by the Department of Scientific Research. In time this migrated to a New Media Unit (made up of a Multimedia Projects Team and an Educational Multimedia Unit), within what was then called the museum's Learning and Information Department; while corporate elements of the institution's website were managed by the

museum's marketing department. In 2007 all of these teams were brought together into a new Web Team, with a remit that extended in time to multimedia guides, gallery interactives, and mobile media (Cock 2012). By 2012 the British Museum was framing a new department entitled Digital Media and Publishing, in which the Web Team would sit. Its proposed new home not only facilitates a new era of 'cross-platform' thinking in the museum (producing content and products across different formats), but, significantly, marks a point at which digital has—in organizational terms—moved up a level in the institution's hierarchical structure. In this regard, the language and principles within the job description of this new post are noteworthy, describing as they do how "[f]or the first time, digital media will be at the centre of the organisation's thinking about how visitors can access information about the collection within the museum as well as on-line" (British Museum 2012b). In short, in 2012, about to enter its two hundred and sixtieth year, the British Museum prepared for the word 'digital' to appear for the first time in its history at the departmental level. From IT and marketing, to a learning and audience focus, to ultimately publishing, the journey of the Web Team is perhaps testimony to a changing relationship with digital at the British Museum.

Elsewhere, we see a restructured National Maritime Museum, with a new head of design and digital media and with all of the museum's creative teams pulled together in one department. To the new head, Fiona Romeo (2012), this is "a sign of maturity for digital in [the] museum," of the institution being prepared to have "digital in the heart of its whole public offer." This is a sentiment echoed by the head of new media at IWM. Before establishing its digital media department, digital was found across marketing, IT, and publishing. According to its head, by establishing the department the museum "was making a statement that this is a significant direction of travel for the organisation, and that digital is important" (Royston 2012). But whereas at these museums the prominence at a senior level of the word 'digital' might be seen to be indicative of normative digitality, at other

institutions it is the revision—if not the actual removal—of the term and the tying of its advocacy to one single role that is significant. At Tate, for instance, we hear senior digital managers in the institution questioning whether "digital itself needs a director"; "in five years' time the leadership of the digital space needs to be a group leadership cutting across all kinds of different areas of activity" (Stack 2012). We see heads of new media (for instance, at the Science Museum, London) suggesting today that having a director of all things digital in the organization might be seen as a "short term thing"; "having a director of digital would almost stop that embedding happening, because actually you set something up that is protecting itself, when what we should be doing is embedding digital right across our practice and looking at the best ways of doing that" (Patten 2012). It is a challenge identified by other heads of new media:

> We are in the centre of everything. Our department is involved in every single bit of public facing activity that the museum does. Something to be thinking about as the museum moves forward . . . Digital is in a different place now. It is in a maturing place now in organisations. It is an interesting time now to think about where we sit. (Royston 2012)

Either way—whether these are institutions that are working hard to establish new senior managers with digital portfolios, or whether they are planning in the longer term to spread and embed digital activity—what we witness in these changing organizational shapes (as well as, previously, in vision statements and self-reviews) is digital being defined confidently and clearly as a core and essential function of the museum. And it is in this way that these structures of domination provide us with our first examples of digital normativity.

Normativity Through Structures of Legitimization

Assimilation theory's second metastructure, the *structures of legitimization*, provides an atlas for our second exploration into digital normativity in the museum. Hossain et al. (2011: 580) explain to us that *legitimization* is "established by those meta-structures that validate behaviours as desirable and congruent with the goals and values of the organization." With respect to digital normativity, it is the ways in which blended roles, blended media, and (what is referred to in this discussion as) 'digital thinking' are validated in each of the museums under consideration here that is of particular interest. First, we see these museums "actively recruiting blended roles" (Romeo 2012); in other words, positions in the institution where an individual has a responsibility for digital, but within the context of another portfolio. Consider, for instance, the National Maritime Museum's introduction of a digital participation officer in its learning and interpretation team, or its digital marketing officer (ibid.). Likewise, we might reference here Tate's online shop manager (in Tate Enterprises, a separate company), its digital communications manager (within its marketing department), its digital learning curator (in its learning department), and its online research editor (in its research department) (Stack 2012). Yet, we see the legitimization of digital not just through the formality of these new roles and job titles, but also through the growing validation given to digital workflows and production processes. Personal testimonies of heads of new media at several of these national museums are particularly instructive here. On one level we hear these managers point toward the ways in which digital has gained legitimacy by practically driving particular types of changes in the organization:

> We have moved from being very risk aware. Through the website and the new collections search project we have moved the organisation to relook at copyright and digital rights, and to think about being more permissive with our audiences and

opening up collections. That was a seismic shift for the organisation, particularly around the sensitivities with our collections, and the fear of opening them up and losing authority around them. (Royston 2012)

Alongside this is the legitimacy that digital gains by reconceptualizing how and where the museum operates:

In the way we have implemented technology, we have often done it to fulfil department aims. We have a ticketing system, and an online shop, and a fundraising system, a bulk mailing system, that have all been implemented at a departmental level to meet needs of departments at particular times. So now we are wondering why we haven't got a single view of the customer across all of our technologies, why do we not have a single view of the customer in the digital space? Digital is forcing the organisation to take a more overarching view of all kinds of activities and saying that because they are going to play out in the digital space, we are going to need to join these up . . . The way that all kinds of activity collide in the digital space require us to think differently as an organisation. (Stack 2012)

Yet, significantly, we also see in some of these institutions evidence of "digital thinking and values" (Romeo 2012) being adopted and legitimized by the organization. This 'digital thinking' might manifest itself, for instance, in more open and collaborative relationships with visitors, or in a more iterative approach to projects—even perhaps in areas where it will not necessarily be delivered digitally:

This is the idea of things permanently being in beta, and the fact that you don't just open something and then it's finished, but you are constantly monitoring how it's used and adapting to its use and improving it . . . By having an in-house operational team with a mix of engineering and design skills we can go back in and be much more iterative in our approach to galleries and exhibitions. What you launch might not be what you have in six to twelve months. So when you are designing a gallery you are thinking about its whole life, not just in terms of robustness and maintenance, but in terms of how you will continue to activate that space and keep it relevant and live. (ibid.)

The fact that these workflows and principles of agile production from the digital realm are being adopted in the institution (even outside of exclusively digital projects) not only evidences the influence of new technologies on the very rhythms and patterns of work in some of these museums, but (in terms of our discussion here) signals the currency and legitimacy that digital carries—part of its normative function.

Yet digital appears to carry further legitimacy not just in its role as an assumed a priori category for production and communication, but also from the blended and multiplatform nature of many of the museums' outputs. The Science Museum's head of new media is typical in stipulating that digital "just forms parts of the interpretation strategy . . . just one of the series of tools we can apply" (Patten 2012). Consequently, it has become routine to expect a consideration of digital at the start of the production process:

In the museum, digital has been embedded for a long time, and has grown up with our practice over the last twenty years. What we have succeeded in doing increasingly is to make that a core part of what we do. [The digital team] are now working on

projects as they are set up, so they work on the scoping, they are working on the bid

process, and they work on the project right at the beginning. Digital is not thought

about later, it is thought about as a project is conceived. (ibid.)

What we see is what one head of new media calls "an expectation" that when the institution

plans its exhibitions the digital department will be involved (Royston 2012). Moreover, at

these ideation moments, traditional distinctions between a 'digital' and a 'nondigital'

approach can become increasingly fallacious. After all, the emerging media that museums are

able to use are characterized by their blending of the actually (presently) real and the virtually

(ideally) real. As mobile media becomes "pervasive in everyday life" (Johnson et al. 2011:

7), museums might choose to push content to users' personal devices (or, more likely, users

may wish to pull such content to their devices), so the importance of location and physical

context of the remote (and possibly itinerant) audience will become more important. In those

instances, the interpretation is as much about the nondigital environment as it is the digital

content. Likewise, as augmented reality continues to gain traction in museums and beyond

(as streaming, calibration, and pattern recognition improve, and GPS becomes more standard

in mobile devices) (Merritt and Katz 2012: 21), it comes to epitomize the blend between the

physical and the digital that is likely to characterize more of our new media experiences.

Similarly, the "world of interconnected items" that will make up the "Internet of Things"

will, again, blur the simple distinctions we have carried between physical object and digital

information (Johnson et al. 2011: 30). The National Maritime Museum is an example of one

such organization where this blendedness of physical and digital is today being understood

and confronted:

It has now been recognised organisationally that actually it does not make sense to have a team that does 2D and 3D design and a team that does design and media that is digital. Actually, we are in this postdigital phase where it is much more mixed. Design has changed, all of these things are now one . . . the opportunities being in the links between physical and the digital rather than having them as distinct realms. (Romeo 2012)

One of the 'future indicators' included by the National Maritime Museum at the end of its 2012 digital strategy review is 'postdigital design'. Speaking to that heading, the report states that "we have reached a point where screens are getting boring and the way we interact with them is increasingly seen as limited. Designers are looking for opportunities in tangible interaction, connected objects and printing. Museums are incredibly well placed to respond to this trend" (Romeo and Lawrence 2012: 11). The fact that heads of new media in these museums are coming to admire interactive designers who are 'agnostic' to the materials they use (Maillard 2011) alerts us, yet again, to the extent to which digital is being not just assimilated into the organization's approach to production, but is being normativized— becoming Barham's (2012) "instrumental ought."

Normativity Through Structures of Signification

Our third—and final—metastructure of assimilation (signposting us toward evidence of digital normativity) is *signification*. Assimilation theory proposes that these are the structures in an organization that "promote understanding, thereby serving as cognitive guides for individual action and behaviour" (Hossain et al. 2011: 580). In the context of the museum we can be usefully directed to the position, language, and aspirations around the institution's strategy (particularly the references to digital therein), as well as the role of any digital

strategy. Orthodoxy states today the critical importance of "a comprehensive digital strategy" to the long-term sustainability of any museum institution (Johnson et al. 2011: 5). And certainly we see organizations today, such as the British Museum and Tate, actively attempting to articulate a digital strategy. Consider, for instance, Tate's practical reasoning on the need for a single strategy:

> A lot of digital ideas are bubbling up all over the organisation. There is a need to have this all documented in one place, so it can be subject to discussion, and priorities can be set. Logistically, there is more work being initiated in the digital space than can possibly be done, so it has to be prioritised . . . There is a risk that if you don't have a joined up digital strategy you may end up with a fragmented offer. (Stack 2012)

In its 2010 digital and new media strategy report, IWM was clear in the strategic importance of digital to the museum, with its intention of "connecting digital activity across the museum to ensure that it was joining up and co-ordinating content, resource, commercial activity and technology strategically and effectively," and "making the digital agenda pivotal to the IWM's future success" (Royston and Sexton 2012). But the museum was equally clear on the commitment the organization (particularly its senior management team) would need to offer in implementing this strategy:

> Our aspiration is that the new website and other digital services will be world class, innovative, 'fit for the future', reflect our new brand values, build new audiences by providing a range of interactions, demonstrate the breadth and depth of our collections, and maximise our existing and emerging e-Commerce opportunities. Its implementation will require involvement from the whole Museum, a commitment

from senior management to an ongoing Digital Agenda and transformation in the way

we work as an organisation. (Royston 2010: 2)

What we see in the IWM strategy, therefore, is a specific and direct challenge for digital

leadership. It states how the "Digital Agenda" needs to be "prioritised and championed by

senior management and extend down to all staff," and that this would include appreciating

and understanding "the importance that digital activity has on the way we work now and in

the future" (ibid.: 4). At IWM (as at institutions such as the National Gallery in London) the

overall goal in drafting these new digital strategies was (as their respective heads of new

media put it) to make "digital central to organisational thinking and planning" (Royston and

Sexton 2012). The presence and content of these digital strategies signal very strongly the

significance of digital within their respective organizations—particularly when such

concerted effort is effected to integrate them across the organization's provision (Chatterjee

et al. 2002: 66; McKenzie and Poole 2010: 5).

However, we detect in some of these institutions a preparedness for a postdigital

future—a future where digital does not need to be recognized and championed separately in

its own strategy, but where digital becomes a feature (a given) in all of the institution's

strategies. Indeed, for some of our museums considered here the assimilation of digital has

reached such a state of maturity that the writing of an individual digital strategy is counter to

the normative function it has assumed within the organization; the Science Museum's head of

new media remarks on the "real challenge" of formulating an "overarching digital strategy"

for this very reason (Patten 2012). Consider the reflections of the head of Tate Online:

I increasingly find myself asked to go to meetings and review documents in their draft

state. Whereas previously I was aware departments had strategies, now I get sent

strategies from departments in draft form for me to input into, and I am invited to go

to discussions. So my role now has become much more about the overarching

direction of travel of the activity of all kinds of departments in the organisation in a

way that it was not before. (Stack 2012)

Here digital is emerging as a dimension of all of the institution's strategies, with the digital

team involved in all of these strategic discussions. This sense of maturing beyond the need

for a single digital strategy (and instead recognizing the pervasive and normative

management of digital throughout the institution) is perhaps most evident in the strategic

language of the National Maritime Museum (NMM). The NMM's corporate plan from 2009

was adjusted by the museum's executive in 2011 to "better reflect the Museum's increasing

focus on digital futures and social media" (NMM 2011: 25). Yet, rather than seeing a

dedicated digital strategy in the plan, what we see instead is a dimension of digitality

throughout the plan's four overarching aims: to stimulate curiosity; to provide stakeholders

with a sense of ownership; to ensure inspired curatorship; and to build an organization that

responds to the challenges ahead and makes the most of its opportunities (ibid.: 24–26).

Rather than a single digital strategy, the plan instead calls for "an integrated suite of digital

strategies across the museum in order to improve efficient access to collections and

expertise" (ibid.: 26). "This document," the head of digital media and design explains, "is the

first time we were able to . . . embed so many of our working practices" (Romeo 2012).

Ironically, with so much digitality reflected and embedded in the corporate plan, the museum

struggled with the challenge of producing a separate and distinct digital strategy (Romeo and

Chiles 2012):

We actually found that a difficult thing to write, as we felt it was a little bit like asking for a 'paper strategy'. In the end we talked about a series of catalyst projects that were planned, that were primarily digital and that brought in new infrastructure and new ways of interacting with audiences. Because we didn't feel we could set out an abstracted separate digital strategy we just focused on the projects that were more recognisably digital. But it would have been difficult to try and capture all that the museum was doing digitally. It just didn't seem to make sense anymore. (Romeo 2012)

What we see evidenced in the NMM's experience, and in Romeo's reflections, are what historian of technology and science Robert Friedel might call a point of 'capture'. In his attempt to frame a new set of questions and hypotheses of the history of technology that are beyond any fixed or rigid models or theories (Friedel 2007: 6), Friedel presents a series of principles on which his study is based. Alongside a concept that "improvement is contingent" and the idea that "an improvement is determined by individuals (who may or may not work in concert with others) with specific goals at specific times," and that technological improvement may also be ephemeral (ibid.: 3–4), he also introduces the concept of 'capture'—particularly useful with respect to evidencing the normalization of digital media. Capture is "the means by which an improvement becomes not simply an ephemeral, contingent act or product, but part of a sustained series of changes":

Capture may consist simply of telling other practitioners, writing down methods and discoveries, organizing distinct crafts or professions, distributing or maintaining products, or constructing legal or economic instruments. Capture does not consist simply in means of recording techniques, but also includes the processes by which a

technical change is socialized, by which the case is made that an improvement is, in fact, not only better for its originator but is better, at least in some contexts, for others, and not only for the present but also for some time in the future. (ibid.: 4–5)

For his thesis, Friedel's historical interest is ultimately about tracing the control of technological capture in society, and what this can tell us, as he puts it, about "how the winners and losers are determined as technology changes" (ibid.: 5). Yet, from his work this concept of 'capture' (as a process that is not consistent, is historical and culturally contingent) sensitizes us to the ways in which a technology such as digital media comes to be managed normatively within an institution such as the NMM. In struggling to conceive digital as something other—as something distinct—the museum is demonstrating how the technology has been 'captured'.

Indeed, stepping back from all three of our metastructures of assimilation, we can see how in these institutions digital has been 'captured' in the language and logic of the organization's mission, built into the organizational shape, organized into new blended roles and means of production, and socialized and argued for deep into their strategies. Together what we can evidence here is not a universal change for the museum sector as a whole, but rather illustrations of a range of (in this case British national) museums where digital appears to have become captured and assimilated to such an extent that we can term its use 'normative'—with all the connotations that word brings with it, not least that this, in the context of those institutions, is how things ought to be.

The Museological Consequences of Digital Normativity

Friedel's concept of 'improvement' also reminds us of some of the presuppositions that can be routinely made by those of us who reflect upon the history of technology—including the

recent history of digital technology in the museum. He suggests that over the past thousand years there has developed (specifically in the West) a "culture of improvement." This is an environment, Friedel (2007: 6) suggests, in which "significant, widely shared value has come to be attached to technical improvement and conditions have been cultivated to encourage and sustain the pursuit of improvement." We certainly do not need to look far to find examples of new media writers setting out their research within this "culture of improvement"—particularly a preoccupation with 'the new'. After all, this is the "kind of spell" and "enchantment" to which Charles Gere (2002: 15) refers, describing how "beguiled" we are by "the effects of new technologies and media, and what they seem to promise." To Gere, this is a culture of "priest engineers, software wizards, technogurus, charismatic leaders and futurologist soothsayers" (ibid.). This is the "cult of the new" (Flew 2002: 54), the "shiny dazzle of novelty" (Lister et al. 2009: 44), that the esteemed historian of technology Lewis Mumford characterized as an "addiction to scientific and technological innovation" (Mumford and Theobald 1972: 11). Digital media (labeled, tellingly, our *new* media) has all too often been positioned in museological (and digital heritage) research within this framework of 'newness', encouraging what Mark Tribe (2001: xii) calls "a beginners mind"—and approached as "a constantly shifting frontier for experimentation and exploration." And yet, crucially, our evidence set out here of digital being managed normatively within our case museums runs exactly counter to this discourse of 'the new'. What we have seen in our discussion of normative ('postdigital') constructions of digital in some example museums is a set of assumptions (in strategy, in vision, in workflow, in organizational shape) where this technology is characterized by this very breaking of Gere's "spell." This alerts us to the museological consequences of the normative digitality; it prompts us to question how, intellectually, our researching of the museum changes when digital is normative.

First, it opens the opportunity, now, for the recognition of new starting points for research and writing around digital media. Postdigitality in the museum necessitates a rethinking of upon what museological and digital heritage research is predicated, and on how its inquiry progresses. Plainly put, we have space now (a duty, even) to reframe our intellectual inquiry of digital in the museum to accommodate this postdigital condition. It appears to be inquiry, after all, that in some contexts can work from the assumption that digital is no longer new, that it is present, and that consequently the lines of investigation and study can be detached from traditional questions of *adoption* and *uptake*—with all their associated codas on *risk*, *opportunity*, and *change*. The researching of digital in the museum no longer has to be an inquiry into 'newness', but can in some instances, instead, work from the assumption that digital is already present—if not normative. This is a school of museological (and digital heritage) research and writing that can see change as "on-going" and "continuous" (Peacock 2008: 338–339). It is a research trajectory that frees itself from digitality as 'revolutionary' in the museum, and that sees digital in a less teleological (progressive, directional) way—allowing itself, instead, to situate it more genealogically (full of remediations, convergences) (Lister et al. 2009).

Second, as well as this reappraisal of (perhaps even a new wariness toward) 'newness' within our research discourse, the presence of normative digitality also affects the language and classifications of our inquiries—particularly with respect to the blended nature and embeddedness of digital media. Our research will benefit from blurring (if not entirely removing) previous distinction between 'digital' and 'nondigital'. What we see (at least from the evidence presented in the museums in this study) is a move away from such differences. We can trace in these museums preparations (and, in many cases, preparedness) for a postdigital condition. Postdigital (like the term *poststructuralism*), is a layering over, not a chronological next step, and is not a rejection of the previous state, but an acknowledgment

that the situation has progressed into something recognizably different—an augmentation. To be 'postdigital', like Nicholas Negroponte's (1995) notion of 'postinformation', is not to be without digital—indeed, quite the opposite. Nor is it to suggest that digital has been fully adopted and universally accepted. Rather, it is to indicate a state in which digital is no longer societally emergent and technologically nascent, and in which even where it is not being used (for instance, the museum that cannot resource hardware procurement, or the maintenance of digital services) it is, nonetheless, in a society and part of a culture where digital has become normative. The postdigital museum is that in which the case can be seen for, the visitor acceptance is established for, and the best practice and evidence are available for the normative use and management of digital. It is suggested here that the primary questions, presuppositions, and nomenclature of our museological (and digital heritage) research ought, now, to acknowledge the postdigital.

Conclusion: The Postdigital Museum

This article has attempted to recognize a key moment for museums in their relationship with digital media, and what this means not just for our practice, but also for our research. It is suggested that it is perhaps time, finally, to acknowledge the extent of normative digital media in the museum. Our discussion here has presented cases where digital media is essential to policy making and strategy, where digitality has naturalized itself into the grammar of communication, and where digital production has eased itself into the organizational shape—become embedded where once it was marginal, permeating where once it was discrete. This is joined by an in-gallery aesthetic where technology (though present) is ever more ambient, and where a new contract between the connected institution and the connected visitor allows digital media to no longer be the interloper but rather the familiar and expected. This is public engagement and programming that no longer makes a

reductive choice between 'digital' and 'nondigital', but instead anticipates a blend of the two, an embodied augmentation of one with the other.

Once digital media is no longer 'new technology', we can use a different set of assumptions, a different lexicon of terms, and free ourselves from discursive set pieces around uptake and advocacy. We can be free to reach for alternative sets of theoretical reference points, and break away from the gravitational pull of dominant theories of technological adoption. With digital media normative (naturalized, ambient, and augmented) in the museum, we are now ready to reset our relationship with it.

Biography

Ross Parry is Senior Lecturer in the School of Museum Studies at the University of Leicester. From 2009-2012 he was a Tate Research Fellow and is Chair of Trustees of the Jodi Mattes Trust (for accessible digital culture). He sits on the national JISC Content Advisory Group, and is also currently a member of the International Scientific Advisory Board for the research project 'Learning 2.0' managed by DREAM (the Danish Research Centre on Education and Advanced Media Materials) at the University of Southern Denmark. From 2008 to 2011 he was elected chair of the national Museums Computer Group. In 2005 he was made a HIRF Innovations Fellow for his work on developing in-gallery digital media, and from 2004 to 2010 co-convened the annual 'UK Museums on the Web' (UKMW) conferences. He is the author of *Recoding the Museum* (Routledge 2007), the first major history of museum computing, and in 2010 published *Museums in a Digital Age* (Routledge).

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